ENERGY

Recent updates to CEQA require consideration of mitigating a projects potentially significant on the environment, including measures to reduce any wasteful, inefficient or unnecessary consumption of energy. Transportation for new developments is typically the largest consumer of fossil fuel energy. However, the traffic impact analysis concluded that the adaptive reuse of the site would not increase regional vehicle miles traveled (VMT) in that commercial in-fill projects create a redistribution of travel, but not generally substantial VMT increases. Based upon that guidance, this report only considers stationary source energy impacts.

A very regulatory Framework has been developed to encourage or mandate energy conservation in residential and non-residential buildings. This process began in 1978 under Title 24, Part 6, of the California Code of Regulations (CCR). A large number of subsequent legislations were focused on vehicle efficiencies and cleaner power sources to reduce the generation of greenhouse gases (GHG) to combat climate change. Title 24 has similarly been periodically updated to reflect changing technologies and priorities. The most current Title 24 requirements are called CalGreen-2019 now as Part 11 of the CCR.

The current CalGreen Code is designed to achieve a number of objectives as follows:

- Establish the correct type of occupancy
- Determine which agency has responsibility over the project
- Find the chapter in the code that covers this project
- Evaluate the Matrix Adoption Tables of the code
- Develop a checklist for all measures that will be incorporated into the project
- Show all project design features on an Application Checklist referenced back to the code

Project Impacts

Project-related impacts were derived from the SCAQMD CalEEMod computer model based mainly upon the default input assumptions for various types of land uses. The model runs used a slightly different land use mix, but the overall trip generation was almost identical such that it was not modified for CEQA purposes. CEQA guidelines relative to energy consumption ask the following questions about the project:

Result in a potentially significant environmental impact due to wasteful, inefficient or unnecessary consumption of energy resources, during project construction operation?

Response: Less than significant through compliance with CalGreen and adaptive reuse

Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Rsponse: Except for possible structural constraints created by adaptive reuse, no impact

The project will consume slightly less than 250,000 KWH of electricity per year for all proposed on-site uses. Existing consumption for on-site warehousing is minimal. Consumption is split somewhat equally between the retail store and the off-site amenities. The City has the authority to waive a few energy conservation requirements under CalGreen for an adaptive reuse, project construction will be performed under the current code. The CalEEMod computer model was used to predict energy consumption for default land use assumptions as to their annual use, but some of the model inputs are a bit out-dated so that the calculations may be a bit over-conservative. The model also calculates construction activity emissions based upon equipment fuel use and not on electrical consumption. In order to compare the overall impact, construction activity energy use was compared to an equivalent electrical energy use.

The model output for various on-site activities demonstrated the following annual consumption in KWH per year:

Drive-through dining	108,540 kwh
Big Box Retail	94,400 kwh
Parking lot	36,520 kwh
Temporary Const.	16,000 kwh (equivalent)

These estimates are based upon default consumption factors used in an earlier model before the latest passage of CalGreen. The following considerations, besides the adaptive reuse of the site, will reduce the total energy budget according to code:

On-site energy consumption:

CalGreen has updated the minimum energy efficiency of all heating and air conditioning (HVAC) equipment efficiency used within the building shell for a reduction of perhaps 10 perhaps of the energy budget/

Water Consumption

CalGreen estimates that water consumption can be reduced by 20 percent through mandatory measures from existing conservation requirements.

Solid Waste

Each ton of recycled solid waste produces a benefit of aeound10.000 KWH from one ton of material when considering the benefit of not remanufacturing the material from scratch.

Lighting

Each bulb produces a major efficiency when converted from an LED to an incandescent light (9 watt versus 43 watt for the same lumens) such that the use of LED's is recommended both within the store and affiliated facilities.

Construction

With limits on equipment idling and the benefits of adaptive reuse, energy use is presumed to be reduced by 10 percent from its default value.

It is not possible assign these reductions to specific categories because of the aggregated nature of the calculation, but a reduction of 10-15 percent from the default values appears reasonable.

The following energy consumption measures are recommended:

MM1 - The project shall comply with all CalGreen mandatory requirements unless constrained by the adaptive nature of the structure. The City will approve any needed variance from these requirements and voluntary measures will be substituted that are equally effective.

MM2 - The project will encourage alternate vehicle access through vehicle electric vehicle charging stations, preferred parking for multi-occupant vehicles and continued access to transit options.

MM3 - The project will be designed to access future alternative energy resources where feasible.

MM4 - Solid waste recycling shall be incorporated into all on-site facilities.