

3.9 Utilities

This section of the DEIS addresses the project's effects on the Town's energy resources, wastewater collection system and water supply system.

3.9.1 Energy Resources

Existing Conditions

The project site is located in the service area of Central Hudson Gas and Electric. The applicant sent a letter to Central Hudson Gas and Electric to confirm that electric and natural gas service is available to the site and the locations of major gas and electrical facilities that may exist in proximity to the site (see Appendix B - Correspondence). Based upon the site survey, a 40 foot wide Central Hudson Gas Line Easement crosses the western edge of the site, roughly parallel to Route 9W.

Potential Impacts

Future residents of the Dockside at Marlborough will require energy for space heating, air conditioning, water heating, refrigerators and lighting as well as other appliances and incidental domestic electrical uses. Energy use will be from electrical and natural gas service. The applicant is pursuing extension of natural gas to the project site which would be supplied from the high pressure natural gas main that traverses the site.

Indoor climate control systems will demand the largest quantities of energy consumed over the lifetime of the project. Energy efficient heating, cooling and insulation systems will be utilized to conserve energy resources associated with climate control within the housing units. New construction, such as the Dockside at Marlborough project, is much more energy efficient compared to older homes, due to technological improvements in construction, such as wall insulation and thermal windows.

Energy conservation in New York is regulated at the state level for new residential and commercial construction. The Dockside development would be constructed in accordance with the New York State Energy Code. In effect since 2002, the code specifies basic requirements that are mandatory for newly constructed buildings. Requirements apply to heating and cooling systems, hot water systems, electrical systems, construction materials, equipment specifications and building sealing and insulation. Additionally, the New York State Energy Research and Development Authority and the Public Service Commission promote compliance with Energy Star® and New York Energy SmartSM programs by construction firms, building management firms and homeowners that encourage the use of energy conserving appliances, materials, technologies and building techniques. Compliance with provisions of these energy conservation programs would reduce the overall long-term energy consumption of the project. In addition, Central Hudson Gas and Electric supports a variety of programs that encourage the use of renewable energy resources and conservation of energy.

Residential electric and natural gas service, provided by Central Hudson Gas and Electric, would be extended to the project site from Dock Road via buried utility connections. All underground utility connections will meet Town Code and industry specifications. The site is within Central Hudson Gas and Electric's service area - electricity would be supplied to the project. The applicant is also pursuing the extension of natural gas to the project site to serve Dockside. Central Hudson has indicated it is feasible to extend natural gas from the distribution

station in front of the middle school and said extension would be subject to detailed review during the site/subdivision plan stage of the project. With regard to the high pressure natural gas main that traverses the site, no structures or roads would encroach upon the easement except for a proposed sidewalk. This encroachment is not significant.

Mitigation Measures

The Dockside at Marlborough project, with 137 new townhome residences, is not expected to have a significant effect on local or County wide energy use.

3.9.2 Wastewater Treatment

Existing Conditions

The project site is located partially within the Town of Marlborough Sewer Improvement Area. The improvement area boundary divides the project site as shown in Figure 3.9-1 Utilities Plan. As shown on the plan, approximately 38 dwellings and the community clubhouse are located in the improvement area and the remaining 99 dwellings are outside of the area. The proposed project and the future use of municipal services are further discussed under "Potential Impacts" below.

Sewage effluent generated by uses within the sewer improvement area are treated at the Marlboro Wastewater Treatment Plant (WWTP) located at Dock Road adjacent to the site. The project site borders the treatment plant on three sides, as shown in Figure 3.9-1 Utility Plan. The treatment plant has a full design capacity of 175,000 gallons per day (gpd) and discharges to Lattintown Creek, a tributary to the Hudson River, under NYS SPDES Permit No. NY0109720. The treatment plant was evaluated in a *Capacity and Performance Evaluation*, completed by the engineering firm Brinnier and Larios, P.C. in May, 2007. A copy of the report is provided as an attachment to the Engineering Report for the Sewer Main Extension (see Appendix E).

Based upon the *Capacity and Performance Evaluation* report, the Marlborough Sewer Improvement Area was constructed in 1980 through 1982. The work included the installation of a wastewater collection system in the Marlboro hamlet and the construction of the treatment plant on Dock Road. The sewer improvement area was expanded in the 1990's and the 2000's. Currently the sewer improvement area serves approximately 316 residences, 53 businesses and 12 institutional users, including the Marlborough Elementary School located adjacent to the subject site¹.

The WWTP had an average flow of 112,300 gallons per day during the last 12 months of record². The monthly average flow ranged from 71,000 gpd to 208,000 gpd. If the average daily flow rate of 112,300 is subtracted from the treatment plant design capacity (and SPDES Permit capacity), the plant has an available capacity of approximately 62,700 gpd. However, in the *Capacity and Performance Evaluation* the plant available capacity was reported to be 38,280 GPD in 2007 and that capacity was reported to be reserved for approved projects and vacant land within the existing sewer improvement area.

¹ *Engineering Report - Capacity and Performance Evaluation, Marlboro Wastewater Treatment Facility*, Brinnier and Larios, P.C., May 2007.

² *Engineering Report and Technical Specifications for a Sewer Main Extension to Serve Dockside*, Engineering Properties, PC, June 2011.

The treatment process consists of: an influent channel with comminutor and oxidation ditch, a splitter box, secondary clarifiers, a step cascade for post-aeration of the effluent before discharge, and sludge dewatering facilities. After dewatering, sludge from the plant is transported to an off-site disposal facility. The closest existing sewer line to the project is a 10 inch gravity sewer line located in Dock Road.

Potential Impacts

The Dockside at Marlborough project would consist of 137 attached townhomes in 25 multifamily buildings, and a community clubhouse and swimming pool. Each of the units will contain 3 bedrooms. The project engineer has estimated the potential sewer demand based upon an estimate of 320 gallons per day (gpd) per residential unit. This would result in an Average Daily Demand of 43,840 gpd for residential sewer demand. Additional sewer demand has been allocated for the proposed clubhouse and pool. A summary of total estimated sewer demand is provided in Table 3.9-1, below. The engineer notes that the actual flow to the plant (listed as probable demand in the table) is estimated to be approximately 34,080 gpd.

Table 3.9-1 Proposed Sewer Demand				
Unit Type	Number of Units/ Users	Average Demand (gpd)	Average Daily Demand (gpd)	Probable Average Daily Demand (gpd)
Single Family Residence				
3-Bedroom	137	320	43,840	32,880
Clubhouse Pool	8	50	400	400
Clubhouse	16	50	800	800
		Total	45,040	34,080

Source: Engineering Properties, PC, 2011.

Municipal Sewer Service

The project engineer has estimated that 13,360 gpd of wastewater demand will be generated within the sewer improvement area and the remaining 31,680 gpd of demand will be generated by users outside of the current improvement area boundaries. The project engineer has concluded that sufficient capacity at the plant exists for the project uses within the sewer improvement area boundaries, but that additional treatment capacity will be required for project related demand outside of the improvement area boundaries. This conclusion also considers the potential demand by future uses within and outside of the sewer improvement area in the Marlboro hamlet.

Town Board action will be required to upgrade the capacity of the Marlboro Sewer Improvement Area's treatment plant to manage the Project's wastewater. This would require participation by the Project, in some fashion, to generate capital toward this upgrade of public infrastructure. The Town may need to form a new sewer improvement area or sewer district to include the site, or to establish an out-of-service-area agreement between the municipality and the Project. The Project has formally requested an extension of the existing municipal service area to cover the Project site, the creation of a new sewer improvement area, or a contract with the Town to provide service for the Project on such terms as may be established.³

³ See letter from Rusk, Wadlin, Hepner & Martucello, LLP to Town Board, May 18, 2010, in DGEIS Appendix B.

It is the Project's understanding that the Town is considering expanding the existing treatment plant to service additional areas within the Town including the Project site. This expansion would include an upgrade in the range of an additional 175,000 gallons per day of treatment capacity. An expansion of this size would create an additional wastewater treatment capacity adequate to handle projected wastewater flows from the Project as well as other properties.

Alternatives concerning the creation of necessary municipal wastewater treatment capacity to accommodate the Project include, but are not limited to, the following: (a) creating a new sewer improvement area or sewer district which includes the Dockside parcels and others, (b) creating a new sewer improvement area or sewer district which includes both the Dockside project and the proposed Bayside project located nearby, (c) a reserve capacity contract between the project and the Town of either permanent or temporary nature pending the creation of a new sewer improvement area or sewer district which includes the Project, or (d) interim stop-gap methods of wastewater treatment, such as the establishment of a small modular system on Town property near the existing plant to relieve the existing plant of full impacts of Project's usage pending plant expansion.⁴

Project Wastewater System

The developer of the site would be responsible for constructing the on-site wastewater collection system. The system is shown in Figure 3.9-1 Utility Plan and the full size site plan/subdivision plan accompanying this DEIS. The Engineering Report and Technical Specifications for a Sewer Main Extension to Service Dockside is included as Appendix E. Assuming the project will obtain approval for municipal sewer service, the project would connect to a gravity sewer line located in Dock Road, near the proposed project entrance. The existing sewer line in Dock Road flows by gravity to the wastewater treatment plant.

The sewer collection system will consist of both gravity and sewer force main extended through the property, based upon grades and the project building and roadway layout. The proposed on-site sewage pump station will consist of a concrete wet well which will store wastewater between pumping cycles of approximately 30 minutes. The pump station will have two pumps capable of pumping 101 gpm. A gas powered electric emergency generator will be installed to provide back-up power to operate the sewer pump station in the event of a power interruption. Wastewater will be pumped to the an existing manhole in Dock Road where it would flow by gravity to the municipal WWTP.

The sewer mains, manholes and pumping station will be constructed to Town of Marlborough and NYSDEC requirements. As part of the DEIS and site/subdivision plan review process, the proposed sanitary sewer collection system will be reviewed by the Town Engineer and Sewer District Superintendent to assure it conforms to Town specifications. It is not anticipated that there would be any adverse impacts associated with the construction of the wastewater collection system.

Mitigation Measures

As no impacts have been identified, no mitigation measures are proposed.

⁴ The location of this modular system is shown in Figure 3.9-1 Utility Plan, and in the full sized Site Plan drawings.

3.9.3 Water Supply

Existing Conditions

The project site is located in the Marlboro-Milton Water District. According to the project engineer, the system serves more developed portions of the Town in and around the Marlboro and Milton hamlets. The source of the Town's water is the Town of Newburgh's Delaware Aqueduct Station 5A. The Delaware Aqueduct is part of the New York City water supply system. An intermunicipal agreement with Newburgh provides the Town of Marlborough contractual rights to purchase up to 1 million gallons per day (mgd) from the Town of Newburgh. The district is currently utilizing approximately 450,000 gpd of this allowed capacity⁵. The Town of Marlborough is currently in discussions with the Town of Newburgh concerning modifications to the agreement in order to share the costs of a new filtration facility being required on the Delaware Aqueduct Supply.

The closest municipal water district infrastructure to the project site is an 8-inch water main located in Dock Road bordering the site to the south. Hydrant testing was conducted by the Town at the intersection of Route 9W. According to Charles Muggeo, Water Superintendent, the normal operating pressure at the hydrant was 145 pounds per square inch (psi). The hydrant had an estimated flow of 1,670 gallons per minute (gpm) and a residual pressure of 80 psi.

Potential Impacts

Project Water Demand

The project water demand estimate is based upon NYSDEC standards for residential use and is summarized in Table 3.9-2, below.

Table 3.9-2 Proposed Water Demand			
Unit Type Single Family Residence	Number of Units/ Users	Average Demand (gpd)	Average Daily Demand (gpd)
3-Bedroom	137	320	43,840
Clubhouse Pool	8	50	400
Clubhouse	16	50	800
Irrigation	1	LS	10,000
		Total	55,040

Source: Engineering Properties, PC, 2011.

The total project water demand is estimated to be 55,040 gpd. Given the Town's excess capacity of approximately 550,000 gpd, sufficient capacity is available to meet the needs of the project.

The project engineer has designed a water distribution system which is fully described in the *Engineering Report and Technical Specifications for a Water Main Extension to Serve*

⁵ *Engineering Report & Technical Specifications for a Water Main Extension to Serve Dockside*, Engineering Properties, June 2011

Dockside. The report is provided in full in Appendix F. The water distribution system will include approximately 4,274 linear feet (lf) of 8 inch diameter class 52 double cement lined ductile iron pipe. The 8 inch main proposed to serve the site would connect to the existing 8 inch water main on the south side of Dock Road at two locations. The first location will be a opposite the proposed entrance drive and the second location opposite the emergency access.

Based upon a review of system water pressures, the existing system pressure is excessive and pressure reduction would be required for the project. The engineer has proposed a pressure reducing station on the existing 8 inch water main, just upgradient from the proposed Dockside water connection point at Dock Road near the project entrance. The pressure reducing station would reduce pressures to approximately 47.5 psi, resulting in internal project water pressures ranging from 54.7 psi to 75 psi, consistent with the Ten State Standards.

Fire protection for the project was evaluated in the Dockside Water System Engineering Report. At present, it is not known whether the residential buildings will be served with sprinklers. The water distribution system and fire protection water pressure was evaluated for both scenarios, with or without building sprinklers. Based upon the evaluation, adequate pressures and capacity would be available to meet fire fighting requirements.

All water distribution improvements, including connections and the water mains will be constructed to the Town of Marlborough and the Ulster County Health Department requirements. The improvements will be constructed either in the Town rights-of-way or on the project site. After construction, the water mains will be offered to the Town for dedication.

Mitigation Measures

Based upon the Town's existing water service capacity, it is not anticipated that the proposed project would have a negative impact on the Town's overall water supply or distribution system. No mitigation measures are proposed.

