

### 4.0 Potential Environmental Impacts and Mitigation Measures

This section provides detailed analyses of each identified Project – related potential impact on the Natural and Human Resources, and whether or not they are considered significant, short or long-term; avoidable, or able to be adequately mitigated, and what those proposed mitigation measures include.

#### 4.1 NATURAL RESOURCES

##### 4.1.1 STORMWATER

The Project will result in the addition of residential structures, roads, driveways, parking areas, walkways, landscaping, and areas devoted to stormwater management facilities. The Project site's existing drainage conditions are shown on *Figure 8 – Existing Conditions Drainage Areas*, which identifies nine (9) smaller drainage areas, a product of the site's drainage characteristics.

Preliminary stormwater runoff calculations have been developed for the Project, and the full Preliminary Stormwater Management Report is provided in DEIS Appendix 2. The purpose of these calculations is to understand the magnitude of the required quality and quantity of treatment facilities and ensure that appropriate locations on the site are designated for these stormwater management facilities.

The runoff calculations are performed for each of the subareas for both the existing and developed conditions utilizing Soil Conservation Service TR-55 methodology and the Eagle Point 2003 Watershed Modeling computer program. The 10 and 100 year, 24 – hour storm events are analyzed, as on-site detention must be provided to limit the developed conditions peak runoff rates from these storms to the existing conditions rates. In addition, Water Quality and Channel Protection Volumes are calculated for each of the subareas and these volumes must be also be treated and detained on-site, in accordance with the NYSDEC Requirements (80% removal of Total Suspended Solids, 40% removal of Total Phosphorus).

Appendix 2 contains all of the calculated peak runoff rates, required storage volumes and calculation methodology for each of the subareas. These volumes dictate the use of surface treatment/detention basins from both construction feasibility and financial standpoints. Possible locations for the basins are shown on *Figure 9 – Developed Conditions Drainage Areas*. Runoff will be conveyed to these basins both as overland flow, in open channels and through newly constructed storm sewer systems. Once treated and detained as required, the runoff will be discharged to the two streams on the Project site.

The Town of Brunswick is designated by the NYSDEC as a Municipal Separate Storm Sewer System (MS4). This designation requires the Town to comply with the NYSDEC SPDES General Permit for Stormwater Discharges from MS4s, Permit No. GP-02-02. This General Permit requires that the municipality develop a Stormwater Management Program (SWMP) according to the designated minimum control measures. The Town Engineer has indicated that the Town of Brunswick's SWMP does not set any compliance requirements for construction Projects to be more stringent than those specified by the NYSDEC.

### ***Stormwater Management***

Without proper controls in place, stormwater runoff from developing areas can result in off-site problems including erosion and water quality degradation due to sedimentation and other non-point source pollutants. These impacts are greatest during construction periods when soils are without vegetative cover.

As the Project site exceeds one (1) acre, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared in accordance with the NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, Permit No. GP-02-01. Through the preparation and implementation of this plan, impacts resulting from erosion, sedimentation and stormwater runoff during construction will be mitigated. This plan will include temporary measures for mitigation of erosion and sediment control during construction, including the use of silt fence, straw bale dikes, sediment traps and other techniques as deemed appropriate. The plan will include permanent measures such as lined channels, rock outlet protection, and detention basins. The CHHOA will maintain all on-site stormwater detention basins and related infrastructure. Erosion and sediment control measures will be in accordance with the NYS Guidelines for Urban Erosion and Sediment Control. The Plan will also employ techniques to reduce pollutant load in stormwater runoff from the developed areas. These techniques may include filter strips, water quality inlets, infiltration or water quality basins, as appropriate, in accordance with the NYSDEC SPDES General Permit. The SWPPP will be completed prior to the start of construction in accordance with the notification requirements detailed in the General Permit.

### ***NYS Department of Transportation Stormwater Comments Regarding Site Road "A"***

According to a letter from the NYS Department of Transportation (NYSDOT) dated October 19, 2005 (Refer to DEIS Appendix 4), NYSDOT has conceptually approved the location and layout of the proposed Site Road "A." NYSDOT states that the construction plans for Site Road "A" must include provisions for the maintenance and protection of traffic along NYS Route 2 while Site Road "A" and the stormwater pipe system are being installed. NYSDOT has also requested that a stormwater management report be submitted for their review and approval as well. The report should demonstrate that the proposed catch basins/grates will be adequate to handle the flow from Site Road "A", and that no runoff will sheet flow across NYS Route 2.

## **4.1.2 GEOLOGY**

### **4.1.2.1 SUBSURFACE GEOLOGY**

As discussed in *DEIS Section 3.1.1 – Geology*, the geotechnical evaluations identified areas of bedrock outcroppings as well as bedrock at depths ranging from less than 1 foot to approximately 7 feet below grade in the Carriage Hill Landing East development site. Fragments of shale were also noted at depths of around 11 to 13 feet in an area west of the Carriage Hill Landing West and the Carriage Hill Landing

South development sites; however, no development is proposed for this area. For additional information on the results of the geotechnical site assessment, refer to *DEIS Appendix 1 – Geotechnical Report*.

### Potential Impacts – Potentially Unavoidable Vibration and Noise Impacts Related to Removal of Bedrock

Bedrock may be encountered during excavations and construction of the proposed roads, dwellings and utilities. Based on the geotechnical investigations, it appears that this will be limited to an isolated location in the Carriage Hill Landing East development area. Therefore, the presence of the bedrock is not anticipated to result in significant impacts or obstacles to construction. The removal of the upper layer of bedrock may be able to be accomplished by ripping it with an excavator due to its weathered condition. Where this is not possible bedrock may be removed by use of a pneumatic hammer or by controlled blasting. When blasting is required, a licensed contractor will perform it in accordance with applicable requirements. Furthermore, limits on vibrations at the Project property boundary will be established in order to protect existing structures from any potential damage.

Blasting may also result in adverse noise impacts. Refer to *DEIS Section 4.4.3 Noise* for a discussion on the potential noise impacts.

Adjacent and nearby properties that may be impacted by vibration related to blasting (if necessary) include residents located closest to the Carriage Hill Estates East development site, where bedrock at or near the surface was observed. More specifically, there are approximately 11 residential properties located east of the Project site between Pinewoods Avenue and NYS Route 2, and within 500 feet of the proposed limits of disturbance on the Project site (hereinafter referred to as “Project Limits”). There are also approximately 3 residential properties located south of Pinewoods Avenue within 500 feet of the Project limits. The residences within 500 feet of the Project limits may be more susceptible to experience minor vibrations related to the removal of bedrock. There are also approximately 30 residential properties located within 1000 feet of the Project limits, however, it is highly unlikely that these sites will experience noticeable vibrations resulting from the blasting. Refer to *Figure 16 – Noise Impact Assessment Map* for further geographic reference of the adjacent properties and their relative distances to the Project Site.

### Mitigation

The following mitigation measures are proposed:

1. Residents within a one-half mile radius of any blasting site will be notified in advance of blasting events, if requested. The blasting contractor will formally contact nearby residents to ensure that all persons requesting notification are identified.
2. Blasting will occur between the hours of 9:00 a.m. and 5:00 p.m. on weekdays only. Explosives will not be detonated on weekends and holidays.

3. All blasting will be conducted by a qualified licensed blaster pursuant to the applicable requirements of the State of New York and federal government.
4. Blasting will not occur during adverse weather conditions such as high winds unless a loaded charge must be detonated before the end of the day.
5. Shots will be designed to minimize ground vibration and air blast.
6. Blasting mats of suitable size and material will be employed to dampen noise and contain blasted materials.
7. Blasting will be in compliance with applicable NYS Codes under the Department of Labor. Prior to the issuance of a building permit, the selected contractor will submit a specific blasting plan to the Town Building Department for their review. This will include a pre-blast survey to identify pre-existing conditions at nearby properties.
8. Controlled blasting, if required, will be performed in a manner that limits the maximum peak particle velocity (PPV) to less than two inches per second (ips) at the Project limits. At this level, the likelihood that adverse impacts will result to nearby structures is very low, and the degree of vibration will decrease as distance from the blast site increases. However, depending upon the sensitivity of adjacent properties, more strict vibration criteria may be warranted. In addition, the peak airblast overpressure limit should also be limited to less than 0.014 psi at the nearest adjacent occupied structure.
9. It is proposed that blast vibrations will be monitored at the Project limits and pre-condition surveys may be performed for selected structures within 500 feet of areas proposed for blasting considered at most risk for damage.

### Significance of Impact

*Due to the fact that if any vibrations occur, they will be minimal, short in duration, and any related impacts will be mitigated to the maximum extent practicable through the implementation of all the mitigation measures and precautions discussed above, said impacts are not anticipated to be significant.*

#### **4.1.2.2 SURFACE GEOLOGY**

##### Potential Impact – Unavoidable Increase in Impervious Areas and Avoidable Impacts Related to Erosion and Siltation of Water Resources, and Dust

As depicted below in Table 4-1, the Project will result in the loss of approximately 22 acres of pervious areas including low-lying brush, fields and forested areas, bringing the total area of impervious surfaces to 23 acres, consisting of buildings, roads or other paved surfaces. As proposed, the Project will retain approximately 179.39 acres of pervious surfaces. The Project will also result in the creation of

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approximately 2.75 acres of open water (during storm events) for stormwater detention. The Project is also proposed to disturb approximately 0.42 acres of wetlands subject to the jurisdiction of the ACOE (refer to *DEIS Section 4.1.3.2 Surface Water and Wetlands* for a discussion on the potential impacts to wetlands and waters of the U.S.).

With this loss of vegetation and increase in impervious area, the potential exists for the increased erosion of soils as vegetation is cleared for construction, especially on the steep slopes of the Project site. The site contains slopes in excess of 40% in certain areas, and the Project will involve limited disturbances to slopes of approximately 33% to 50% for road and building construction. Without proper erosion and sediment controls in place, the construction related erosion of sediments could result in these sediments being carried along with stormwater flows into the unnamed "Class C" tributary of the Poestenkill Creek, the ten (10) other intermittent streams and tributaries, and the Poestenkill Creek itself, thus potentially resulting in adverse impacts on these water resources and water quality.

There is also the potential of soil and dust particles becoming stirred during construction, which may adversely affect surrounding residences.

| <b>Table 4-1<br/>Pre- and Post-Development Conditions</b>     |                         |                                |
|---|-------------------------|--------------------------------|
| <b>Surface Description</b>                                    | <b>Area<br/>(Acres)</b> | <b>Percent of Site<br/>(%)</b> |
| <b>Existing Conditions</b>                                    |                         |                                |
| Impervious Areas (Roads, buildings, and other paved surfaces) | 1                       | 0.46                           |
| Pervious Areas (forests, open fields, lawns)                  | 200.97                  | 94                             |
| Wetlands  | 12.03                   | 5.6                            |
| Jurisdictional Tributaries                                    | 6,196 LF                | N/A                            |
| <b>Totals</b>   | <b>214±</b>             | <b>100±</b>                    |
| <b>Proposed Conditions</b>                                    |                         |                                |
| Impervious Areas (Roads, buildings, and other paved surfaces) | 23                      | 10.7                           |
| Pervious Areas (forests, open fields, lawns)                  | 179.39                  | 83.8                           |
| Wetlands  | 11.60                   | 5.4                            |
| Jurisdictional Tributaries                                    | 6,196 LF                | N/A                            |
| Storm Detention Ponds   | 2.75                    | 1.28                           |
| <b>Totals</b>   | <b>214±</b>             | <b>100±</b>                    |

### Mitigation

To mitigate potential impacts from the increase in impervious area, the loss of vegetation, and disturbances to steep slopes, specific stormwater management facilities will be developed and designed as part of the Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will address the design, implementation and maintenance of both the erosion and sediment control measures to be used during construction and the post-construction stormwater management facilities.

The temporary measures for mitigation of erosion and sediment control during construction may include, but not be limited to, the use of silt fence, straw bale dikes, sediment traps and other techniques as deemed appropriate. The post-construction permanent measures that may be used, include, but not be limited to lined channels, rock outlet protection, and approximately 2.75 acres of area that will be devoted to water quality and detention basins. The plan will also employ techniques to reduce the pollutant load in stormwater runoff from developed areas. These techniques may include, but not be limited to, filter strips, water quality inlets, infiltration or detention as appropriate. The SWPPP will be completed prior to the start of construction in accordance with the notification requirements detailed in the NYSDEC General Permit.

Although approximately 23 acres will be converted to impervious areas, all other disturbed areas will be covered with mulch as soon as practical to reduce the potential for erosion during rain events, and seeded to re-establish vegetation as soon as it is possible. Further, the 2.75 acres to be devoted to detention basins and the remaining open space on the site will all mitigate the effects of this increase in impervious surface area.

Employing the proposed SWPPP will also mitigate any potential impact related to development on slopes. The side slopes for temporary excavations in the indigenous site soils and weathered shale will be inclined no steeper than one vertical on one horizontal as required by the Occupational Safety and Health Association (OSHA) for a Type B soil. All permanent cut and fill slopes will be inclined no steeper than one vertical on three horizontal, where possible, and a thick vegetative growth will be promptly established on the final slopes to inhibit erosion. Steeper permanent slopes may be implemented with proper geotechnical evaluation and design.

Mitigation measures to ensure stability of proposed structures and roadways include:

- > Foundation designs will take into consideration perched water table conditions by providing damp proofing and/or foundation footing drains as appropriate.
- > Standard engineering practices for road construction will be instituted to maintain stable conditions.

The clustering of the Carriage Homes and the Senior Apartments in Orchard Village will result in a reduction in the area of disturbance, will result in more open and undisturbed areas on the Project site, and aid in the overall mitigation of the potential impacts associated with the increase in impervious areas, erosion and siltation of water resources, and dust.

To mitigate impacts of soil and dust particles being stirred and impacting surrounding uses, all exposed soils will be covered or sprayed with water or NYSDEC – approved dust palliative to reduce the potential for erosion and the blowing of dust particulates throughout and beyond the Project site.

### Significance of Impact

*Due to the above-discussed provisions and mitigation measures, the potential impacts on surface geology with respect to an increase in impervious areas, erosion, sedimentation, and dust is expected to be short in duration and minimal, will be mitigated to the maximum extent practicable, and is therefore not anticipated to be significant.*

### Environmental Contaminants in Soil:

The Phase 1 Environmental Site Assessment (ESA) revealed no evidence of surficial contamination, unusual odor, stressed vegetation, or other physical evidence of an adverse environmental impact. Refer to DEIS Appendix 12 for the complete Phase 1 ESA report.

## **4.1.3 WATER RESOURCES**

### **4.1.3.1 GROUNDWATER**

As noted at several test pit locations performed as part of the geotechnical investigation, numerous perched water tables do exist throughout the site. These shallow perched groundwater levels result from precipitation infiltrating the ground surface and collecting within the shallow overburden soils, which overlay less permeable soils. At this site, the surficial soils have been loosened through seasonal frost penetrations and moisture variations. The surficial soils were found to be wet and loose or soft at many locations, particularly in the low-lying areas.

### Potential Impact – Unavoidable Impact on Groundwater Infiltration and Avoidable Impacts to Groundwater Quality

- A. Construction Activities: Construction activities, if not properly managed, could result in groundwater quality impacts.
  
- B. Reduction in Groundwater Infiltration: Other threats to groundwater quality include the proposed increase of impervious area by 22 acres, to a total of 23 acres, thus reducing the amount of groundwater infiltration. This increase in impervious areas, however, is considered minimal compared to the remaining 172 acres of pervious surfaces on the Project site, and a drop in the amount of groundwater available to surrounding residential properties that use on-site wells for their water source is not anticipated. Therefore, no impacts on groundwater infiltration are anticipated.

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- C. Contaminants in Runoff: The increase in impervious areas particularly associated with roads and driveways may increase the potential for runoff, which could be contaminated with automobile related pollutants such as oil, grease, and other petroleum products.
- D. Sewage Impacts: Due to the proposed use of municipal sewer services, no adverse impacts to groundwater on the site are anticipated related to sewage disposal.
- E. Pesticides and Fertilizers: The Carriage Hill Home Owners Association (CHHOA) and United Realty Management Corp.'s AMO© (URMC) who will operate and manage the senior housing have committed to use only organic pesticides and fertilizers to avoid any adverse water quality impacts related to the use of pesticides or fertilizers.

### Mitigation

- A. Construction Activities: Through the implementation of the SWPPP and associated mitigation measures as discussed above, it is anticipated that potential adverse impacts to the groundwater related to construction activities and the proposed increase in impervious areas, will be mitigated completely, or to the maximum extent practicable.
- B. Potential for a Reduction in Groundwater Infiltration: No impacts on groundwater infiltration are anticipated from the 22-acre increase in impervious areas, due to the proposed use of stormwater detention and infiltration systems.

Contaminants in Runoff: The plan will also employ techniques to reduce the pollutant load in stormwater runoff from developed areas, including petroleum products from automobiles. These techniques may include, but are not limited to filter strips, water quality inlets, infiltration or detention as appropriate.

### Significance of Impacts

- A. Construction Activities: *Due to the fact that any disturbances to the pockets of groundwater during construction will be short in duration, and will be mitigated to the maximum extent practicable through the above described provisions and mitigation measures, potential impacts are not anticipated to be significant*
- B. Reduction in Groundwater Infiltration: *No impacts on groundwater infiltration are anticipated from the 22-acre increase (23-acre total) in impervious areas due to the proposed use of stormwater detention and infiltration systems.*
- C. Contaminants in Runoff: *The potential impacts related to the proposed increase in impervious areas and related stormwater runoff that may contain automobile pollutants, while considered longer in duration, are not anticipated to result in significant nor permanent adverse impacts to groundwater*

quality, due to the proposed implementation of the SWPPP, combined with the natural filtration afforded by infiltration through the soil to groundwater on the Project site.

### 4.1.3.2 SURFACE WATER AND WETLANDS

#### Potential Impacts – Unavoidable Impacts Associated with Minor Filling of Wetlands and Tributaries and Related Water Quality Impacts

##### A. Proposed Filling of Wetlands and Tributaries:

The Poestenkill Creek and its tributaries, including the unnamed Class C Stream, and all the delineated wetlands on the Project site as depicted in *Figure 10A – Wetland Impacts*, (all considered “Waters of the U.S.” pursuant to and subject to the jurisdiction of the U.S. Army Corps of Engineers “ACOE”) may be adversely impacted by construction and post-construction activities. These wetlands are not under the jurisdiction of the NYSDEC, as none of them are greater than 12.4 acres in size (the minimum size requirement for NYSDEC jurisdiction), and based upon the field analyses, they are not connected to each other by wetland vegetation. While no development is proposed to take place within 375 feet of the Poestenkill Creek direct impacts to the tributaries and wetlands may include the unavoidable filling of approximately 0.421 acres of a portion of the following Wetlands “A,” “B,” “E,” “H,” “M,” “J,” and “Q,” along with ACOE Jurisdictional Tributaries 3 through 6, which include the unnamed Class C stream. The flows of Tributaries 3 through 6 are not anticipated to be impeded. More specifically, and as depicted on *Figure 10A – Wetland Impacts*, the proposed permanent impacts have been broken down into 8 different Areas as follows:

- > Area 1: Wetland “E” by Site Road A and associated utilities from Pinewoods Avenue (approximately 0.045 acres to be affected);
- > Area 2: Wetland “H” by Site Road A and associated utilities (approximately 0.22 acres);
- > Area 3: Wetland “M” by Site Road E (approximately 0.21 acres);
- > Area 4: Wetland “J” by Site Road A and associated utilities (approximately 0.009 acres);
- > Area 5: Wetland “Q” by Site Road A and associated utilities (approximately 0.251 acres);
- > Area 6: Wetland “Q” by Site Road A and associated utilities (approximately 0.025 acres);
- > Area 7: Wetland “B” by Site Road C and associated utilities (approximately 0.026 acres to be affected); and
- > Area 8: Wetland “A” by Site Road C and associated utilities (approximately 0.022 acres to be affected).

The following tributaries are also proposed to be impacted:

- > Tributary 3 by Site Road A and associated utilities at two locations in the northwestern portion of the Project site.
- > The unnamed Class C stream (also known as Tributary 4) by: Site Road A and associated utilities; and the sanitary sewer force main leading south to Pinewoods Avenue and ultimately to the City of Troy gravity sewers at Pinewoods and Maple Avenues. Tributary 5 by Site Road A and the storm sewer piping from Site Road D.
- > Tributary 6 by Site Road D and associated utilities.
- > Tributary 8 by Site Road A.

### ***Required Permits For Proposed Wetland and Tributary Disturbances:***

Disturbance to Waters of the U.S., both wetlands and surface water resources, will require permits from the ACOE. In this case, it is anticipated that the Project will involve the ACOE *Nationwide Permit (NWP) 12 – Utility Line Activities* for the proposed crossings by sewer and water lines, and *NWP #14 – Linear Transportation Projects* for the proposed crossings by the site roads. No Protection of Waters Permits are anticipated from the NYSDEC as no disturbance to the bed and banks of the Poestenkill Creek is proposed, the wetlands proposed to be disturbed are less than 12.4 acres in size (below NYSDEC jurisdictional threshold), and the tributaries to be disturbed are Class C and below.

### B. Indirect Impacts:

In addition to the identified crossings, as depicted on Figure 10A, wetlands and/or tributaries will be present on approximately 15 of the proposed residential lots. This presents the potential for impacts on the wetlands and tributaries by erosion and sedimentation during construction and stormwater runoff, and other indirect impacts post-construction related to the residential uses. More specifically, once residences are established, adverse impacts could result through incremental filling of the wetlands (either voluntary or by accident), through the use of pesticides, herbicides, or fertilizers; dumping of trash; introduction of litter, as well as draining and mowing, all of which could impair the quality and function of the wetlands and tributaries.

As previously discussed, the Project will result in an increase of approximately 22 acres of impervious surfaces (to a total of 23 acres) thus increasing the potential for indirect impacts to the water resources on and off the site through stormwater discharges. Stormwater runoff may impair the water quality of surface waters and/or wetlands through sedimentation and the introduction of vehicle-related contaminants, such as petroleum products.

Additional indirect water quality impacts could occur as a result of the discharge of treated wastewater into the Hudson River from the County-owned wastewater treatment plant in the City of Troy. However, the estimated maximum daily flow from the development is approximately 0.08 MGD, and the wastewater treatment plant has excess capacity of approximately 5 MGD. Therefore, the Project alone is

not anticipated to result in adverse impacts on the ability of the treatment plant to adequately treat wastewater from the Project site.

The potential for an increase in stormwater runoff could also present an issue with surface water flow on The Country Club of Troy. Specifically, there is a dam associated with the unnamed Class C Stream that has resulted in a large pond located at the southern end of the golf course. With the implementation of and compliance with the SWPPP, no increase in stormwater flows to the unnamed Class C Stream is anticipated, and therefore, no impacts to the dam and associated pond on The Country Club of Troy property is anticipated.

### Mitigation

#### A. Proposed Filling of Wetlands and Tributaries:

In designing the Project, the first goal was to identify designs that would avoid wetland and surface water impacts. Once it was evident that the wetlands and tributaries could not be completely avoided, the path to least impact was developed, and a Project design was chosen that would result in the least impact possible through the clustering of the Carriage Homes and the Senior Apartments in Orchard Village. Specifically, all proposed crossings have been designed so as to limit wetland and tributary disturbance to the smallest amount practical.

In addition, the proposed disturbances to wetlands and tributaries will require compliance with ACOE *NWP #12 – Utility Line Activities* for the proposed crossings by sewer and water lines, and *NWP #14 – Linear Transportation Projects* for the proposed crossings by the site roads. Due to the fact that the Project will result in the filling of greater than 1/10<sup>th</sup> of an acre for road construction, a Pre-Construction Notification (PCN) is required.

Both NWP's #12 and #14 will be fully complied with, and where necessary, compensatory mitigation will be proposed. All wetlands and tributaries impacted by utility line crossings under NWP #12 will be completely restored to preconstruction contours and conditions.

The intended direct impacts to the wetlands and tributaries will be minimized, and the chance for unintended impacts will be mitigated through the use of proper construction techniques employed during the construction of the proposed crossings in accordance with industry standards and Best Management Practices (BMP). Construction will take place during periods of low flow to decrease potential sedimentation impacts. Further, stream filters (silt fences) will be installed downstream of the disturbed areas for the duration of the construction to collect disturbed sediments. These stream filters will be inspected and cleaned out in accordance with NYSDEC requirements.

#### B. Filling and Indirect Impacts:

To further mitigate both direct impacts related to the tributary crossings and indirect impacts related to construction and post-construction activities, the SWPPP will be strictly implemented in accordance with

NYSDEC requirements. Also, where practical, a 40-foot buffer will be provided between the footprint of each residence and wetlands and/or tributaries. This buffer is intended to provide sufficient distances between residences and wetlands and tributaries for lawns and the placement of outbuildings.

### Significance of Impacts

#### A. Direct Impacts:

1. Permanent Fill to Wetlands "A, B, O, J, M, H, and E" and Tributaries 3 through 6, and 8: Through full compliance with the requirements of NWP #14 (which requires compensatory mitigation), compliance with the SWPPP, and the use of proper construction techniques and BMP, direct adverse impacts to these wetlands and tributaries related to the construction of the Project site roads while permanent, will be offset and fully mitigated through compensatory mitigation measures, and as a result, are not anticipated to be significant.
2. Temporary Impacts to Wetland "C" and Tributaries 4 and 5 by Utilities: Through full compliance with the requirements of NWP #12 (which requires full restoration of the impacts), BMP's, direct adverse impacts to utility crossings of Wetland "C" and Tributaries 4 and 5 will be temporary in nature, and are not anticipated to be significant.

#### B. Indirect Impacts:

1. Indirect Impacts Related to Proposed Filling of Wetlands and Tributaries: The potential for indirect impacts related to the temporary disturbances to wetlands and tributaries during the installation of the utility crossings, and the permanent filling of wetlands and tributaries during the construction of the Project site roads will be mitigated to the maximum extent practicable through compliance with both NWP #12 and #14 and therefore, the direct and potential indirect impacts are not anticipated to be significant.
2. Increase in Impervious Areas and Related Runoff: The potential for erosion and sedimentation during construction (a short-term impact), the increase in stormwater runoff from impervious surfaces and the potential for this runoff to introduce petroleum and other contaminants (a potential long-term impact) would minimally impact the Project sites or off-site surface waterbodies or wetlands due to the proposed implementation and compliance with the SWPPP and associated provisions and mitigation measures; and due to the indirect nature of the discharge and the distance the runoff must travel before reaching these waterbodies. Therefore, such impacts are not anticipated to be significant.

**4.1.3.3 FLOODPLAIN**

Potential Impact – Avoidable Indirect Impacts Related to Construction and Stormwater Runoff

No construction is anticipated to occur within the 100-year floodplain of the Poestenkill Creek. While no disturbance to the 100-year floodplain is proposed, there does exist the potential for indirect adverse impacts related to erosion and sedimentation during construction and stormwater runoff, post-construction.

Mitigation

Mitigation measures will include construction of detention and/or retention basins to limit peak runoff from the Project to pre-development rates; and construction of wet ponds, grass-lined ditches or other water quality protection measures to mitigate impacts on the quality of stormwater runoff. Further, proper construction techniques will be employed during construction and in accordance with industry standards and BMP, all culverts will be properly sized so as not to result in a sudden increase in stormwater flow towards the Poestenkill Creek, and the SWPPP will be fully implemented and complied with.

Significance of Impacts

*Based on the fact that no construction is anticipated within the 100-year floodplain, and the implementation of the above described mitigation measures, provisions, development practices, and compliance with the SWPPP, no impacts on the 100-year flood plain are anticipated.*

**4.1.4 TERRESTRIAL AND AQUATIC ECOLOGY**

**4.1.4.1 VEGETATION**

Potential Impacts – Unavoidable Temporary and Permanent Loss of Vegetation

As depicted above in Table 4-1, the Project will result in the removal of approximately 55 acres of forested areas and 18 acres of open fields, resulting in a total of 75 acres of vegetation removed. This loss is mainly attributed to the need for vegetation removal during the construction periods, and in return, approximately 52 acres of the 75 acres of vegetation removed will be revegetated and landscaped. Approximately 22 acres will be permanently lost (total of 23 acres) and converted to roads, driveways, parking areas, and structures.

While 22 acres will be permanently lost; approximately 179.39 acres of the 214 acres site will remain vegetated, and approximately 75.3 acres will be preserved and are not anticipated to be constructed upon or graded. Site Plan review will be required by the Town of Brunswick prior to the construction of each development site, and all conditions with respect to vegetative clearing and re-planting will need to be complied with.

### Mitigation

The first method of mitigation involves the Project design itself. Specifically, the Carriage Homes and Orchard Village at Carriage Hill were purposely clustered in a way as to minimize the amount of land and vegetation that would need to be disturbed. Therefore, the Project design will result in a reduction in the area of disturbance, will result in more open and undisturbed areas on the Project site, and aid in the overall mitigation of the potential impacts associated with the loss of vegetation.

To mitigate the permanent loss of vegetation, and prevent additional losses, the following mitigation measures are being proposed. All disturbed areas will be re-vegetated as appropriate. Disturbed areas along the boundaries of the Project site, particularly along Pinewoods Avenue and NYS Route 2, and along the Project site roads will be seeded as soon as practical after construction of the main entrances and the Project site roads. The main entrances will be landscaped with decorative plantings. All cleared areas, which are not built on, will be revegetated and landscaped, totaling approximately 52 acres.

All conditions set-forth by the Town of Brunswick Town Board and Planning Board during the establishment of the PDD, and subsequent Site Plan Review, with respect to vegetative buffers between the proposed development and surrounding areas will be fully complied with.

### Significance of Impacts

*Due to the fact that more than 89% of the site will remain vegetated and pervious, the permanent loss of approximately 22 acres of vegetation is not anticipated to be a significant impact. Revegetation, whether ornamental plantings or lawned areas, will deter increased stormwater flows generated during construction. Post-construction stormwater runoff will also increase due to increased impervious surface areas. Since significant areas of the site will remain vegetated and other areas will be revegetated, (and stormwater detention basins will be constructed), the impact of these increased flows are expected to be minor, short in duration, and not anticipated to be significant.*

#### **4.1.4.2 FISH AND WILDLIFE**

##### **4.1.4.2.1 Terrestrial Species**

#### Potential Impacts – Unavoidable Permanent Loss of Habitat

The Project site is currently home to several species of songbirds, game birds, and birds of prey, along with small mammals, deer, and other species have been observed or are presumed to exist on the Project site based upon site conditions. These observances are described in more detail in *DEIS Section 3.1.4.2 Fish and Wildlife*, and *DEIS Appendix 3 – Final Wetlands Delineation Report*. The permanent removal of approximately 55 acres of forested areas and 18 acres of open fields, resulting in a total of 75 acres of vegetation removed, and the permanent loss of approximately 22 acres to impervious area, the existing terrestrial species could potentially be adversely impacted and, in certain areas, will be forced to relocate.

These impacts will be temporary in nature and are anticipated to be minimal due to the fact that approximately 179.39 acres will remain vegetated as open fields, lawns, and forests. In fact, after completion of the proposed development, the site will still remain a healthy habitat for common species, even more so than the surrounding suburban style development that has retained minimal large tracts of unbroken forests and open fields in which, common terrestrial species thrive. Further, because residential areas exhibit prime habitat for small mammals and songbirds, by increasing the amount of lawned and landscaped areas, the Project site may ultimately support more of these and other terrestrial species after completion of the development than what it currently supports.

### Mitigation

To mitigate the permanent loss of more than 22 acres of vegetation and the unnecessary disturbance to vegetation and terrestrial habitats to remain, all areas that are not proposed to be disturbed will be protected by construction fencing or other appropriate means to restrict access by machinery and reduce the potential for the accidental removal or disturbance of vegetation and habitats. In addition, all disturbed areas will be revegetated as appropriate, and all cleared areas not proposed to be constructed upon will also be revegetated and landscaped. Also, approximately 75.3 acres of vegetation will be permanently preserved as open space throughout the Project site. The majority of the preserved areas will consist of large, unbroken expanses of forest and/or open fields, will effectively be contiguous, and as such, will provide wildlife corridors.

### Significance of Impacts

*As a result of the mitigation measures and provisions described above, the potential impact on terrestrial species due to the permanent loss of vegetation is expected to be temporary and minimal as a result of the cluster design of the Project along with the proposed increase in landscaping and lawned areas which will ultimately result in additional areas for terrestrial species typical to suburban areas, a potential positive impact for terrestrial species.*

#### **4.1.4.2.2 Aquatic Species**

##### Potential Impacts –Permanent, Temporary and Indirect Impacts to Habitat

- A. Unavoidable Permanent Impacts: The permanent impacts to the wetlands and tributaries and related aquatic habitat necessary for road construction cannot be avoided. The direct impacts to these small sections of the wetlands and tributaries will be permitted under NWP #14.
- B. Unavoidable Temporary Impacts: The proposed temporary impacts to the wetlands and streams related to the construction of the utilities under NWP #12, while unavoidable, will be fully mitigated through complete restoration of the sites back to their pre-construction conditions.
- C. Avoidable Indirect Impacts: During the proposed crossing of the wetlands and tributaries for both road and utility construction, there exists the potential for adverse impacts to the aquatic species through

erosion, sedimentation and stormwater runoff, although these impacts can be avoided through proper mitigation techniques as discussed below.

### Mitigation

- A. Unavoidable Permanent Impacts: While the permanent impacts to the wetlands and tributaries and related aquatic habitat necessary for road construction cannot be avoided, through the implementation of compensatory mitigation strategies, a requirement of NWP #14, there will be a no net loss of wetlands and tributaries on the Project Site.
- B. Unavoidable Temporary Impacts: The initial impacts to the wetlands and streams related to the construction of the utilities while unavoidable, will be fully mitigated through complete restoration of the sites back to their pre-construction conditions, pursuant to the requirements of NWP #12.
- C. Avoidable Indirect Impacts: The potential for adverse impacts to the aquatic species through erosion, sedimentation and stormwater runoff during and after the proposed wetland and tributary crossings are avoidable and will be mitigated through the use of proper construction techniques, BMP's, and implementation and compliance with the SWPPP.

### Significance of Impacts

- A. Unavoidable Permanent Impacts: *Through full compliance with NWP #14 and the implementation of the compensatory mitigation strategies resulting in a no net loss to wetlands and tributaries on the Project site, the adverse impacts to the aquatic habitats of the disturbed wetlands and tributaries is not anticipated to be significant.*
- B. Unavoidable Temporary Impacts: *The temporary impacts related to the utility crossings are not anticipated to be significant due to the fact that each crossing will be restored back to its pre-construction condition pursuant to the requirements of NWP #12.*
- C. Avoidable Indirect Impacts: *Due to the fact that the potential adverse impacts to the aquatic species through erosion, sedimentation and stormwater runoff will be mitigated to the maximum extent practicable through the use of proper construction techniques, best management practices, and implementation and compliance with the SWPPP, any related adverse impacts are not anticipated to be significant, if they occur at all.*

#### **4.1.4.3 PROTECTED HABITATS**

According to a letter dated May 25, 2004 from the NYSDEC New York Natural Heritage Program, no record of known occurrences of rare or state-listed plants, significant natural communities, or other significant habitats exist on or in the immediate vicinity of the Project site (refer to *DEIS Appendix 4 Correspondences*.)

A letter dated April 11, 2005 from the U.S. Fish and Wildlife Service (USF&W) states the following:

*“Although the Indiana bat (Myotis sodalis), a Federally – listed endangered species, could potentially be present in the project area, which is 20.8 miles from an Indiana bat hibernaculum, they are present in such small numbers that it is extremely unlikely that they would be present and impacted by construction of this project.”*

The letter went on to state: *“Except for the Indiana bat and other occasional transient individuals, no Federally – listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed “critical habitat” in accordance with provisions of the Endangered Species Act (ESA). Therefore, no further ESA coordination or consultation with the USF&W Service is required.”*

Refer to DEIS Appendix 4 Correspondences for a copy of this letter.

### **4.1.5 CLIMATE AND AIR RESOURCES**

#### **4.1.5.1 CLIMATE**

The Project involves the development of 310 residential units, and although it will result in an increase in automobile traffic to the area (discussed below in DEIS Section 4.1.5.2 Air Quality), and an increase in the use of fossil fuels and other valuable resources, the Project is too small to directly impact the climate. Cumulatively, new residential construction on a global scale that is developed farther away from cities where efficient public transportation is not available, in areas previously undeveloped, and requiring the removal of vegetation may be contributing to adverse impacts on the climate.

This Project will only involve the permanent loss of 22 acres of vegetation, and when feasible the new structures will be oriented to take advantage of southern exposure to conserve energy by supplementing lighting and winter heating requirements. In addition, all practical measures to conserve energy including the utilization of energy-efficient building materials and techniques will be taken into consideration. In addition, residents of the single-family homes will have the option of incorporating solar technology and other energy conservation measures to lessen their impact on the environment.

#### **4.1.5.2 AIR QUALITY**

##### Potential Impacts

An air quality assessment was conducted for the Project, and conforms to the procedures followed by NYSDEC. Refer to DEIS Appendix 5 Air Quality Assessment for the full report. Currently, NYSDEC follows the procedures of NYSDOT as outlined in *Chapter 1.1 of the NYSDOT Environmental Procedures Manual* (EPM), last updated January 2001. These procedures address the Clean Air Act Amendments of 1990 and guidance from the Environmental Protection Agency (EPA).

- A. Unavoidable Minor Localized Automobile-Related Increase in Carbon Monoxide (CO), Ozone (O<sub>3</sub>), Nitrogen Dioxide (NO<sub>2</sub>), and Fine Particulate Matter (PM<sub>2.5</sub>) (automobile – related Pollutants): Based upon the assessment, the Project may result in minor localized increases in the levels of these automobile related pollutants due to the anticipated increase in automobile traffic. However, these increased levels generated by increased traffic are not expected to exceed regional standards.
- B. Unavoidable Minor Temporary Air Quality Impacts During Construction Phases: The air quality on and immediately adjacent to the Project site may experience short-term impacts as a result of construction activities. During construction, airborne particulates will increase as a result of moving construction vehicles, the removal vegetation and the movement of soil for grading and construction activities. This increase is expected to be sporadic and short-term in nature and will be most noticeable in the area immediately adjacent to the construction. Most dust will fall out within a few feet of construction activities, although some dust may travel further and extend beyond the Project site boundaries. The amount of dust generated will not be extensive and any related impacts will be temporary. Additional isolated increases in automobile related pollutants will result from the operation of construction machinery. This impact will also be temporary in nature and isolated to the Project site.

### Mitigation

- A. Unavoidable Minor Localized Automobile-Related Increase in Automobile Related Pollutants: The anticipated minor and localized increase in automobile related pollutants would be unavoidable. There is however, the ability for future residents of the Project to utilize available public transportation, car pool, along with more energy-efficient automobiles, all of which will aid in reducing the amount of additional CO levels associated with the Project.
- B. Unavoidable Minor Temporary Air Quality Impacts During Construction Phases: The potential for air quality impacts related to dust and other particulate matter may be mitigated by the following:
- > Through the use of water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this could include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible;
  - > Use of dust inhibitors, such as calcium chloride and other dust-control provisions found in the NYSDOT Standard Specifications for construction;
  - > The amount of disturbed area Minimization, and on site vehicle speeds will be kept low;
  - > Gravel pads will be installed at all access points to prevent tracking of mud on to public roads;
  - > Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site will be tarped from the point of origin;

- > After clearing, grading, earth moving or excavation is completed, all areas will be treated by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur; and
- > The preservation of the natural vegetation buffer along the perimeter of the Project site will also provide additional protection in reducing any possible off-site impacts.

The temporary increases in automobile related pollutants related to the operation of construction vehicles and equipment may be mitigated by the following measures:

- > Ensuring that all equipment will meet state and federal requirements for exhaust and pollution control;
- > Limiting the number of construction equipment operating simultaneously through efficient management practices to ensure that the smallest practical number is operating at any one time;
- > Ensuring construction equipment is maintained and tuned per the manufacturer's specifications;
- > If feasible, all combustion engines will have catalytic converters;
- > Diesel powered equipment will be replaced by electric equipment whenever possible; and
- > Construction worker trips will be kept to a minimum by encouraging carpooling.

### Significance of Impacts

*With the implementation of the proposed mitigation measures and the fact that the air impacts related to increased automobiles will be localized, the air impacts associated with construction will be temporary, and neither form of air impacts are presumed to result in the exceedance of regional air quality standards, these impacts are not anticipated to be significant.*

## **4.2 HUMAN RESOURCES**

### **4.2.1 TRANSPORTATION**

The Project site is served by NYS Route 2 and County Route 140 (Pinewoods Avenue). A Traffic Impact Study dated November 11, 2004 and last revised September 30, 2005 was conducted to determine the existing traffic conditions in the area, the projected potential traffic impact of the Project, and identify mitigation measures as needed. Refer to *DEIS Appendix 6 Traffic Study* for the complete Traffic Study.

The study area as depicted on *Figure 11 – Traffic Impact Assessment Intersection Locations* for this analysis includes the following intersections:

- > NYS Route 2/South Lake Avenue;
- > Pinewoods Avenue/Pawling Avenue (NYS Route 66);
- > NYS Route 2/Pawling Avenue (NYS Route 66); and
- > Proposed entrances to the Project from NYS Route 2 and Pinewoods Avenue

For the purpose of this analysis, it was assumed that the project would be fully developed by the year 2009. The 2004 Existing Traffic Volumes were adjusted based on an analysis of traffic growth trends and other potential traffic generating projects in the area. The resulting 2009 projected traffic volumes were used to analyze the no-build and build situations. Refer to *DEIS Appendix 6 Traffic Study* for the traffic projections.

### Sight Distance Evaluation

The Traffic Impact Study also analyzed the sight distances for the proposed intersections on NYS Route 2 and Pinewoods Avenue. The analysis concluded that all the sight distances measurements exceed the AASHTO desirable sight distances for the 55 and 50 – mph design speed on NYS Route 2 and Pinewoods Avenue. Therefore, based on this analysis, no sight distance related mitigation is necessary.

According to a letter from the NYS Department of Transportation (NYSDOT) dated October 19, 2005, NYSDOT conceptually approves of the location and layout of the proposed Site Road “A” intersection with NYS Route 2, with a preliminary condition that if a curb or asphalt wing gutter will be installed along Site Road “A”, it must terminate a minimum of four feet from the existing NYS Route 2 edge of shoulder. Other comments from NYSDOT focus on stormwater issues and are addressed above under *DEIS Section 4.1.1 Stormwater*.

### Proposed Site Road “A” Intersections

The intersections of Site Road A on NYS Route 2 and Pinewoods Avenue are expected to operate with good levels of service and short vehicle delays. Stop sign control on Site Road A intersection approaches is the recommended control.

### Potential Impacts – Avoidable Impacts on Level of Service to the Intersections of Pawling/Pinewoods Avenues and NYS Route 2/Pawling Avenue:

The Traffic Study concluded that the increased automobile trips might result in avoidable impacts to the operating conditions at these intersections. Specifically:

- > Pawling Avenue/Pinewoods Avenue (Pinewoods Avenue westbound approach): Drivers currently experience some delay on the Pinewoods Avenue westbound approach. The delay will increase with the additional traffic generated by the proposed project.
- > The NYS Route 2/Pawling Avenue: This intersection currently operates with level of service (LOS) E conditions on the Pawling Avenue approach during the AM peak hour and LOS F conditions on the Route 2 eastbound (southbound) approach during the PM peak hour. The City of Troy is aware of these conditions and is currently addressing the issue as discussed below. These intersection delays will continue to increase in the No-Build and Build conditions.

### Mitigation:

- > Pawling Avenue/Pinewoods Avenue (Pinewoods Avenue westbound approach): The project delays on the Pinewoods Avenue intersection approach can be mitigated with modifications to the traffic signal timing. Minor modifications to the signal timings will result in overall LOS B during both peak hours with the Pinewoods Avenue approach operating at a LOS D during the AM peak hour and LOS C during the PM peak hour.
  
- > NYS Route 2/Pawling Avenue: The City of Troy is currently considering improvements to this intersection, and the preferred corrective measure includes the installation of a roundabout. With a roundabout, the overall operation of this intersection would be improved and no additional corrective measures would be required to mitigate Project related impacts. If the City decides not to construct a roundabout, signal-timing modifications are required at this intersection to maintain acceptable operating conditions. These timing changes are warranted even without the implementation of the Project, and would result in overall LOS C operations during the AM and PM peak hours with all intersection approaches operating at LOS D or better conditions.

### Significance of Impacts:

*Due to the fact that drivers at the intersections indicated above are currently experiencing delays, and the fact that proposed mitigation measures will correct existing conditions and mitigate any impacts brought on by the Project, any traffic related impacts associated with the Project are not anticipated to be significant.*

### **4.2.2 LAND USE, ZONING AND COMPLIANCE WITH THE COMPREHENSIVE PLAN**

#### Potential Impact – Unavoidable Change in Land Use From Vacant to Residential

The Project will result in the unavoidable change in the current use of the Project Site from Vacant to Residential.

#### Mitigation

The first method of mitigation involves the Project design itself. Specifically, the Carriage Homes and Orchard Village at Carriage Hill were purposely clustered in a way as to minimize the amount of land and vegetation that would need to be disturbed. This design is possible because the Project is being developed through a PDD, allowing for more flexibility in design and the preservation of the existing rural character, a planning and design technique encouraged by the Town of Brunswick Comprehensive Plan. Therefore, the Project design will result in a reduction in the area of disturbance, will result in more open and undisturbed areas on the Project site, and aid in the overall mitigation of the potential impacts associated with the change in land use.

While the Project will result in a permanent change in land use, approximately 139 acres of the site will be left undisturbed, and approximately 179.39 acres will remain pervious (not including wetlands and

open water). In addition, undisturbed buffers ranging from 30 ft. to over 300 ft. will be provided around the Project site perimeter to aid in mitigating any visual observances of a change in use from adjoining property. Also, since the Project is proposed to be implemented over a five-year period, any noticeable change in community character should be gradual.

### Significance of Impacts

*While this change in use will be long-term and may be considered permanent, it is not anticipated to result in a significant adverse impact on the site nor the surrounding land uses due to the fact that the Project is being developed through a PDD, allowing for more flexibility in design and the preservation of the existing rural character. In addition, the existing zoning currently allows for residential development, and the Comprehensive Plan has endorsed the use of PDDs and other creative methods for development. Therefore, the Project is not in conflict with the existing Zoning Ordinance, the Comprehensive Plan or the vision of the Town of Brunswick regarding this particular site.*

### **4.2.3 AGRICULTURAL LAND USES**

#### Potential Impacts – Unavoidable Loss of Vacant Land Within an Agricultural District

While the Project site is currently not in active agricultural use, it is located within an Agricultural District as defined by the NYS Department of Agriculture and Markets, and therefore, an Agricultural Data Statement has been prepared and is located in *DEIS Appendix 7 – Agricultural Data Statement*. As previously mentioned, there are large agriculturally classified parcels to the east and north as well as to the south. At one time, the Project site and surrounding area was likely predominantly agriculture. Over the years, these large (once farmed) parcels were subdivided into the residential developments seen today.

#### Mitigation

No mitigation is proposed due to the fact that the site is not currently being used for agricultural purposes, the site's topographic features may prevent productive farming, and due to the fact that the current Town zoning for the site is Residential and not Agriculture.

#### Significance of Impacts

*Due to the fact that the site is not currently being used for agricultural purposes, the site's topographic features may prevent productive farming, and the fact the current Town zoning for the site is Residential and not Agriculture, this loss of land within an Agricultural District is not anticipated to be significant.*

#### 4.2.4 COMMUNITY SERVICES

##### 4.2.4.1 GENERAL GOVERNMENT

###### Potential Impacts – Unavoidable Increased Need for Town Services (Sewer, Water and Road Infrastructure Maintenance; and Recreational Resources:

The direct impact of the Project on community services will be relative small. The most noteworthy impacts will be on the utility infrastructure, particularly sewer and water maintenance on the Project Site and along Pinewoods Avenue, the need to maintain additional Town roads as the Project roads are proposed for conveyance to the Town of Brunswick for maintenance, and the increase demand on Town recreational resources. This will translate into an increase in cost associated with maintaining the utilities and roads, and providing recreation resources. Potential impacts on public schools; and fire and police protection are addressed separately.

###### Mitigation

While the impact of the Project on community services for the Town of Brunswick will not be substantial, there will inevitably be some increase in cost of service provisions. These costs may be mitigated by the expected increase in overall economic activity in the Town associated with the increase in residents (as discussed in more detail below) as well as through property taxes and the sewer and water user fees to be collected from the new residences. The phasing of the Project will also allow the community time to plan appropriate adjustments to public service capacity.

Further, in accordance with the Town of Brunswick Site Plan Review Act (Section 4) and the Land Subdivision Regulations (Article VIII, Section 2(F)), the Project will reserve land and spaces for the purposes of park and recreation areas, which will be provided solely for residents of the Project. Specifically, the Project will include the preservation of approximately 75.3 acres of land, which will be designated to remain as forever wild.

The Project also includes a proposal to build approximately 1.25 miles of walking trails throughout the site, three community garden plot areas, a 10.48 acre conservation zone, and a 10,000 ± s.f. Clubhouse that will have an indoor lap pool, a conference/business center, a media center, a state of the art fitness facility, a game room, and several additional activity spaces that can be used by the entire Carriage Hill Community. All of these proposed recreation areas: walking trails, garden areas, open space, and conservation zone will be owned and maintained by the Carriage Hill Home Owners Association. The Clubhouse will be owned and maintained by an affiliated entity of the applicant, which will be the owner of the Senior Housing.

In addition to all of these provisions and in accordance with the Town Board Resolution No. 43.2004, the applicant is willing to pay the full park/recreation fee of \$500 per residential lot pursuant to the Town's

Land Subdivision Regulations, and \$500 per residential unit pursuant to the Town’s Site Plan Review Act.

Significance of Impacts

*Due to the expected increase in overall economic activity in the Town associated with the increase in residents (as discussed in more detail below) as well as the additional property taxes and the sewer and water user fees to be collected from the new residences, combined with the phasing of the Project, and the on-site recreational and community service provisions, any impact associated with an increase in community services as they relate to road and utility maintenance on the Project Site and along Pinewoods Avenue are not anticipated to be significant. In addition to all of this, the applicant is willing to pay the full park/recreation fee of \$500 per residential lot pursuant to the Town’s Land Subdivision Regulations, and \$500 per residential unit pursuant to the Town’s Site Plan Review Act. Any impacts associated with the increase demand on Town recreational facilities associated with this Project are not anticipated to be neither adverse nor significant due the on-site recreational and community service provisions.*

**4.2.4.2 EDUCATIONAL FACILITIES**

Potential Impacts – Positive Impact on School Districts:

As depicted below in table 4-2, the Project is anticipated to result in the potential increase of approximately 72 school – age children.

| <b>Table 4 – 2<br/>Projected Increase in School – Age Children</b>   |   |   |  |
|--|---|---|--|
| <b>Project Component</b>   | <b>Units/Projected Population<sup>1</sup></b> | <b>Number of School – Aged Children Per Household<sup>2</sup></b> | <b>Projected Number of School – Age Children<sup>3</sup></b> |
| Senior Apartments  | 204/265                                       | 0   | 0  |
| Carriage Homes   | 87/223  | 0.68  | 59   |
| Estate Homes   | 19/68   | 0.68  | 13   |
| <b>Total</b>   |   |   | <b>72</b>  |
| <sup>1</sup> Refer to DEIS Table 2-1   |   |   |  |
| <sup>2</sup> Derived through (3,116 total children enrolled in school divided by 4,613 total occupied housing units for the Town of Brunswick, per the 2000 U.S. Census) |   |   |  |
| <sup>3</sup> Multiplied (0.68 school age children per household) by the number of households   |   |   |  |

- > **Senior Apartments** – It is considered unlikely that residents of the senior apartment community will have children. While residents need to be age 62 or older to live in the facility, the majority of residents are expected to be age 70+, based on experience with similar properties. The Developer currently manages over 900 senior apartments in five different communities around the Capital District and none of these projects has any residents with school-aged children. While it is still possible that a resident may have a school-aged

## Potential Environmental Impacts and Mitigation Measures

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child living in their home, no reliable data exists on what the percentages might be. Therefore, for the purposes of this analysis, it is assumed that no school-age children will reside in the Senior Apartments.

- > **Carriage Homes** – The design of the individual units and the Carriage Home community are projected to attract empty nesters, expected to generally be age 55+. While these residents are typically less likely to have school-aged children reliable data does not exist to allow for an estimate of the percentages of residents, which might. Therefore, 2000 U.S. Census data were used to derive an estimate of 59 children, likely a conservative figure.
  
- > **Estate Homes** – Due to the projected sale price of the estate homes (\$1 million and greater) it is projected that these homebuyers will typically be in the 45 to 65-age range, including retirees, empty nesters and some families with children. It is assumed that the majority of the children would be older (i.e., grades 6 to 12), but a few elementary school age children are possible. Similar to the Carriage Homes, reliable data does not exist to allow for an estimate of the percentages of the households that may have school age children, and therefore 2000 U.S. Census data were used to derive an estimate of 13 children, likely a conservative figure.

Averill Park Central School District: It is assumed that all of the estimated 72 school age children may reside in the Averill Park Central School District. Based on information provided by the Averill Park Central School District Superintendent, Michael Johnson and data provided in *DEIS Section 3.2.3.2 Educational Facilities*, enrollment will decline over the next five years due to stable building patterns and the decline in live births, combined with larger graduating classes being replaced by smaller elementary classes. Therefore, in Superintendent Johnson's opinion, the Averill Park Central School District would welcome and be able to support the additional school age population resulting from the proposed Project. Therefore, the projected increase is not anticipated to result in an adverse impact on the ability of the school district to provide adequate educational services.

It should also be noted that it is likely that a portion of the estimated 72 school age children anticipated to relocate to the Project may already be Students of the Averill Park Central School District, thus lessening the estimated increase in students.

Brittonkill Central School District: This District would include a portion of the senior housing section of the development. While reliable data does not exist to provide an estimate for the senior housing, should school age children reside in these housing types, it would presumably be a minor student increase to the Brittonkill Central School District, which by itself is not anticipated to result in an adverse impact on the ability of the school district to provide adequate educational services.

### Positive Impact:

Conversely, the Project may potentially result in a positive impact on the School Districts due to an increase in school tax payments from the Project's future residents over the current payments. Under the

current Project – related projections for school – age children, the District will see a benefit, which may more than off-site the projected minor increase in students.

### Mitigation

Due to the fact that no adverse impacts are anticipated, and positive impacts are projected, no mitigation measures are proposed.

### Significance of Impacts

*No adverse impacts are anticipated, while there exists the potential for positive impacts on the School Districts.*

#### **4.2.4.3 POLICE PROTECTION**

##### Potential Impacts – Unavoidable Increase Demand for Police Protection

The increase in police protection services anticipated for the Project is expected to be minimal.

### Mitigation

The facilities of Orchard Village at Carriage will have sufficient security systems in place. Due to the price-point of the residences likely to be constructed elsewhere on the Project Site, it is anticipated that most if not all will contain security systems of varying degrees.

### Significance of Impacts

*Any impact associated with the increase need for police protection associated with the Project is not anticipated to be significant.*

#### **4.2.4.4 FIRE PROTECTION**

The existing water supply system has adequate capacity for fire fighting purposes and domestic use, based on the engineering assessment of available fire flow, as discussed in *DEIS Section 3.2.3.6 Water Supply* and provided in greater detail in *DEIS Appendix 8 – Preliminary Engineering Report – Water and Sewer*. Therefore, no impacts are anticipated in connection with the adequacy of water supply for fire fighting or domestic usage.

The Project is located within the Eagle Mills Fire District (EMFD) and is served from their fire house on Brunswick Road, approximately 2.5 miles to the east of the Project site. The Project is further supported by other fire companies in the area through the Rensselaer County Mutual Aid Agreement.

Fire departments in close proximity to the Project site include:

## Potential Environmental Impacts and Mitigation Measures

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| <u>Fire Department</u>   | <u>Equipment</u>  | <u>Approximate Distance to Site</u> |
|--|---|-------------------------------------|
| <b>Eagle Mills Fire Department</b><br>627 Brunswick Road<br>Troy, NY                 | 1 engine rescue<br>2 engine tankers<br>1 tanker for structure fires,<br>vehicle fires, search & rescue,<br>motor vehicle accidents& EMS | 2.5 miles                           |
| <b>Brunswick No. 1 Fire Department</b><br>566 Hoosick Street<br>Troy, NY             | 1 95' ladder truck<br>2 engine tankers<br>1 rescue mini pumper  | 2.9 miles                           |
| <b>Wynantskill Fire Department</b><br>520 Church Street<br>Wynantskill, NY           | 1 95' ladder truck<br>3 pumpers<br>1 rescue truck   | 2.7 miles                           |
| <b>Troy Fire Department</b><br>2175 Sixth Avenue<br>Troy, NY                         | 1 ariel ladder truck<br>1 tower ladder truck<br>5 pumpers<br>1 rescue truck<br>2 haz mat units<br>3 ambulances                          | 3.5 miles                           |
| <b>Mountain View Fire Company</b><br>2 Shafter Avenue<br>Troy, NY                    | 2 engine tankers<br>1 first response medical vehicle<br>1 utility van<br>1 brush fire truck   | 2 miles                             |
| <b>Volunteer Fire Company of Center Brunswick</b><br>1045 Hoosick Road<br>Troy, NY   | 2 engine tankers<br>1 rescue truck<br>1 utility truck   | 6 miles                             |
| <b>DeFreestville Fire Department</b><br>480 N. Greenbush Road<br>North Greenbush, NY | 3 pumpers<br>1 heavy rescue<br>1 brush fire truck<br>1 EMS  | 7 miles                             |

It has been noted that the EMFD does not have a ladder truck, although there are several fire companies in the area that do have ladder trucks and which cooperate under the Rensselaer County Mutual Aid Agreement (Wynantskill, Brunswick No. 1 and Troy). The EMFD has suggested that the addition of three-story buildings to the district would necessitate the purchase of a ladder truck. This position is prompted by an Insurance Service Organization (ISO) program guideline that provides that if there are five (5) or more three-story buildings within the fire district (which this Project will now create), the fire company needs to either own a fire truck or have one within 2.5 miles from another fire company to ensure that the district maintains its insurance rating (as noted above, there are several ladder trucks with neighboring fire companies that just beyond the 2.5 mile radius). However, further investigation with ISO and the J. Smith Lanier and Co. Insurance Agency has indicated that these conditions may not necessarily impact the ISO rating for several reasons: ISO does not automatically use the 2.5 miles as a rigid limit; the ISO ratings are often used for advisory purposes and not in rating formulas; and, even if there was a rating change, the premium consequences would be negligible. For further information, refer

to the September 30, 2005 letter from UDC to Phillip H. Harrington provided in the *DEIS Appendix 4 Correspondences*. This matter is currently being discussed between the Developer, the Town and the EMFD.

### Potential Impacts – Unavoidable Increase in Demand for Fire Protection Services

The increase in the overall need for fire protection services anticipated for the Project is expected to be minimal. The matter of the EMFD ISO rating and any potential impact will need to be discussed further.

### Mitigation

Construction materials used on site will be selected to minimize any fire hazard. Individual structures will be constructed with the appropriate fire ratings. The Senior Housing Units will have fire sprinkler systems in place.

### Significance of Impacts

*With the use of appropriate materials for all proposed structures and fire sprinkler systems in the Senior Housing Units, along with the fact that the existing water supply system has adequate capacity to provide water to the proposed Project for domestic and fire fighting purposes, any impact associated with the increased demand for fire protection is not anticipated to be significant.*

## **4.2.4.5 UTILITIES (ELECTRIC, GAS, CABLE, AND TELECOMMUNICATIONS)**

### Potential Impact – Unavoidable Increased Demand for Utilities:

The private utility companies providing electric, gas, cable and telecommunications to the Project Site have been contacted to determine if sufficient capacity exists to serve the Project. These private utility companies include Niagara Mohawk (electric and gas), Verizon (phone and internet connections), and Time Warner Cable (cable, phone, and internet connections). As of the date of this DEIS, only a response from Niagara Mohawk was received and they indicated that adequate supply exists and that the electric lines could be brought in along the Site Road A. It is anticipated that the remaining private utilities have adequate capacity to serve the Project site.

## **4.2.4.6 WATER SUPPLY**

### Potential Impact – Long – Term Unavoidable Increased Water Demand:

Based on the engineering assessment of available fire flow, as discussed in *DEIS Section 3.2.3.6 Water Supply* and provided in more detail in *DEIS Appendix 8 – Final Engineering Report – Water and Sewer*, the existing water supply system has adequate capacity to provide water to the proposed development for domestic and firefighting purposes. Therefore, no impacts associated with providing adequate water to the Project Site for domestic and firefighting purposes are anticipated. This will, however, result in an increase demand for water.

### Mitigation:

Continued coordination will be made with the Town of Brunswick during the final design of the water distribution system to ensure that it is designed in accordance with Town standards.

### Significance of Impacts

*Due to the fact that the existing water supply system has adequate capacity to provide water to the proposed development for domestic and firefighting purposes, any impact associated with the increased demand for water associated with the Project is not anticipated to be significant.*

#### **4.2.4.7 SEWAGE TREATMENT**

The nearest connection to this system is approximately 11,000 feet west of the Project site on Pinewoods Avenue, which will require the construction of a new sewer line along Pinewoods Avenue leading from the Project Site as depicted in Figures 4A, 4B and 4C.

### Potential Impacts – Long – Term Unavoidable Increase in Sewer Load:

Effluent from the development will ultimately be received, treated and discharged to the Hudson River by the existing county-owned wastewater treatment plant located in the City of Troy. Note that the creation of a Town Sewer District will be required, and the applicant has already initiated the process of establishing the new district. The calculations (refer to *Appendix 8 Preliminary Engineering Report – Water and Sewer*) estimate the maximum daily flow from the development at approximately 0.08 MGD. There is excess capacity at the wastewater treatment plant, as it has a design capacity of 24 MGD and a current average daily loading of only 19 MGD. Therefore, the projected increased sewer load associated with this project alone is not anticipated to result in any adverse impacts on the ability of the County-owned wastewater treatment plant to effectively treat waste. Furthermore, the City has indicated that there is adequate capacity in the existing City sewer system to handle the additional sanitary flow from the Project.

### Mitigation

Due the fact that adequate capacity exists, and no impacts are anticipated related to the ability of the County-owned wastewater treatment plant to effectively treat waste associated with this Project alone and there is adequate capacity in the existing City sewer system, no mitigation is proposed.

### Significance of Impacts

*No impacts are anticipated related to the ability of the County-owned wastewater treatment plant to effectively treat wastewater associated with this Project.*

### Potential Impacts – Construction of Sewer Line along Pinewoods Avenue

The construction of the off-site sewer force main along Pinewoods Avenue from the Project site to the connection at the intersection of Maple Avenue will impact various improvements within the Pinewoods ROW and may cause temporary inconveniences to the residents in the vicinity of the construction as well as motorists traveling along Pinewoods Avenue.

### Mitigation

A plan will be developed for the maintenance and protection of traffic during construction of the off-site sewer force main to ensure the safety of motorists, pedestrians and the local residents. This plan will be developed in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) criteria, and will be submitted to the Rensselaer County Highway Department for review and approval.

Areas disturbed within the ROW will be restored to original conditions to the extent practical. This would include repairing and/or replacing driveways, roadways, utilities, culverts, ditches, guiderails, landscaping, fences, etc. It is noted, however, that there may be some large trees within the Pinewoods ROW that will need to be removed. Tree removal may be able to be avoided in some cases by installation of the force main by directional drilling. This will be coordinated with the Rensselaer County Highway Department as there may be some benefit to the removal of certain trees (e.g. improvement of traffic safety conditions). The Developer and the Contractor will also make an effort to coordinate with the property owners adjacent to the force main construction before work is commenced in order to minimize the inconvenience of construction and ensure that restoration is completed in a satisfactory manner.

### Significance of Impacts

*Due to the fact that the existing conditions along Pinewoods Avenue will be restored to the extent practical; a plan will be prepared for the maintenance and protection of traffic; and there will be no impacts to wetland or archeological resources, the construction of the off-site force main is not anticipated to be significant.*

#### **4.2.4.8 SOLID WASTE DISPOSAL**

### Potential Impact – Long – Term Unavoidable Increase in Solid Waste Generation:

The proposed development will increase the amount of municipal solid waste generated in Rensselaer County. Information obtained from the U.S. Environmental Protection Agency (EPA) estimates that on the average each person generates 4.4 pounds of solid waste per day. Based on an estimated population of 556 persons for the proposed Project, this would mean that approximately 36.7 tons of additional municipal solid waste would be generated each month. Reference information from EPA regarding the generation of solid waste is provided in *Appendix – 9 Solid Waste Calculation Reference*.

Two waste haulers are currently licensed in the Town of Brunswick to collect common household trash and recyclables within the Town; Ace Carting Corporation and Superior Waste. The collected waste is either hauled to the Town of Colonie Landfill or transferred to several western New York landfills. Future limitations on disposal are currently not anticipated. The Town's recycling center is located behind the Town Offices and is a drop-off location for common household trash contained in required bags and recyclables.

### Mitigation:

No mitigation is proposed, as the projected increase in solid waste generation is not anticipated to result in impacts on the ability to properly dispose of solid waste.

### Significance of Impacts

*No impacts are anticipated as a result of the project increase in solid waste generation.*

## **4.2.5 4.2.5 SOCIOECONOMIC CONDITIONS**

### **4.2.5.1 POPULATION AND INCOME**

Development of the Project will involve over \$70 million of construction that will occur over a five-year period and, when completed, will have produced 310 new households within the Town serving as homes to approximately 556 residents.

The Project is positioned as an "intergenerational community" with the age of the residents expected to range from 30 to 85, although most housing units are designed for seniors and empty nesters. A majority of residents therefore are likely to be retired, but it is also expected that there will be a few families with children.

### Potential Impact: - Positive Economic Impact

*Residents of the Project are projected to generate more than \$200,000 per year in sales tax revenue, based on estimated income levels as a function of home values and projected consumption patterns. This will be a positive economic impact for the community and surrounding area.*

### **4.2.5.2 HOUSING**

The Project is comprised of three basic housing types:

- > Senior Apartment Homes (204 units) for residents aged 62 and older;
- > Carriage Homes (87 units) targeted to "empty nesters" (i.e., residents whose children no longer live at home and thus with a home larger than needed); and
- > Estate Homes (19 units) for residents seeking a large wooded lot (i.e., 2.3 to 8.2 acres) in a private and natural setting.

It is projected that approximately one-third (33%) of new residents of the Project will be individuals and families that currently reside in the Town of Brunswick (about 100 households), and that approximately seventy-five percent (75%) will come from the Primary Market Area (approximately a 10-mile radius of the Project site within Rensselaer County) (about 225 households). Based upon current demographics, it is anticipated that the great majority of these residents (80% to 90%) are currently homeowners.

### Potential Impact: - Positive Impact Associated With an Increase in Needed Housing Choices

The net impact on the housing market is that the Project is anticipated to: (1) provide new housing that is needed but is currently either in short supply or unavailable (i.e.: rental housing for seniors and carriage homes for empty nesters); and (2) indirectly increase the availability of existing housing that is also in demand (i.e., affordable single family homes). The Project thus facilitates a transition of current residents that have lived in their current homes for a number of years, but now have a different lifestyle or housing need, to a more appropriate and desirable living arrangement that is still within their home community. The transition goes a step further, with these older homes (which are typically more affordable than new construction) becoming available for first time homebuyers.

This dynamic of transitioning older homes to first time homebuyers, while creating new in-demand senior/empty-nester housing avoids developing more of the traditional single family type housing that typically has a greater impact on the environment, community services and public facilities, and promotes the development of new housing types and community plans that are more desirable and fill a greater need. In meeting the housing and lifestyle needs of seniors and empty nesters, the Project allows these residents to remain within the Town with their wisdom, wealth, social contributions and economic impact, when they would otherwise have needed to move to another community.

### **4.2.5.3 SUPPORT FACILITIES**

### Potential Impact: - Minimal Long – Term to No Impact Anticipated Related to the Provision of Recreational and Community Facilities

In accordance with the Town of Brunswick Site Plan Review Act (Section 4) and the Land Subdivision Regulations (Article VIII, Section 2(F)), the Project will reserve land and spaces for the purposes of park and recreation areas, which will be provided solely for residents of the Project. Specifically, the Project will include the preservation of approximately 75.3 acres of land, which will be designated to remain as forever wild.

The Project also includes a proposal to build approximately 1.25 miles of walking trails throughout the site, three community garden plot areas, a 10.48 acre conservation zone, and a 10,000 ± s.f. Clubhouse that will have an indoor lap pool, a conference/business center, a media center, a state of the art fitness facility, a game room, and several additional activity spaces that can be used by the entire Carriage Hill Community. In addition to all of these provisions and in accordance with the Town Board Resolution No. 43.2004, the applicant is willing to pay the full park/recreation fee of \$500 per residential lot pursuant to

the Town's Land Subdivision Regulations, and \$500 per residential unit pursuant to the Town's Site Plan Review Act.

### **4.2.5.4 ECONOMIC IMPACTS**

The Project is expected to result in economic benefits to Town of Brunswick, Rensselaer County and City of Troy as outlined below.

#### **4.2.5.4.1 SALES TAX**

##### Potential Impacts – Positive Impacts Related to Projected Increases in Sales Tax Revenue:

Development of the Project is anticipated to involve over \$70 million of construction that will occur over a five-year period and, when completed, will provide the following benefits:

- > **Construction of the Project is projected to generate approximately \$1,375,000 in sales tax revenue** over an anticipated five-year construction period and based on total estimated construction costs of \$70 million; and
- > **Residents of the Project are projected to generate more than \$200,000 per year in sales tax revenue** based on estimated income levels as a function of home values and projected consumption patterns.

#### **4.2.5.4.2 PROPERTY TAX**

##### Potential Impacts – Positive Impacts Related to Projected Increases in Property Tax Revenue:

It is proposed that all For Sale Housing (Estate Homes and Carriage Homes) will be fully taxable in accordance with the Town of Brunswick's real property taxation policy, and this is anticipated to generate more than \$1 million annually in property tax revenue for the taxing jurisdictions. With respect to the Senior Housing, it is anticipated that a payment-in-lieu-of-taxes (PILOT) or similar type of agreement will be discussed with the relevant bodies. All aspects of the Project will be subject to sewer, water and similar special district changes. In addition, the Town will receive significant park/recreation fee revenue (\$500 per unit for each residence/unit) as a result of construction of the project.

In addition, the Town will recapture over \$50,000 in additional property taxes from the lapsing of the STAR Program exemptions utilized by current homeowners within the Town that are age 65 and older that will be selling their homes and moving into the Project.

#### 4.2.5.4.3 JOB GROWTH

##### Potential Impacts – Positive Impacts Related to Projected Increases in Temporary and Permanent Jobs:

- > Development of the Project will generate approximately **60 construction jobs**;
- > The Project will produce **10 to 12 new permanent jobs**, including a property manager, administrative staff, maintenance personnel and grounds workers.

#### 4.2.6 CULTURAL RESOURCES

##### 4.2.6.1 HISTORIC AND ARCHEOLOGICAL RESOURCES

##### Potential Impacts – Disturbance to Historic and Archeological Resources:

*Phase I and II Archeological Investigations* were performed for the Project Site and a Phase 1A and 1B were completed for proposed alternate sewer line route along the north side of Pinewoods Avenue. The findings of these analyses are described as follows:

##### *Project Site*

##### *Site A08302.000209*

No features were documented. Based upon Phase II evaluations, the site does not appear to be eligible to the NRHP. While the site is proposed to be impacted by the Project, the site is not NRHP eligible and no additional work is recommended, provided OPRHP concurrence.

##### *Site A08302.000210*

Based upon the Phase II investigations, the site does not appear to be NRHP eligible. While the site is proposed to be impacted by the Project, the site is not NRHP eligible and no additional work is recommended, provided OPRHP concurrence.

##### *Site A08302.000211*

Based upon the Phase II investigation, the site does not appear to be eligible for the NRHP, as it only yielded two undiagnostic artifacts. While the site is proposed to be impacted by the Project, the site is not NRHP eligible and no additional work is recommended, provided OPRHP concurrence.

##### *Site A08302.000212*

Based upon the Phase II site investigation the site does not appear to contain characteristics that would satisfy eligibility criteria of the NRHP. While the site is proposed to be impacted by the Project, the site is not NRHP eligible and no additional work is recommended, provided OPRHP concurrence

### *Site A08302.000213*

Based upon the Phase IB site investigation, the site may be eligible for inclusion in the NRHP. The Project as currently designed will avoid and preserve the site. As a precautionary measure, a temporary fence shall be installed 50 to 75ft out from the Phase IB defined site to protect the site from encroachment by heavy equipment.

### *Site A08302.000214*

While the site is proposed to be impacted by the Project, based upon the Phase IB investigation, the site does not appear to be NRHP eligible and no additional work is recommended, provided OPRHP concurrence.

### *Site A08302.000215*

While the site is proposed to be impacted by the Project, based upon the Phase II excavations, the site does not appear to be NRHP eligible and no additional work is recommended, provided OPRHP concurrence.

### *Site A08302.000216*

While the site is proposed to be impacted by the Project, based upon the Phase II excavations, the site does not appear to be NRHP eligible and no additional work is recommended, provided OPRHP concurrence.

### *Site A08302.000217*

The site is no longer proposed to be impacted by the Project and therefore, a Phase II investigation was not performed. If the Project design changes and the site may be impacted, a Phase II investigation is recommended.

Upon OPRHP concurrence, the Project will not impact any significant cultural resources and project clearance from an archaeological perspective is recommended.

### *Pinewoods Avenue Sewer Line and 9-Acre Section*

Excavation along the proposed alternate sewer route resulted in the recovery of only one historic artifact (roadside refuse) and no prehistoric artifacts. Based on the results of the Phase 1A and 1B investigations it has been determined that the proposed construction of the sewer line within the alternative route will have no adverse impact on significant cultural resources and no additional archaeological work has been recommended.

Excavation on the 9-acre parcel resulted in the recovery of a total of 702 historic artifacts from 35 STPs and the designation of one site, the W. J. Stillman site (SUBI-2537) as depicted on Figure 14. Based upon the results of the investigation, this site is potentially eligible for the NRHP. The Project as proposed will avoid this site and therefore, a Phase II Site Examination is not required to determine eligibility as no impact is anticipated.

### OPRHP Response

According to a letter from OPRHP dated October 26, 2005 (DEIS Appendix 4 Correspondences), the NYS Historic Preservation Officer (SHPO) has reviewed the three reports submitted for sites: *Site A08302.000213*, *Site A08302.000217*, and *Site A08302.000219 (the W.J. Stillman Site SUBI 2537)*. The Project proposes to avoid these sites. Pursuant to the OPRHP letter, it is the opinion of SHPO that the Project will have No Adverse Effect on historic properties in or eligible for inclusion in the State and National Registers of Historic Places with the condition that an approved Avoidance Plan is implemented.

### Mitigation

Sites A08302.000213, A08302.000217 and A08302.000219 (SUBI-2537) are the only site where mitigation may be necessary. Pursuant to the October 26, 2005 letter from OPRHP, the Avoidance Plan should include the following:

- > Short-term – Each site should be identified on the Project Plans as a “sensitive area” requiring avoidance. Fencing will need to be in place throughout construction. During the preconstruction meeting the Applicant shall inform the Engineer in Charge and other key construction officials of the avoidance/protection requirement.
  
- > Long Term – An Archeology Covenant (sample enclosed) will need to be included with each property that contains any portion of the three sites noted.

### Significance of Impacts

Pursuant to the OPRHP letter, it is the opinion of SHPO that the Project will have No Adverse Effect on historic properties in or eligible for inclusion in the State and National Registers of Historic Places with the condition that an approved Avoidance Plan is implemented as described above

#### **4.2.6.2 VISUAL RESOURCES**

##### Potential Impact – Unavoidable Long – Term Views of the Project From Off-Site Locations:

Figure 15A is a viewshed map that shows all areas from which a potential view of the Project exists. The extent of visibility was limited to an outer distance of two (2) miles. Two miles was the selected distance because the effects of size perspective on housing over two miles sufficiently diminish the visual impact to levels considered background in developing suburban environments. The Garfield School, a designated historic property is located east of the project site along NYS Route 2. As depicted on Figure 15A, the project will not be visible from any portion of the historic property. According to the map, views of the Project Site may be afforded from the Emma Willard School or from the Henry Koon House located almost 2-miles to the southeast of the Project Site.

Regarding the remaining 8 receptor sites, Figure 15C provides line of site profiles for each. The line of site profiles depict the intervening topography and not the vegetation. Based upon Figures 15A and 15C, the Project may be visible from certain locations within each adjoining residential development, as well as from portions of NYS Route 2 near the Project Site. View of the Project from the Troy Country Club's 7<sup>th</sup> fairway and 5<sup>th</sup> Tee may also be possible.

### Mitigation

To mitigate the view of the Project Site from the Troy County Club a 250-foot wide vegetated buffer zone will be maintained between the course and the Project Site in order to preserve the natural appearance of the Course setting while providing continued spatial enclosure to the fairways and greens.

To mitigate the views from NYS Route 2, an attractive, architecturally designed landscape, providing a sense of entrance will be designed for the NYS Route 2 entranceways.

To further mitigate the views of the Project from surrounding areas including the adjoining residential developments, the building architecture will be soft-toned and multihued. The apartments will be designed with a residential home look complete with dormer elements and peeked rooflines. In addition, extensive set asides including natural areas, wetlands, and fields will compliment ornamental plantings to soften the development and help blend it into the existing landscape patterns.

### Significance of Impacts

*The intervening vegetation and the built-urban environment that surrounds the Henry Koon House and the Emma Willard School will likely diminish views of the proposed Project from these sites. Further, the Project is likely to be backdropped and blended in with existing residential development, further decreasing the visibility of the Project from these sites. Based upon the distance of these sites from the Project Site, the built-urban environment surrounding each and the existing built environment between these sites and the Project Site, the visibility of the Project is not anticipated to result in significant adverse impacts.*

*Most of the observers of the proposed residential development will be local residents in the adjoining existing residential subdivisions as well as commuters on NYS Route 2. Residents immediately adjacent to the proposed development are likely to have the best understanding of the local aesthetic character and existing site conditions and therefore may consider the visibility of the Project as an adverse impact. They know the local landscape and may be sensitive to changes in particular views that are important to them. Based upon the NYSDEDC Program Policy "Assessing and Mitigating Visual Impacts, July 31, 2000, the identified adjoining residential subdivisions are not considered aesthetic resources of local, state or national significance and therefore the visibility of the Project from these areas is not considered a significant adverse impact. Further, for those local residents that may be sensitive to changes in the landscape their sensitivity may be diminished over time due to repeated exposure.*

*Another group of viewers will be “through travelers.” This group includes non-local viewers such as those using Route 2 to travel from the Capitol District to Vermont. These viewers are typically moving and would be exposed to views of the project intermittently, peripherally and/or for short duration. Further, NYS Route 2 is not considered an aesthetic resource of significance pursuant to NYSDEC, and therefore, the Project Visibility from the road is not considered a significant adverse environmental impact.*

*If the Project is visible from the Troy County Club even after the proposed mitigative plantings, such visibility also does not rise to the level of a significant adverse environmental impact as the golf course is not a listed aesthetic resource of significance.*

### **4.2.6.3 NOISE**

#### Potential Impacts – Unavoidable Short – Term Increases in Noise Associated With Construction:

According to the NYSDEC Program Policy, *Assessing and Mitigating Noise Impacts DEP-00-1, dated February 2, 2001*, sound sources increasing the ambient sound level by 6 dBA may cause complaints, but in some instances, increases of greater than 6 dBA may be acceptable. The NYSDEC policy document states, “an increase of 10 dBA deserves consideration of avoidance and mitigation.” Based upon this information, construction related increases in ambient sound level of 10 dBA or more (very noticeable) may signal a potentially significant temporary noise impact that requires further consideration and possible mitigation.

As depicted on *Figure 16 Noise Impact Assessment*, there are approximately 18 homes located within 400 feet of the Project boundaries, approximately 36 homes within 400 to 800 feet, and around 16 homes within 800 to 1,000 feet from the Project boundaries. Three (3) holes at the Country Club of Troy are located within 400 feet, while four (4) holes are located within 800 feet.

Based upon USEPA noise data, typical construction equipment is expected to result in approximately 83 dBA at zero (0) ft from the noise source, and 57 dBA at 500 ft. from the noise source, due to noise level attenuation based on level open terrain. Therefore, approximately 18 to 36 homes will experience worst-case sound levels of between 57 and 83 dBA during construction. These levels are likely to be lower due to accepted attenuation by topography and vegetation. Site preparation and construction is anticipated to occur between the hours of 7:00 am and 7:00 pm, 7-days a week.

The most noticeable increases in noise may be related to construction traffic and may occur along NYS Route 2, Pinewoods Avenue, and ultimately the site access roads, due to the proximity of residences. Based upon the proposed construction-phasing plan, a significant amount of the large truck traffic will occur during the first two years of construction during the period of road and infrastructure construction.

It is anticipated that temporary construction noise impacts greater than 10 dBA may occur during portions of the access road construction adjacent to NYS Route 2 and Pinewoods Avenue. All other construction

is estimated to result in temporary increases in sound level of less than 10 dBA and probably on the order of 4 dBA, which indicates insignificant noise impacts that do not require mitigation in this context.

*Table 4-3 Noise Level Comparison* depicts how typical noise levels related to construction operations are attenuated, or diminished by distance and as a result of intervening vegetation. The chart identifies the worst-case scenario from the operation of heavy equipment being 92 dBA, when measured zero feet from the source. A dBA of 83 is expected from typical construction noise related to soil removal and site preparation when measured at zero feet from the source.

Based on a review of these table, the resulting noise level at the property line both during construction and upon completion of the development due to the proposed vegetative buffer to be provided between the property boundary and areas of disturbance, should be at or below 43 dBA and in the accepted range for a rural residential situation.

| Distance From Source | Land Use or Cover <sup>4</sup> | Maximum <sup>1</sup> Noise Level (dBA) | Typical <sup>2</sup> Construction Noise Level (dBA) | Noise <sup>3</sup> Levels (attenuation) (dBA) |
|----------------------|--------------------------------|--|---|---|
| 0                    | Residential                    | 92                                     | 83  | 83  |
| 500                  | Residential                    | 66                                     | 57  | 50  |
| 1,000                | Residential                    | 60                                     | 51  | 43 <sup>5</sup>                               |

Source: U.S. EPA

<sup>1</sup> Expected maximum noise level generated by heavy equipment. This number is intended to show the worst-case scenario.

<sup>2</sup> Expected noise levels of construction equipment generated during soil removal or to prepare a site for development. The attenuation with distance for source of sound assumes a level open terrain and does not permit attenuation due to vegetation or topography.

<sup>3</sup> Assumes noise level attenuation at property line due to vegetative cover.

<sup>4</sup> Current land cover or use in that area.

<sup>5</sup> It is assumed that background noise levels will not be lower than approximately 43 dBA. Average for Day-Night Noise Levels associated with rural residential environments see Table 3-5.

A review of the traffic volume data included in the Traffic Impact Study prepared for this project indicate a resulting increase in traffic volume of 13% in the AM peak hour and 17% in the PM peak hour as a result of the completion of the project. Noise levels increase approximately 3 dBA for each doubling of the roadway traffic volume. If vehicle speed and fleet mix can be assumed to remain constant after project construction, and the Project results in much less than doubling the existing traffic, then the project's noise impacts can be assumed to be less than significant (Draft LA CEQA Threshold Guide, City of Los Angeles, May 14, 1998). A 2-dBA increase in noise levels is barely perceivable in a laboratory with instruments and is not detectable by the human ear. A decibel increase of 4 dBA is the level at which the human ear can distinguish. Based on the above, it is not expected that the development of the project will create a noticeable increase in the traffic noise on NYS Route 2 and Pinewoods Avenue in the vicinity of the proposed Project.

### Mitigation:

Site preparation and construction is anticipated to occur between the hours of 7:00 am and 7:00 pm, 7-days a week. Construction vehicles entering and existing the site are expected only between the hours of 7:00 am and 7:00 pm, seven days a week. Noise generated on site as a result of construction and development activities will be effectively attenuated by distance and for the majority of the adjacent land uses.

### Significance of Impacts

*As a result of the anticipated noise attenuation and the proposed hours of construction, any noise generated from the site is not anticipated to result in significant adverse impacts.*

#### **4.2.7 ENVIRONMENTAL CONDITIONS**

### Potential Impacts – No Impact:

The Phase 1 Environmental Site Assessment (ESA) and numerous related site inspections did not reveal any impacts to soil or groundwater quality. No environmental concerns are present in this area.

### Mitigation:

No mitigation is necessary.

### Significance of Impacts:

*No adverse impacts related to environmental conditions are anticipated.*

#### **4.2.8 CUMULATIVE IMPACTS**

Cumulative Impacts are impacts on the environment that result from the incremental or increased impact of an action when the impacts of that action are added to other past, present, and reasonably foreseeable future actions.<sup>1</sup> Cumulative impacts must be addressed “when actions are proposed to or will foreseeably take place simultaneously or sequentially in a way that their combined impacts may be significant”<sup>2</sup>. Further, cumulative impact assessment must be done under the circumstances where: “one action is an interdependent part of a larger action or included as part of any long range plan; one action is likely to be undertaken as a result of the proposed action or will likely be triggered by the proposed action; and, one action cannot or will not proceed unless another action is taken or one action is dependent on another”<sup>3</sup>. In addition, cumulative impacts must be addressed if the impacts of related or unrelated actions may be

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<sup>1</sup> The SEQR Handbook, November 1992, NYS Department of Environmental Conservation

<sup>2</sup> Ibid

<sup>3</sup> Ibid

incrementally significant and the impacts themselves are related, as well as those that are sufficiently close geographically.

The NYSDEC provides no further direction concerning the geographical boundary of the cumulative impacts to be analyzed. For this Project, the “reasonably worst case approach” for all analyses was chosen for the assessment of cumulative impacts to assure significant adverse impacts are revealed and minimized. Therefore, areas within the Town of Brunswick and immediately to the west in the City of Troy were analyzed for projects that have recently been approved, close to approval, or under construction.

After coordination with the Town of Brunswick Building Department, only one project was identified that is proposed to be built or implemented regardless of the selection of any of the project alternatives include are as follows:

- > Post Creek – a 56 single-family homes residential subdivision near the intersection of NYS Route 2 and South Lake Avenue in Troy;

### ***Traffic Impacts:***

As discussed above in *DEIS Section 4.2.1 Transportation*, when the 56 single-family dwelling Post Creek project is factored into the projected traffic volume increase associated with the Project, existing delays may be slightly increased requiring minor mitigation. However, due to the fact that drivers at the intersections indicated above are currently experiencing delays, and the fact that proposed mitigation measures will alleviate existing conditions and mitigate any impacts to the maximum extent practicable brought on by the Project, any cumulative traffic related impacts associated with the Project are not anticipated to be significant.