Otay Ranch Village Eleven

II.9 Non-Renewable Energy Conservation Plan

October 23, 2001

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NON-RENEWABLE ENERGY CONSERVATION PLAN

The Otay Ranch GDP requires the preparation of a Non-Renewable Energy Conservation Plan to identify feasible methods to reduce the consumption of non-renewable energy sources, including but not limited to, transportation, building design and use, lighting, recycling, alternative energy sources and land use.

On November 14, 2000, the City Council adopted the Carbon Dioxide (CO2) Reduction Plan, which included implementing measures regarding transportation and energy efficient land use planning and building construction measures for new development. In this Plan, it was recognized that the City's efforts to reduce carbon dioxide emissions from new development are directly related to energy conservation and air quality efforts. As a result, the City is initiating a pilot study to develop a program to be implemented in new SPA Plans through updating the guidelines for preparation of required Air Quality Improvement Plans (AQIP). In summary, the pilot study involves the development of a computer model to evaluate the relative effectiveness of applying various site design and energy conservation features in new development projects. The pilot study will analyze the Otay Ranch Village Eleven SPA project (and two other pending SPA projects), and result in the preparation of an AQIP for Village Eleven which will be considered in conjunction with actions on the project's Tentative Subdivision Map. Further energy conservation policies and measures resulting from the outcome of the pilot study will be included in the Non-Renewable Energy Conservation Plan which will also be considered in conjunction with actions on the project's Tentative Subdivision Map.

Fossil fuels provide the majority of non-renewable energy sources in the San Diego region. These fuels are directly consumed in the form of gasoline, diesel fuel and natural gas, and indirectly consumed as electricity generated from these fuels. The goals, objectives and policies of the GDP provide for the long range increase in conservation and reduction of consumption of non-renewable energy sources.

Opportunities for energy conservation in new development fall into three categories: 1) the arrangement and intensity of land uses; 2) mass transit and alternative transportation modes; and 3) building siting, design and construction. The greatest opportunities for significant conservation are transportation related. The planning of Otay Ranch and its villages maximizes these opportunities by concentrating intensity of development around new transit facilities, providing for a regional transit-way and encouraging pedestrian, bicycle and electric travel as an alternative to the automobile.

Land Use and Community Design

Land use and community design that encourages energy conservation include:

- Transit Oriented Development

Village Eleven concentrates housing, commercial, community purpose, school and park land uses in a village core. The convenient location and integrated circulation system places daily needs within walking and cycling distance of most village residents. A public transit bus line may extend through the village, with stops in the village core and at other strategic locations. The village core is located in the western portion of the village in proximity to the regional transit-way and stations in the EUC and FC developments.

- Housing Efficiency
  Village Eleven includes a high proportion of small single family and multi-family residences. These smaller and attached buildings use less energy for heating and cooling than larger, single-family detached homes
- Street Widths, Pavement and Street Trees
  Narrow streets and a reduction in pavement reduces heat build up and the demand for air conditioning. Street trees provide shade that further reduces temperatures.

Transit Facilities and Alternative Transportation Modes

Otay Ranch provides two transportation modes to reduce energy consumption:

- Regional Transit-Way
  A regional transit-way, envisioned as an extension of the San Diego light rail transit system, is planned for Otay Ranch. Right-of-way for the line is located in the FC and EUC planning areas to the west of Village Eleven.
- Electric Cart
  Electric cart travel is envisioned as an alternative mode of travel within and between villages. Travel speed on streets in Village Eleven is a maximum of 25 miles per hour, allowing carts to share the streets with automobiles and bicycles. Carts may also travel on the paseos and village pathway in through the village core. Special cart parking spaces will be provided in the village core.

Building Siting and Construction

Energy conservation features for building siting and construction include the following:

- Improved Construction Standards
  Construction in Village Eleven will adhere to the Building Energy Efficiency Standards in Title 24 of the California Code of regulations.
- Solar Access
  Passive solar design and building orientation can take advantage of the sun in the winter for heating and reduce heat gain and cooling needs during the summer.
- Lighting
  Energy efficient lighting will be used to light streets, parks and other public spaces. Builders will be encouraged to use energy efficient lighting in commercial and residential development.