

ENGINEER'S NARRATIVE

BROOKHAVEN SUBDIVISION

TOWN OF CLIFTON PARK

October, 2005

PROJECT DESCRIPTION:

The following narrative addresses the public utilities for a proposed 24 lot, single family residential development on Route 146 in the Town of Clifton Park. The Brookhaven project is located on the south side of Route 146 approximately one-half mile west of the intersection with Vischer Ferry Road. The current use of the property is for commercial recreational horseback riding. The surrounding land use is an even mix of single family residential homes and large tract, undeveloped parcels. The total area of the Brookhaven property is 26.1± acres. Approximately ten acres of the site will remain undeveloped greenspace. A multi-use recreational trail will be constructed through the undeveloped lands to connect to an existing leg of the town-wide network. An elevated boardwalk section will be used through jurisdictional wetlands to avoid any disturbance to those areas.

The topography of the property can best be described as moderate. Existing grade is in a southerly direction from the front of the property at Route 146 toward the Dwaas Kill creek at the rear of the site. A fairly uniform slope of four to six percent exists throughout the property. Soils on the site consist of a layer of topsoil underlain by poorly drained silty clays to a depth of at least ten feet. Ground water conditions in July were observed at a depth of six to seven feet. Surface drainage is well defined on the parcel. The Dwaas Kill collects all runoff along the south boundary and conveys flow to the east of the site. Federal jurisdictional wetlands exist on each side along the length of the creek. There are no New York State Department of Environmental Conservation wetlands on the property. Vegetation on the land is predominantly open meadows of tall grass. Approximately 4.5 acres of light woods exist along the south line along the Dwaas Kill.

WATER SERVICE:

The Brookhaven subdivision is within the existing service territory of the Town of Clifton Park Water Authority. The town currently owns and operates an existing 12" water main on the north

side of Route 146 directly across from the proposed Brookhaven entrance. A new 8” water main will be directionally drilled beneath Route 146 and connected to the existing 12” main. Approximately 2,100 linear feet of 8” distribution piping will be installed throughout the Brookhaven project.

The Clifton Park water system is a gravity pressurized grid with multiple above ground storage towers. The location of the Brookhaven subdivision project and its relative elevation to the water towers dictates that pressures of at least 45 psi. are to be expected. The 24 residential units in the subdivision are projected to use an average of 7,200 gallons per day (GPD) of potable water (300 GPD per single family unit). During peak usage, consumption may reach a figure of 14,400 GPD. These values are well within the current capacity of the district and represent only a small fraction of the total average daily demand of roughly 3.1 MGD.

Construction of the proposed water mains within the project will include 2,100 linear feet of 8” ductile iron pipe. In addition, 5 hydrants and all the necessary valves, fittings and service connections for the 24 residential units will be installed. The Town of Clifton Park Water Authority will own and maintain the water distribution system upon completion of the project. All construction and design will be in conformance with the Great Lakes Upper Mississippi River Board of State Public Health & Environmental Managers publication “Recommended Standards for Water Works” as well as the Town of Clifton Park Water Authority’s specifications.

SANITARY SEWER:

The proposed sanitary sewer will consist of a small diameter low pressure force main system within the public right of way. Approximately 1,800 linear feet of 2” PVC piping will be installed. Cleanouts will also be constructed at two of the branch ends and at the junction of the two sections. Each of the 24 homes will be provided with an outdoor individual grinder pump unit. The grinder pumps will be privately owned while the portions of the force main within the rights of way will be owned and maintained by the Saratoga County Sewer District No. 1. Discharge from the low pressure main will be to an existing 8” gravity sewer main on the north side of Route 146. Connection across NYS Route 146 will be made via directional bore and a new manhole will be installed at the point of connection. Detailed engineering plans have been submitted to the SCSD for their review and approval. The sewer district has adequate capacity and has agreed to provide treatment for the new homes at the district’s Mechanicville plant.

In addition to the low pressure sanitary force main system, an 8” gravity sewer will also be constructed within the right of way. This main will be a dry sewer in anticipation of possible future connection. The Town of Clifton Park extended gravity sewers to Vischer Ferry Road at

the crossing of the Dwaas Kill creek within the last decade. It is anticipated that this main may be extended along the Dwaas Kill in the future. In order to take advantage of this possibility, the Town of Clifton Park Planning Board has required the redundancy of the dry gravity sewer. The gravity sewer terminates on a parcel of land to be conveyed to the Town of Clifton Park. The terminal manhole is conveniently located to facilitate connection to a possible trunk main along the Dwaas Kill.

Construction of the dry gravity sewer system within the proposed development will consist of approximately 1,700 linear feet of 8" PVC sewer main and 11 manholes. All proposed sewer lines will be interconnected using precast concrete manholes spaced no greater than 400 feet apart. All construction and design for the sanitary sewer will be in strict accordance with the "Recommended Standards for Sewage Works." Construction will also be continually monitored under the sewer district's quality assurance program. Upon completion of the proposed project, the Town of Clifton Park will assume ownership of the sanitary mains. In the event that connection to the dry system is realized in the future, it is anticipated that ownership will be transferred to the Saratoga County Sewer District.

STORM DRAINAGE:

The subject parcel is predominantly an open meadow with tall grass. Site topography slopes in a southerly direction from NYS Route 146 toward the Dwaas Kill creek. All runoff from the property is collected by the Dwaas Kill and is discharged from the site at the southeast corner. Flow continues from that point in a northeasterly direction to merge with the Anthony Kill and eventually the Hudson River at the City of Mechanicville. The moderately steep slopes and poorly drained soils on the property result in a large volume and high peak rate of runoff from the existing site.

A central storm sewer is proposed within the roadway. Approximately 2,200 linear feet of storm pipe ranging from 12 to 24 inches in diameter will be installed within the road right of way. All of the pipes within the project are designed to convey, at a minimum, the flow generated by a 25-year storm event. Discharge from the storm system will be to a single stormwater management basin. The basin and storm sewer will be dedicated to the Town of Clifton Park upon completion for ownership and maintenance.

The proposed storm basin has been designed to treat the "water quality volume". This is the volume of runoff generated by 90% of the average annual storm event and contains any roadway pollutants as well as the heat associated with asphalt and other impervious surfaces. No discharge to the Dwaas Kill stream corridor will occur until after this volume has been retained and treated within the storm basin. Soil borings were done in the area of the proposed basin in the summer of 2005. The soils present in the management area lends to the use of permanent micropools and wetland plantings in the basins. This method of storm water quality treatment is

a preferred option in the NYS Storm Management Design Manual. All design and construction of the storm sewer system and storm management basin will be in compliance with the New York State Department of Environmental Conservation and Town of Clifton Park specifications. Upon completion of these facilities, the storm sewer and storm management areas will be dedicated to the town for ownership and maintenance.

DETAILED PLANS, SPECIFICATIONS AND PERMITS:

Detailed plans covering the proposed storm sewers, water mains and sanitary sewer mains are attached to this report for review and approval by the appropriate state and local agencies. Detailed specifications will be the same as those used for all projects within the Town of Clifton Park.

Approximately 3.9 acres of federal wetlands exist on the site. Development of the property has been positioned to avoid nearly all of the existing wetlands. The total wetland disturbance will be less than the one-tenth of an acre threshold that requires preconstruction notification of the U.S. Army Corps of Engineers. There are no NYS DEC jurisdictional wetlands on the proposed property.