3.12 Utilities – Wastewater

3.12.1 Existing Wastewater Conditions and Project Proposals

The Wastewater Treatment Plant (WWTP) has excess capacity based on monthly averages of daily flow between January 2003 and May 2005. The average daily flow recorded during this time period was 0.850 mgd, resulting in an average excess daily water flow capacity of 0.645 mgd. The average peak hourly flow during this time period was 1.59 mgd. In accordance with design standards in the "Ten States Standards for Water", the WWTP has a peak hour flow capacity rate of at least 5.9 mgd, which is 4.31 mgd above the current peak hour flow rate.

Based on the data collected at the WWTP between January 2003 and March 2005, the average BOD5 discharge based on the 30-day average flow is 8.06 mg/l, and the average TSS discharge based on the 30-day average flow is 6.66 mg/l, both of which are below the permitted limit.

3.12.2 Potential Wastewater Impacts

The proposed wastewater collection and conveyance system at the site will connect to the Village of New Paltz Sewer District. A pump station serving Woodland Pond and this site is proposed on the parcel of land south of both project sites to collect and discharge wastewater to an existing manhole on Bonticou View Drive. The proposed pump station will be water tight, equipped with backup power and automatic switchover in case of power outage, and an alarm system with battery backup. The pump station will be rated for 330 gpm +/- peak flow to accommodate both Stoneleigh and Woodland Pond. The Applicants will form a "Transportation Corporation" to own and maintain the proposed pump station and access road.

At the time of this writing, the project area is adjacent to the proposed Woodland Pond project, and both the Stoneleigh Woods and Woodland Pond project principals have indicated a desire and intent to work together to develop the water and sewer infrastructure improvements necessary on- and off-site including the Stop 32 Pump Station and any necessary upgrade of the Village's sanitary force main to the Stop 32 Pump Station. The schematic utility plans presented show a sanitary system which flows into an on-site pump station in the southeast corner of the site. This pump station may be developed either with or without flows from Woodland Pond (should that project proceed). The environmental impacts of one alternative over the other, as the pump station location and required off-site improvements remain constant. Likewise, the water supply plan shows a combined water supply line along the southern edge of the property. This supply line branches to the separate projects, and again, the location and environmental impacts of this proposed water line sharing do not materially change with or without the inclusion of the Woodland Pond project. The sharing of the sewage and water conveyance lines is preferred over the alternative of separate, parallel lines from each parcel to the municipal connection point at Bonticou View Drive.

Also, a small ejector pump station servicing the western buildings on site will be used to lift sewage from that building to the on site gravity sewer system.

From the pump station, a gravity sewer line will direct flow to a pump station (Stop 32 Pump Station) near the intersection of Bonticou View Drive and Route 32, with final outflow to the Village of New Paltz Wastewater Treatment Plant (WWTP), and effluent discharge to the adjacent Wallkill River. The WWTP operates under State Pollution Discharge Elimination system (SPDES) permit NY0030082, which allows a thirty day average discharge limit of 1.5 million gallons per day (mgd).

Based on the New York State Department of Environmental Conservation (NYSDEC) Standards, the projected wastewater from rate is as follows:

204 units senior complex (all 2 bedroom) @ 150 gpd per bedroom, 204 x 2 x 150	=	61,200 gpd
96 townhouses (all 2 bedroom) @ 300 gpd 96 x 300	=	28,800 gpd
Less 20% reduction for water saving fixtures		(18,000) gpd
Total Wastewater Flow		72,000 gpd

The on-site sanitary sewer collection system will consist of approximately 2,500 linear feet of eight-inch SDR 35 PVC sewer mains about 50 pre-cast manholes, and 2,500 linear feet of 6" force main pipe from the project site to the pump station. Manholes will be spaced no more than 400 feet apart and will be located at all horizontal and vertical directional changes. Gravity mains will be designed to provide a minimum self-cleansing velocity of two feet per second. All of the proposed project will consist of new construction and will be built in accordance with the New York State requirements and Ten State Standards.

A cumulative impact assessment of the proposed project with other proposed projects in the 347 acre area known as the Mill Brook Greenway is provided in this section, to the extent data is available.

The estimated cumulative wastewater for projects in the Mill Brook Greenway is as follows:

Stoneleigh	72,000 gpd
Woodland Ponds	49,060
Lent Subdivision	3,840
Kniffen Subdivision	6,400
	131,300 gpd

The wastewater flow from proposed projects that may participate in the Mill Brook Greenway may add 0.131 mgd to the existing average daily flow of 0.855 at the WWTP. This would result in a new average daily flow of 0.986 mgd upon full buildout of currently proposed projects, which is less than the permitted wastewater discharge rate of 1.5 mgd at the WWTP under normal operating conditions.

A comparison of projected peak hour flow for projects that may participate in the Mill Brook Greenway was conducted to determine a cumulative peak hour flow rate. The peak hourly cumulative flow is estimated to be 275 gpm (P.F. = 3.0) or 0.39 mgd. The current peak hourly flow is 1.59 mgd (P.F. = 2.4) therefore the total peak flow is 1.98 mgd, well within the peak hour flow capacity of 5.9 mgd at the WWTP.

The WWTP maintains an excess capacity of over 70 percent of its permitted effluent limitation for the discharge of biological oxygen demand (BOD5) and total suspended solids (TSS). The 97 percent removal rate is projected to remain constant and an increase inflow over the current flow is not expected to change or reduce the percent removal rate.

3.12.3 Wastewater Mitigation Measures

Stop 32 (NYS Route 22) is at or near capacity. This pump station currently transports sewage from developments along Bonticou View Drive and from the Village Arms Condominiums and force mains from BOCES and Gateway. There is an older section of the Village sewer main network near Mulberry Street, which has significant infiltration and inflow (I & I) problems during precipitation events. The Village is currently under a consent order to address the problem through a New York State Department of Environmental Conservation (NYSDED) mandate.

Based on the projected increase in wastewater flow, the Village of New Paltz commissioned the engineering firm Brinnier & Larios to determine the potential need and cost for improvements to the existing collection system, based on the potential cumulative wastewater impact of all proposed projects in the Mill Brook Greenway. The improvements include modifications to wastewater collection piping, manholes, a pump station, and force main and are presented below based on meetings (7/8/04) with Brinnier & Larios.

Stop 32 Pump Station Upgrades	
(new pumps, improvements to wet well)	$500,000
New force main (2,000 ft 125/ft)	$250,000
Total Improvements	$750,000

Alternative conveyance includes the installation of a force main from the site to the WWTP directly (approximately 5,500 feet) or connections to systems on Henry W. Dubois Drive rather than the Stop 32 pump station; both alternatives are not preferred approaches according to the Village Engineer.

Based on potential cumulative wastewater generation, the Village's wastewater collection and WWTP will remain well within permitted hydraulic and organic loading capacity limits with the implementation of upgrades as discussed above. Therefore, as there will be no significant wastewater impacts upon full buildout of the proposed Woodland Ponds at New Paltz, no additional mitigation measures are proposed.

Construction of the Stoneleigh project is not expected to adversely impact sanitary sewers. During construction, sites are typically serviced by portable individual sanitary units and sewage is disposed of off-site. The volume generated by construction personnel is expected to be insignificant. Further, since the majority of the workers are expected to currently reside in the nearby region, this would represent a transference of waste within the sewer districts rather than an increase of waste. No significant impact is anticipated.