

## **7.0 EFFECTS ON THE USE AND CONSERVATION OF ENERGY RESOURCES**

Both short-term and long-term energy consumption effects are associated with all residential construction projects. Short-term energy consumption impacts would occur during construction of the proposed development, primarily due to the consumption of fossil fuels through the operation of power equipment and construction vehicles.

Once constructed, the 19 to 23 dwelling units would be occupied by households that would place long-term demands on various energy sources. Once construction is completed, energy from several possible sources will be required for space heating, air conditioning, water heating, refrigerators and lighting as well as other appliances and incidental domestic electrical uses. Indoors climate control systems will demand the largest quantities of energy consumed over the lifetime of the project, and energy efficient heating, cooling and insulation systems will be utilized to conserve energy resources associated with climate control within the housing units.

Energy conservation in New York is regulated at the state level for new residential and commercial construction. The Tripi Subdivision 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. Specifically, certain construction materials such as insulation have varying energy saving properties and ratings. The project will utilize those materials with energy saving properties that meet or exceed the New York State Energy Code.

Additionally, the New York State Energy Research and Development Authority and the Public Service Commission promote compliance with Energy Star<sup>®</sup> and New York Energy Smart<sup>SM</sup> 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. The proposed action would comply with the Energy Star and Energy Smart programs.

The Energy Information Administration of the US Department of Energy conducts a Residential Energy Consumption Survey (RECS) which provides statistical information on the use of household energy in the United States. RECS data for New York indicates that approximately 64 million BTUs<sup>1</sup> are consumed per household annually in New York State. While actual electrical and gas demands for individual homes may vary considerably based upon the lifestyles and habits of the occupants, the RECS consumption data generates an estimate that the proposed 19 Conventional plan households would consume 1.2 billion BTU of energy annually. The proposed 23 Conservation plan households would consume an estimated 1.5 billion BTU of energy annually. Based on telephone communication on December 4, 2006 with Ben Johnson, Con Edison's headquarters, individual residences are projected to require 850 kilowatt hours of electricity per month in the summer and 250 therms of gas per month in the winter. This is a worst case scenario for both forms of energy projected to be consumed by 4-bedroom residences. Actual electrical and gas demands for individual homes may vary considerably based upon the lifestyles and habits of the occupants.

The use of solar panels is not proposed with this Application. Individual residents would have the option to install solar systems at their discretion. Solar panels may not always be compatible

<sup>1</sup> BTU, or British Thermal Unit, is a unit of heat measurement.

with certain traditional architecture or roofing types. Therefore, their potential use in proposed new homes would be on a case by case basis, depending upon the home design and the potential residents.

Residential electric service, provided by New York State Electric and Gas (NYSEG), would be extended to the project site from Harris Road via buried utility connections. New York State Electric and Gas does not anticipate any problems accommodating the projected electrical demand created by the proposed development (conversation on March 30, 2007 with Michael Milano, NYSEG). All underground utility connections will meet Town Code and industry specifications.

Residential gas service, provided by Consolidated Edison (Con Edison), would be extended to the project site from an existing 4-inch gas main on Harris Road via buried utility connections. Consolidated Edison does not anticipate any problems accommodating the projected gas demands created by the proposed development (conversation on 28 June, 2006 with Bill Cook, Con Edison). All underground utility connections will meet Town Code and industry specifications.

Both utility suppliers support a variety of programs that encourage the use of renewable energy resources and conservation of energy.