Freeway Commercial
South Portion
Otay Ranch Town Center
Non-Renewable Energy Conservation Plan

2023

Amended _____
By Resolution No. _____

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I. Introduction

The Otay Ranch General Development Plan (Otay Ranch GDP) requires the preparation of a Non-Renewable Energy Conservation Plan (Plan) with each Sectional Plan Area (SPA) that identifies feasible methods to reduce the consumption of non-renewable energy resources. This document is an appendix to the Freeway Commercial South SPA (FC 1). Categories identified in this Plan where reductions may occur include but are not limited to: Transportation, Building Design & Use, Lighting, Recycling, and Land Use.

The Chula Vista region's current reliance on fossil fuels makes up the majority of non-renewable energy consumption. Fossil fuels are directly consumed in the form of gasoline, diesel fuel and natural gas and indirectly as electricity generated from these fuels. The goals, objectives and policies of the Otay Ranch GDP require that any new project identify a plan that assists in a long-range strategy that will increase the conservation of and decrease the consumption of non-renewable energy resources.

The Freeway Commercial SPA was originally envisioned to be the freeway commercial component of the regional commercial, cultural, social, and public services center of the Eastern Urban Center (EUC). the Freeway commercial area is located in the heart of Otay Ranch, as established in the Otay Ranch GDP.

In 2001, an Otay Ranch GDP amendment separated the EUC and Freeway Commercial components into separate planning areas. In September 2004, the Freeway Commercial SPA Plan was adopted and entitled approximately 1,214,000 square-feet of commercial uses: 867,000 square-feet on the South Portion (FC 1) (later amended to increase the allowed commercial space to 960,000 square-feet), and 347,000 square-feet on the North Portion (FC 2). In 2006, a portion of the allowed building area in the Otay Ranch Town Center was constructed on FC 1. The proposed amendment to the Freeway Commercial South SPA (FC 1) (proposed "project") will allow for Mixed-Use/Residential uses to the northwest quadrant of the FC 1 area of the SPA, including adding ground-floor commercial on the north side of Main Street west of the Otay Ranch Town Center. The provision of up to 840 residential units reinforces the walkability and mixed-use plan of Planning Area 12 (PA 12) of Otay Ranch and reduces the allowed Freeway Commercial area from 960,000 to 816,000 square-feet in the FC 1 portion of the overall SPA.

The FC 1 portion of the overall SPA includes the existing Bus Rapid Transit (BRT) path, transit stop, and a park and ride. The transit stop is served by both local buses and the BRT. Additionally, the project will provide 2.56acres of public park and plaza spaces, and ten percent of the dwelling units will be set aside for low and very low-income families.

The proposed mix of uses in a higher density environment enables more pedestrian activity rather than car trips. The 2022 California Green Building Code Title 24, Part 11 (or 2002 CalGreen) requires energy conservation methods that will reinforce Chula Vista's desire for sustainable development and living.

II. Non-Renewable Energy Conservation Plan

Opportunities for energy conservation in the Freeway Commercial South SPA are characterized by the following:

A. Transportation

Transportation design features that encourage energy conservation include:

- ***Reduced Vehicle-trip Miles:***
  On the regional level, the Freeway Commercial SPA accommodates transit service through proximity to the existing BRT and hosting a transit center, for the BRT and local buses, and a park and ride (100 spaces) which is connected to the Otay Ranch Town Center, on the whole, and the surrounding Villages through the existing sidewalk and trail system.

  The existing and proposed internal circulation plan encourages pedestrian activity and bike access by way of "complete" streets as defined within the Freeway Commercial SPA which includes the Village Pathway, and an off-street 10- to 12-foot-wide paved path for bicycles and pedestrians along Olympic Parkway, Eastlake Parkway, and Birch Road. All streets include some form of sidewalk or Promenade Trail to create a fully connected pedestrian network. Olympic Parkway, Eastlake Parkway, and Birch Road include bike lanes on both sides of the pavement which connect to Chula Vista's bicycle network, as well as the regional bicycle network.

  Additionally, the project will reduce vehicle trips through the middle of the FC 1 shopping area by closing the middle block to vehicles thus promoting pedestrian safety and movement.

- ***Alternative Travel Modes***
  The Otay Ranch GDP describes the automobile-oriented improvements as only one component of an integrated mobility system, which includes bicycles, low speed electric vehicles, pedestrian trails, and public transit systems. For this reason, all circulation streets in and around the Otay Ranch Town Center have been designed to minimize steep gradients wherever possible. The Freeway Commercial Village has trails and sidewalks throughout, providing connectivity and access within the Village and outside of the Village using means other than an automobile.

  Furthermore, any residential unit with a private garage will include Electric Vehicle (EV) - capable infrastructure enabling electric vehicle charging. New common area parking will also include charging stations as required by the 2022 CalGreen code. Attached residential projects (e.g., multi-family) of more than 20 units built after January 1, 2023, will comply with the 2022 CalGreen code, at a minimum, which includes various requirements from "EV Ready" to installed EV charging stations.

  Neighborhood electric vehicles (NEV) provide a clean alternative vehicular mode of transportation, ideal for shorter trips. The NEV network consists of internal low-speed streets within the Otay Ranch Town Center. NEVs are permitted on all public streets with a posted speed limit of 35-miles per hour or less. The circulation system has been

intentionally designed to provide an internally connected system of low-speed streets that allow NEVs to travel between various destinations within the Otay Ranch Town Center. NEVs are not permitted on sidewalks, trails, or other pedestrian-only paths.

- ***Increase Use of Transit***
  The project proposes higher density homes that are close to transit and pedestrian/bicycle trails. Enabling safe walking and biking environments as well as convenient access to a planned transit stop would encourage transit use. The project enables non-vehicular travel through land use planning and circulation design.

- ***Roadway Pavement Widths and Street Trees***
  Otay Ranch street sections are narrower than typical standards. Narrow streets and a reduction in asphalt pavement reduce the "urban heat-island effect" by limiting the amount of reflective surfaces and reducing the demand for air conditioning. Street trees provide shade which further reduces heat-gain. Street and parking lot tree planting shall comply with the City of Chula Vista Shade Tree Policy Number 576-19 (May 22, 2012). The objective is to maximize shade cover to the greatest extent possible. Shade trees are provided for all new parking lots that will achieve 50% canopy cover over the parking stall areas five to 15 years after planting. Shade street trees are also incorporated into the village landscape plan reducing pavement temperatures in the hotter months.

  The design of all public streets includes sidewalks and landscaping to promote pedestrian circulation throughout the SPA Plan Area. Private street configurations are to be determined during design review and refined during final engineering.

B. Building Design & Use

Building design and use features that encourage energy conservation include:

- ***Housing Efficiency***
  The project proposes higher densities that typically require attached housing typologies. Such attached homes use less energy for heating and cooling than larger, single-family detached homes. The SPA Amendment purpose is to incorporate higher densities into the FC 1 portion of the Freeway Commercial SPA including High Residential and Village Core. Allowed densities would range from 0 to 60 dwelling units per acre.

- ***Solar Orientation***
  Passive solar design including the orientation of buildings can take advantage of the sun's warmth in winter to assist with heating as well as minimize heat gain in summer months to assist with cooling. The buildings will accommodate 2022 Title 24 standards, at a minimum, which encourage effective solar orientation for useful photovoltaic systems; see also Use of Energy Systems, below.

- ***Building Efficiency***
  Buildings will be required to comply with Title 24, Part 6 of the California Building Standards Code, which regulates energy uses including building envelope, space heating and cooling, hot water heating, and ventilation. The energy code allows builders to use

either a performance standard or a prescriptive method; either way, energy efficiency requirements shall be met.

The City of Chula Vista has adopted Green Building Standards (Chula Vista Municipal Code (CVMC) Chapter 15.12) and an Energy Efficiency Ordinance (CVMC Section 15.26) that require compliance with the applicable Title 24 Part 11 and Part 6, respectively.

- ***Water Conservation***

  A Water Conservation Plan (WCP) was prepared as a component of the approved SPA Plan (2003) in conformance with the requirements of the Otay Ranch GDP and the Chula Vista Growth Management Ordinance. The proposed SPA Amendment includes an update to the previous WCP.

  As described in the updated WCP, prepared by Dexter Wilson Engineering (June 22, 2023) certain landscaped areas are required to utilize recycled water where available based on current Otay Water District (OWD) policies regarding new subdivision development. Consistent with the Otay Ranch GDP, it is anticipated that recycled water will irrigate common landscape areas identified in the Water Conservation Plan.

  The potential sources and availability for recycled water use are described in more detail in the WCP. Potential demand within the SPA Plan area will be estimated in a subsequent Subarea Water Master Plan to be approved by the OWD prior to project implementation. Recycled water requirements for the project will be coordinated by OWD and the City. Phased construction of recycled water facilities, based on an OWD-approved master plan, will be incorporated into the project Public Facilities Financing Plan (PFFP) and/or subdivision map conditions of approval to assure timely provision of required facilities.

  Indoor Water Conservation

  - Plumbing fixtures and fixture fittings shall comply with the current California Energy Code, in effect at the time the plans are submitted for Building Permit approval.

  Outdoor Water Use

  - Outdoor water use shall comply with the requirements of the applicable California Green Building Standards Code (2022 or future).

  - Controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

    - Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

    - Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

- ***Use Improved Construction Standards***
  New residential and commercial construction within the Freeway Commercial South area is required to adhere to the Energy Efficiency Standards of the City of Chula Vista Municipal Code Sections 15.26, 20.04 and the Building and Energy Efficiency Standards in Title 24 Part 6 of the California Code of Building Regulations.

- ***Use of Solar Energy Systems***
  New construction will comply with the City of Chula Vista's "Solar Ready" Ordinance which requires solar hot water pre-plumbing (CVMC Section 20.04.030) and photovoltaic pre-wiring requirements (CVMC 20.04.040) as well as the applicable state code requirements.

  Chula Vista Municipal Code Section 20.04.040 requires all new residential units to include plumbing specifically designed to allow for future installation of a system that utilizes solar photovoltaic or other renewable energy resource as a means of generating electricity.

  However, all projects approved under the FC 1 SPA Amendment will be required to meet the California Energy Code current at time of permit review. Therefore, photovoltaics may be required to be installed rather than pre-wired.

C. Lighting

Energy efficient lighting will be used to light streets, parks, and other public spaces. All new residential and commercial use lighting would be in compliance with current California Energy Code requirements at the time of permit review.

- ***Energy Efficient Public Lighting***
  New construction will comply with Title 24, Part 6 requiring the use of energy efficient lighting in commercial public areas including plazas and parks. The proposed project will also comply with Title 24, Part 11 regarding light pollution reduction.

  The City of Chula Vista Public Works Department has installed LED lights in the City that use 1/3 the electricity without reducing lighting levels and impacting public safety. The lighting system will continue to be used in the overall Freeway Commercial SPA.

D. Recycling

- ***Residential and Commercial Recycling programs include:***
  Chula Vista Municipal Code Sections 8.23-25 require all commercial and industrial establishments that recycle with a third-party recycler to submit recycling tonnage documentation on an annual basis to the City's conservation coordinator, due on or before January 31st, for the previous year. Those establishments recycling with a franchised hauler do not need to report because the hauler does the reporting to the City. This requirement promotes recycling of materials.

  The City of Chula Vista's Recycling and Solid Waste Planning Manual, adopted by the Chula Vista City Council, provides information for adequate space allocated to recycling and solid waste within individual projects, based upon the type of project and collection service needed.

Additionally, the City of Chula Vista encourages the use of compost materials to be incorporated into the soil of all new construction projects to improve soil health, water retention, less water runoff and filtration of water run-off prior to entering storm drains and creeks draining to San Diego Bay. The yard trimmings collected in Chula Vista are composted at the Otay Landfill and may be available for purchase.

- ***New Construction Waste Reduction***
  CalGreen requires that a minimum of 65% of all new construction waste generated at a site be diverted to recycle or salvage. Additionally, the State has set per capita disposal rates of 5.3 pounds per person per day for the City of Chula Vista. To maintain these targets the following programs must be implemented per Chula Vista Municipal Code Sections 8.23, Solid Waste and Recycling Contract or Franchise; 8.24, Solid Waste and Litter; 8.25, Recycling; and 19.58.340, Trash Enclosures.

  All new construction and demolition projects in the City are required to divert from landfill disposal 100% of inert waste to include asphalt, concrete, bricks, tile, trees, stumps, rocks and associated vegetation and soils resulting from land clearing; and 50% of all remaining waste generated. Contractors will be required to put up a performance deposit and prepare a Waste Management Report form to ensure that all materials are responsibly handled. Upon verification that the diversion goals have been met the performance deposit will be refunded (CVMC 8.25.095).

E. Land Use

Land use patterns and project features that conserve non-renewable energy resources and reduce reliance on the automobile include:

- ***Reduce the Reliance on the Automobile***
  The vision for the Freeway Commercial South SPA is to develop a community with interconnected uses and varying residential densities. The mix of proposed residential, commercial, and community uses are intended to provide a complementary, mixed-use environment with a focus on promoting a walkable and bikeable community that reduces automobile trips.

  The project includes sidewalks and trails throughout the area and connections to the BRT transit center and park and ride on Eastlake Parkway at Main Street. The various opportunities encourage walking or biking rather than driving.

- ***Regional Mass Transit Facilities***
  Otay Ranch and the Freeway Commercial SPA are designed to accommodate public transportation and alternative travel modes to reduce energy consumption. The proposed project includes the existing BRT pathway, a transit center, and a park and ride, to accommodate connection to the larger regional and smaller local transit system. In conformance with applicable General Plan goals and policies, public transportation is an integral part of Otay Ranch.

In conclusion, this Non-Renewable Energy Conservation Plan supports the goals, objectives, and policies of the Otay Ranch GDP by providing methods to reduce energy consumption and increase use of renewable energy in the Freeway Commercial South SPA.