This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from implementation of the proposed project. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section also provides background discussion on energy use of the proposed project. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis.

The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the proposed project's consistency with local, regional, statewide, and federal climate change/energy conservation planning efforts and discusses the context of these planning efforts as they relate to the proposed project. Disclosures of the project's estimated energy usage and greenhouse gas emissions are provided.

Emissions of GHGs have the potential to adversely affect the environment in a cumulative context. The emissions from a single project will not cause global climate change, however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change presented in this section is presented in terms of the proposed project's contribution to cumulative impacts and potential to result in cumulatively considerable impacts related to GHGs and climate change.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. In determining the significance of a proposed project's contribution to anticipated adverse future conditions, a lead agency should generally undertake a two-step analysis. The first question is whether the *combined* effects from *both* the proposed project *and* other projects would be cumulatively significant. If the agency answers this inquiry in the affirmative, the second question is whether "the proposed project's *incremental* effects are cumulatively considerable" and thus significant in and of themselves. The cumulative project list for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe and no project alone would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context and process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and, therefore, significant.

Comments during the public review period and scoping meeting for the Notice of Preparation regarding this topic were provided from Patrick S. Blacklock (April 18, 2017).

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three greenhouse gases have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Air Resources Board, 2017b).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced approximately 440 million gross metric tons of carbon dioxide equivalents (MMTCO2e) in 2015 (California Air Resources Board, 2017b). By 2020, California is projected to produce 509 $MMTCO_2e$ per year (California Air Resources Board, 2014).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2015, accounting for 39% of total GHG emissions in the state. This category was

followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (29%) and the agriculture sector (8%), the residential sector (6%), and the commercial sector (5%) (California Air Resources Board, 2017b).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. The snowpack portion of the supply could potentially decline by 70% to 90% by the end of the 21st century (Cal EPA 2006). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (Cal EPA 2006). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands (Cal EPA 2006). As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (Cal EPA 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

PUBLIC HEALTH

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

WATER RESOURCES

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The state's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

AGRICULTURE

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

FORESTS AND LANDSCAPES

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large of wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy is California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are most widely used form of energy in the State. However, renewable source of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, and 50 percent by 2030.

Overall, in 2015, California's per capita energy usage was ranked 49th in the nation (U.S. EIA, 2017). Additionally, California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that ultimately result in global climate change. Other fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Approximately 71 percent of the electrical power needed to meet California's demand is produced in the state. Approximately 29 percent of its electricity demand is imported from the Pacific Northwest and the Southwest (California Energy Commission, 2012a). In 2010, California's in-state generated electricity was derived from natural gas (53.4 percent), large hydroelectric resources (14.6 percent), coal (1.7 percent), nuclear sources (15.7 percent), and renewable resources that include geothermal, biomass, small hydroelectric resources, wind, and solar (14.6 percent) (California Energy Commission, 2012a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (California Energy Commission, 2012b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. The Sacramento Area Council of Governments (SACOG) region consumed 18,398 GWh in 2010 (SACOG MTP/SCS 2035 Draft EIR, 2011) and 17,824 GWh in 2016 (CEC, 2016), roughly 6.7 percent of the state total. The SACOG region includes the counties of El Dorado, Placer, Sacramento, Sutter, Yolo and Yuba as well as the 22 cities within these six counties.

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2009, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (The World Factbook 2009, Washington, DC: Central Intelligence Agency, 2009). The transportation sector relies heavily on oil. In California, petroleum based fuels currently provide approximately 96 percent of the state's transportation energy needs (California Energy Commission, 2012b).

Natural Gas

In 2010, the SACOG region consumed 529.5 million therms of natural gas. Natural gas supplies are derived from underground sources and brought to the surface at gas wells. Once it is extracted, gas is purified and the odorant that allows gas leaks to be detected is added to the normally odorless gas. Natural gas suppliers, such as PG&E, then send the gas into transmission pipelines, which are usually buried underground. Compressors propel the gas through the pipeline system, which delivers it to homes and businesses.

The state produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012b). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012b). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the SACOG area, including the City of Davis.

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National ambient air quality standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Intermodal Surface Transportation Efficiency Act (ISTEA)

ISTEA (49 U.S.C. § 101 et seq.) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations (MPOs), such as SACOG, were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan

area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

SAFETEA-LU (23 U.S.C. § 507), renewed the Transportation Equity Act for the 21st Century (TEA-21) of 1998 (23 U.S.C.; 49 U.S.C.) through FY 2009. SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit. SAFETEA-LU addressed the many challenges facing our transportation system today—such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment—as well as laying the groundwork for addressing future challenges. SAFETEA-LU promoted more efficient and effective federal surface transportation programs by focusing on transportation issues of national significance, while giving state and local transportation decision makers more flexibility to solve transportation problems in their communities. SAFETEA-LU was extended in March of 2010 for nine months, and expired in December of the same year. In June 2012, SAFETEA-LU was replaced by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which will take effect October 1, 2012.

U.S. Federal Climate Change Policy

The U.S. EPA published the latest version of the *Climate Change Indicators* report in 2016, in collaboration with more than 40 government agencies, academic institutions, and other organizations, to compile a key set of indicators related to the causes and effects of climate change. The U.S. EPA also currently administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

STATE

Assembly Bill 1493

In response to AB 1493, CARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger

vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) directed the CEC to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with the state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Bioenergy Action Plan – Executive Order #S-06-06

Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the state to meet a target for use of biomass electricity.

California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050. EO-S-20-06 establishes responsibilities and roles of the Secretary of Cal/EPA and state agencies in climate change

In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

EO S-13-08

EO S-13-08 was issued on November 14, 2008. The EO is intended to hasten California's response to the impacts of global climate change, particularly sea level rise, and directs state agencies to take specified actions to assess and plan for such impacts, including requesting the National Academy of Sciences to prepare a Sea Level Rise Assessment Report, directing the Business, Transportation, and Housing Agency to assess the vulnerability of the State's transportation systems to sea level rise, and requiring the Office of Planning and Research and the Natural Resources Agency to provide land use planning guidance related to sea level rise and other climate change impacts.

The order also required State agencies to develop adaptation strategies to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. The adaption strategies report summarizes key climate change impacts to the State for the following areas: public health; ocean and coastal resources; water supply and flood protection; agriculture; forestry; biodiversity and habitat; and transportation and energy infrastructure. The report recommends strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

Assembly Bill 32 - Climate Change Scoping Plan

On December 11, 2008 ARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of ARB's plans to achieve GHG reductions in California required by Assembly Bill (AB) 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO_2e emissions by 169 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO_2e under a business-as-usual scenario. (This is a reduction of 42 MMT CO_2e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions ARB recommends for each emissions sector of the state's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e),
- the Low-Carbon Fuel Standard (15.0 MMT CO_2e),
- energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e), and
- a renewable portfolio standard for electricity production (21.3 MMT CO_2e).

Senate Bill 32

An update to Assembly Bill 32 was passed in August 2016, which extends the state's targets for reducing greenhouse gases from 2020 to 2030. Under Senate Bill (SB) 32, the state would reduce its greenhouse gas emissions to 40 percent below 1990 levels by 2030.

California Strategy to Reduce Petroleum Dependence (AB 2076)

In response to the requirements of AB 2076 (Chapter 936, Statutes of 2000), the CEC and the CARB developed a strategy to reduce petroleum dependence in California. The strategy, *Reducing California's Petroleum Dependence*, was adopted by the CEC and CARB in 2003. The strategy recommends that California reduce on-road gasoline and diesel fuel demand to 15 percent below 2003 demand levels by 2020 and maintain that level for the foreseeable future; the Governor and Legislature work to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks, and sport utility vehicles (SUVs); and increase the use of non- petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Governor's Low Carbon Fuel Standard (Executive Order #S-01-07)

Executive Order #S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action GHG reduction measures identified by CARB pursuant to AB 32.

Senate Bill 97

Senate Bill (SB) 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Amendments became effective on March 18, 2010.

Senate Bill 375

SB 375 (Stats. 2008, ch. 728) (SB 375) was built on AB 32 (California's 2006 climate change law). SB 375's core provision is a requirement for regional transportation agencies to develop a Sustainable Communities Strategy (SCS) in order to reduce GHG emissions from passenger vehicles. The SCS is one component of the existing Regional Transportation Plan (RTP).

The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing GHG emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farmlands.

Additionally, SB 375 modified the state's Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and the Regional Housing Needs Assessment allocation. The

legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans.

Finally, SB 375 amended the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to ease the environmental review of developments that help reduce the growth of GHG emissions.

The SACOG Board, which is the local metropolitan planning organization that covers the six-county area in the Sacramento region, including the City of Davis, adopted the 2012 MTP/SCS in April 2012. An update to the 2012 MTP/SCS (the "2016" MTP/SCS), with a focus on implementation of the goals established in the 2012 MTP/SCS, was adopted by the SACOG Board in February 2016. A program-level EIR addressing the environmental impacts of the 2016 MTP/SCS was also prepared and certified.

EO B-30-15

On April 29, 2015, Governor Jerry Brown issued EO B-30-15, which establishes a State GHG reduction target of 40 percent below 1990 levels by 2030. The new emission reduction target provides for a mid-term goal that would help the State to continue on course from reducing GHG emissions to 1990 levels by 2020 (per AB 32) to the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050 (per EO S-03-05). This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions. EO B-30-15 also addresses the need for climate adaptation and directs State government to:

- Incorporate climate change impacts into the State's Five-Year Infrastructure Plan;
- Update the Safeguarding California Plan, the State climate adaptation strategy, to identify how climate change will affect California infrastructure and industry and what actions the State can take to reduce the risks posed by climate change;
- Factor climate change into State agencies' planning and investment decisions; and
- Implement measures under existing agency and departmental authority to reduce GHG emissions.

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. On January 1, 2010, the California Building Standards Commission adopted CALGreen and became the first state in the United States to adopt a statewide green building standards code. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials.

CEQA Guidelines Appendix F

In order to ensure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. The goal of conserving energy implies the wise and efficient use of energy.

LOCAL

Sacramento Area Local Council of Governments

Pursuant to SB 375, SACOG was tasked by ARB to achieve a 7 percent per capita reduction in passenger-vehicle generated transportation emissions by 2020 and a 16 percent per capita reduction by 2035 from 2005, which ARB confirmed the region would achieve by implementing its Sustainable Communities Strategy. SACOG's 2012-2035 MTP/SCS projects (as identified in the 2012 MTP/SCS) are estimated to exceed ARB's targets with anticipated per capita reductions of 10 percent by 2020 and 16 percent by 2035 from 2005 levels [23.0 pounds (lb) CO_2 per capita per day].

City of Davis General Plan

The Energy Element of the City's General Plan (amended through 2007) contains goals, policies, and actions that pertain to energy use. The key goal and policies that are applicable to the proposed project include the following:

ENERGY

GOAL ENERGY 1. Reduce per capita energy consumption in Davis.

Policy ENERGY 1.3 Promote the development and use of advanced energy technology and building materials in Davis.

Policy ENERGY 1.5 Encourage the development of energy-efficient subdivisions and buildings.

Davis Climate Action and Adaptation Plan

The Davis Climate Action and Adaption Plan (D-CAAP), is designed to place the community on a path to achieve the greenhouse gas emission reduction targets adopted by the City Council in November 2008. The targets were based on a range that uses the State of California targets as a minimum goal and deeper reductions as the desired outcome. The City adopted this range in recognition that emission reductions are not precise and that many scientists believe that a reduction of 80 percent below 1990 levels by 2050 may not be adequate. The City's GHG reduction targets for community and City operations are shown in Table 3.7-1 below.

TABLE 3.7-1: DAVIS GHG REDUCTION TARGETS: COMMUNITY AND CITY OPERATIONS

YEAR	TARGET RANGE*		NOTES
	STATE	DAVIS**	
2010	2000 levels	1990 levels	Minimum: State target Desired: Provides baseline for subsequent average annual reductions
2012	1998 levels	7% below 1990 levels	Minimum: State does not establish a target for this year; linear interpolation from 2010 target. Desired: Consistent with Kyoto- Mayors Climate Protection Agreement Pledge- City of Davis Reso. 2006.
2015	1995 levels	15% below 1990 levels	Minimum: State does not establish a target for this year; linear interpolation from 2010 target. Desired: Consistent with initial ICLEI modeling conducted by the City.
2015 to 2020	Average annual reduction	Avg. of 2.6% reduction/yr to achieve 80% below 1990 levels by 2040	Minimum: State does not establish a target for these years. Desired: Average reduction encourages monitoring of progress and some flexibility in implementation.
2020	1990 levels	28% below 1990 levels	Minimum: State target Desired: Average reduction encourages monitoring of progress and some flexibility in implementation.
2030	40% below 1990 levels	Avg. of 2.6% reduction/yr to achieve 80% below 1990 levels by 2040	Minimum: State target Desired: Reduction level adopted by the state based on climate stabilization levels of 3-5.5 degree increase in temp. Average reduction encourages monitoring of progress and some flexibility in implementation.
2040	No formal target, but must reduce an average of 2.66% per year to achieve 80% below 1990 levels by 2050	Avg. of 2.6% reduction/yr to achieve 80% below 1990 levels by 2040	Minimum: State does not establish a target for these years. Desired: Reduction level adopted by the state based on climate stabilization levels of 3-5.5 degree increase in temp. Average reduction encourages monitoring of progress and some flexibility in implementation.
2050	80% below 1990 levels	Carbon neutral	Minimum: State target. Reduction level adopted by the state based on climate stabilization levels of 3.5.5 degree increase in temp. Average reduction encourages monitoring of progress and flexibility in implementation. Desired: Combination of actions at the local, regional, national, and international levels and carbon offsets. Similar target set by the UC system, City of Berkeley, and Norway.

*NOTE: * IT IS ANTICIPATED THAT DAVIS WILL ACHIEVE REDUCTIONS WITHIN THE RANGE OF THE STATE TARGETS (MINIMUM) AND LOCAL TARGETS (DESIRED)*

*** DUE TO RESIDENCY TIME OF GHG GASES IN THE ATMOSPHERE, EARLY GHG REDUCTION IS GENERALLY MORE BENEFICIAL FOR MITIGATION OF THE MOST SEVERE IMPACTS OF CLIMATE CHANGE.*

The D-CAAP responds to the challenge of these ambitious goals by setting out a framework for actions that Davis will take to reduce local GHG emissions and contribute to the effort to achieve a stable climate.

The D-CAAP preparation was guided by a community based public input process executed by the Davis Climate Action Team, the Natural Resources Commission, and staff. Based on community input, analysis of best practices adopted by other communities, and contributions from subject matter experts, the plan utilizes a systems-based approach to address local GHG emissions. The

plan identifies objectives and actions that are designed to reverse local GHG emission growth and establish a foundation for deep, long-term reductions beyond 2015. The plan includes objectives and actions in nine sectors:

1. Mobility
2. Energy
3. Land use and buildings
4. Consumption and waste
5. Food and agriculture
6. Community engagement
7. Government operations
8. Advocacy
9. Climate change preparation (adaptation)

Adaptive management principles are integrated into the plan to guide action assessment and plan updates.

Davis GHG Thresholds and Standards for New Residential Development

In 2009 the City of Davis adopted a resolution establishing greenhouse gas emission thresholds, standards, and mitigation guidelines for new residential development projects. These thresholds and standards are used by the City to determine a project's GHG emissions impacts, and for negotiating development agreements.

The standards are designed to achieve critical long-term GHG reductions while maintaining the economic viability of new residential development. The general objective is to offer clear standards based on the best available information and allow flexibility in how those standards are met. To this end, the framework establishes multiple paths for meeting the overall requirements and includes suggested mitigation measures to help guide the development community's challenging work of achieving meaningful GHG reductions. The general rationale behind the standards is that housing built today will be here beyond 2050; the target year for when society will need to be effectively carbon neutral to minimize the effects of global warming.

The standards for new residential development vary by the number of units in the project. Projects with more than 26 units are required to reduce GHG emissions to 1990 levels, as shown in Table 3.7-2.

TABLE 3.7-2: DAVIS GHG REDUCTION THRESHOLDS: NEW RESIDENTIAL PROJECTS

NEW RESIDENTIAL UNITS	*STANDARD*	*MITIGATION*
Up to 12 units (less than 5% of total units in given year)	De minimis	No direct mitigation required – required to meet green building ordinance
13 to 25 units (up to 10% of total units in given year)	Reduce to 1990 levels (2.4 Metric Tons of CO_2e reduction per unit)	In lieu fee option, LEED ND Gold standard or Individualized program
Greater than 26 units (greater than 10% of total units in given year)	Reduce to 1990 levels (2.4 Metric Tons of CO_2e reduction per unit)	LEED ND Gold standard or Individualized program

SOURCE: CITY OF DAVIS, 2009

The general GHG emissions mitigation for new residential development projects is a phased approach that provides meaningful GHG reductions and rewards creative design that takes advantage of existing community form. The general standard includes two paths: the first is a package approach that the City would recognize as sufficient to satisfy GHG emission standards. The second would be a project specific calculation of GHG emissions and customized mitigation program to reduce project GHG emissions to target year levels. For projects of 26 units or more, the projects may achieve the reduction through meeting the LEED ND Gold standard or through developing an individualized program.

Projects may receive credit for GHG reductions based on project density and proximity to transit, as shown in Table 3.7-3.

TABLE 3.7-3: NEW RESIDENTIAL PROJECTS – GHG REDUCTIONS CREDIT CALCULATION

FACTOR	*GHG CREDIT*
Overall Project Density (General Plan density) – incorporates proximity to employment opportunities	
High	5%
Medium	2%
Low	No credit
Proximity to Transit	
Less than ¼ mile	5%
¼ mile to ½ mile	2%
Over ½ mile to ¾ mile	1%
Over ¾ mile	No credit

Green Building Standards

As of January 1, 2011, the City of Davis repealed its local Green Building Ordinance (previously Article 8.2 of the Davis Municipal Code) and replaced it with the 2010 California Green Building Standards Code (CCR, Title 24, Part11), including mandatory compliance with Tier 1 standards. The purpose of this code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories:

1. Planning and design

2. Energy efficiency
3. Water efficiency and conservation
4. Material conservation and resource efficiency
5. Environmental quality

On January 1, 2017, the 2016 California Green Building Standards Code went into effect.

City of Davis Municipal Code

Section 8.01.090 of the City of Davis Municipal Code requires mandatory compliance with Tier 1 standards of the CALGreen Code, which would otherwise be voluntary under the California Buildings Standards Code. Additionally, on December 4, 2002, the City Council adopted the Tree Ordinance, Chapter 27 of the Municipal Code, to ensure that the community forest would be prudently protected and managed so as to ensure these multiple civic benefits.

3.7.3 IMPACTS AND MITIGATION MEASURES

GHG THRESHOLDS OF SIGNIFICANCE AND METHODOLOGY

Analysis Approach

The California Office of Planning and Research (OPR) recommends that lead agencies under CEQA make a good-faith effort, based on available information, to estimate the quantity of GHG emissions that would be generated by a proposed project, including the emissions associated with construction activities, stationary sources, vehicular traffic, and energy consumption: to determine whether the impacts have the potential to result in a significant project or cumulative environmental impact; and, where feasible mitigation is available, to mitigate any project or cumulative impact determined to be potentially significant. More recently, OPR prepared amendments to the State CEQA Guidelines, pursuant to SB 97 (Statutes of 2007) for adoption by the California Natural Resources Agency. The amendments added several provisions reinforcing the requirements to assess a project's GHG emissions as a contribution to the cumulative impact of climate change. The amendments went into effect on March 18, 2010.

Specifically, CEQA Guidelines Section 15064.4, as amended March 18, 2010, states:

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

> *(1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or*

(2) Rely on a qualitative analysis or performance based standards.

(b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

GREENHOUSE GASES THRESHOLDS OF SIGNIFICANCE

Per Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed project under consideration would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In order to determine whether or not the proposed project would generate GHG emissions that may have a significant impact on the environment during the proposed project's operational phase, this EIR relies on the project's compliance with the City's established and adopted greenhouse gas emission thresholds, standards, and mitigation guidelines for new residential development projects. These thresholds and standards are used by the City to determine a project's GHG emissions impacts during the project's operational phase.

For emissions generated during the construction phase of the proposed project, this EIR relies on the project's compliance with the Yolo-Solano Air Quality Management District (YSAQMD) threshold for construction emissions (1,100 MT CO_2e/year). CalEEMod (v.2016.3.2) was utilized to calculate construction GHG emissions. For the construction phase of the proposed project, only CO_2, CH_4, and N_2O emissions were considered. Other GHGs were considered to be negligible.

City of Davis Residential GHG Emissions Budget Threshold

The City of Davis has established a residential GHG emissions budget threshold. Baseline and 1990 target GHG emission levels were based on the April 21, 2009 Staff Report on Greenhouse Gas Emission Thresholds and Standards for New Residential Development. To achieve 1990 levels of GHG emissions in 2020, each residential unit is required to reduce from a baseline of 5.5 MT CO_2 to 3.1 MT CO_2e (a 2.4 MT or 44% reduction per unit). At 560 residential units, a reduction of 1,344.0 MT CO_2e (following City of Davis methodology) is required to meet this threshold.

In order to determine whether or not the proposed project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs, the proposed project is analyzed for consistency with the City's D-CAAP, which is implemented through the City's adopted greenhouse gas emission thresholds, standards, and mitigation guidelines, as described above. The D-CAAP was developed by the City in order for future development projects and City actions to be consistent with – or better than - the statewide GHG reductions goals outlined in AB 32. Consistency with the D-CAAP would also ensure consistency with EO B-30-15 and EO S-03-05, which set State-wide GHG reduction targets for future years 2030 and 2050, respectively. If the project would generate GHG emissions below the residential thresholds identified above, then the project would be consistent with the D-CAAP.

Methodology

Greenhouse gases attributable to the construction phase of the proposed project would be generated from two primary sources: 1) emissions from off-road construction vehicles used to develop the proposed project and 2) emissions from worker and hauler vehicle trips and vehicle miles travelled generated during construction activities. CalEEMod (v.2016.3.2) was used to estimate construction GHG emissions.

Greenhouse gases attributable to the operational phase of the proposed project would be generated from two primary sources: 1) indirect energy (e.g. electricity and natural gas) usage from the proposed project and 2) emissions from vehicle trips and vehicle miles travelled generated by the proposed project.

For proposed project operational emissions, this EIR includes a quantitative assessment of the indirect energy usage of the proposed project, and compares those emissions levels to 1990 emissions levels, as described above. If the project is shown to meet the 1990 emissions threshold(s) listed above, then the project would have a less than significant impact with regard to operational GHG emissions.

ENERGY CONSERVATION THRESHOLDS OF SIGNIFICANCE

Additionally, per Appendix F of the State CEQA Guidelines, the proposed project would result in a significant impact on energy use if it would:

- Result in significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or energy intensiveness of materials by amount and fuel type for each stage of the project including construction, operations, maintenance, and/or removal;

- Result in significant adverse impacts on local and regional energy supplies and on requirements for additional capacity;
- Result in significant adverse impacts on peak and base period demands for electricity and other forms of energy;
- Fail to comply with existing energy standards;
- Result in significant adverse impacts on energy resources;
- Result in significant adverse impacts related to transportation energy use requirements of the project and use of transportation alternatives; or
- Conflict, or create an inconsistency, with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental effects related to energy conservation.

In order to determine whether or not the proposed project would result in a significant impact on energy use, this EIR includes an analysis of proposed project energy use, as provided under *Impacts and Mitigation Measures*, below.

GHG IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: The proposed project may generate construction-related GHGs, either directly or indirectly, that may have a significant effect on the environment (Less than Significant)

Construction-related activities that would generate GHGs include worker commute trips, haul trucks carrying supplies and materials to and from the project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Construction of the land uses on the project site is expected to occur over several years. Annual construction emissions are summarized in Table 3.7-4, in units of metric tons per year (MT/year).

TABLE 3.7-4: PROJECT CONSTRUCTION-RELATED GHG EMISSIONS (MT/YEAR) (UNMITIGATED SCENARIO)

YEAR	BIO- CO_2	NBIO-CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
2020	0.000	560.1389	560.1389	0.1150	0.0000	563.0149
2021	0.000	860.5132	860.5132	0.0919	0.0000	862.8115
2022	0.000	907.7628	907.7628	0.0922	0.0000	910.0671
2023	0.000	504.0380	504.0380	0.0611	0.0000	505.5648
Maximum	**0.000**	**907.7628**	**907.7628**	**0.1150**	**0.0000**	**910.0671**

NOTE: [A] NUMBERS PROVIDED HERE MAY NOT ADD UP EXACTLY TO TOTAL DUE TO ROUNDING. [B] MAXIMUM VALUE.

SOURCE: CALEEMOD (V.2016.3.2)

The GHG emissions are the greatest during 2021 and 2022 because that is when the majority of building construction is expected to take place. Refer Chapter 3.3, "Air Quality," for additional details on the construction schedule. Refer to Appendix B for a detailed summary of the CalEEMod modeling assumptions, inputs, and outputs. As shown in Table 3.7-4, annual GHG emissions from

project construction would range from a low of approximately 563 MT CO_2e to a high of 910 MT CO_2e over an estimated 3½-year period.

YSAQMD recommends using 1,100 MT CO_2e per year to analyze construction-related GHG emissions. Peak-year construction-generated GHG emissions would not exceed YSAQMD's recommended GHG emissions threshold of 1,100 MT CO_2e for construction of the proposed project, as shown in Table 3.7-4. Therefore, this is a ***less than significant*** impact relative to this topic.

Impact 3.7-2: The proposed project may generate operation-related GHGs, either directly or indirectly, that may have a significant effect on the environment (Less than Significant with Mitigation)

In order to determine if the proposed project would generate operational GHGs that may have a significant effect on the environment, the City of Davis has relied on the proposed project's consistency with previously adopted plans and programs aimed at reducing GHG levels both locally and regionally.

RESIDENTIAL GHG EMISSIONS ANALYSIS

As described under the Thresholds of Significance above, to achieve 1990 levels of GHG emissions, each residential unit is required to reduce from a baseline of 5.5 MT CO_2e to 3.1 MT CO_2e (a 2.4 MT or 44% reduction per unit). At 560 residential units, a reduction of 1,344.0 MT CO_2e is required.

Table 3.7-5 shows the base level of GHG emissions that would be generated from each residential unit, prior to the implementation of any mitigation measures to reduce GHG emissions, the 1990 per unit targets for GHG emissions (the threshold of significance per unit), and provides the carbon reduction (GHG emissions reduction) required for each residential unit in order to comply with the City's adopted residential unit standard.

TABLE 3.7-5: BASE EMISSIONS, 1990 EMISSIONS TARGETS, AND CARBON REDUCTIONS REQUIRED

	METRIC TONS/UNIT	*# OF UNITS*	*CO_2 (METRIC TONS)*	*CO_2E (LBS)*
Baseline	5.5	560	3,080.0	6,790,230
Target 1990	3.1	560	1,736.0	3,827,220
Carbon Reduction Required	2.4	560	1,344.0	2,963,009

SOURCE: CITY OF DAVIS STAFF REPORT ON GREENHOUSE GAS EMISSION THRESHOLDS AND STANDARDS FOR NEW RESIDENTIAL DEVELOPMENT (APRIL 21, 2009).

As described in the Davis GHG Thresholds and Standards for New Residential Development, projects may receive credit for GHG reductions based on project density and proximity to transit, as shown in Table 3.7-6. Table 3.7-6 shows the credits that the project would receive towards meeting the GHG reduction requirements, based on the project density and proximity to transit.

TABLE 3.7-6: GHG CREDITS BASED ON DENSITY AND PROXIMITY TO TRANSIT

		% REDUCTION	UNIT REDUCTION	# OF UNITS	CO_2 (METRIC TONS)	CO_2E (LBS)
Project Density	High	5%	--	--	--	--
	Medium	2%	0.11	560	(61.6)	(135,804)
Proximity to Transit	Less than ¼ mile	5%	0.275	560	(154.0)	(339,511)
	¼ to ½ mile	2%	--	--	--	--
	½ to ¾ mile	1%	--	--	--	--
Total Credits					(215.6)	(475,316)

SOURCE: CITY OF DAVIS STAFF REPORT ON GREENHOUSE GAS EMISSION THRESHOLDS AND STANDARDS FOR NEW RESIDENTIAL DEVELOPMENT (APRIL 21, 2009)

As shown in Table 3.7-5, the project must demonstrate a total reduction of 1,344.0 metric tons of CO_2e to meet the 1990 threshold of significance. As shown in Table 3.7-6, the project receives a credit of 215.6 metric tons of CO_2e towards this reduction requirement, as a result of the project's density and proximity to transit. Therefore, in order to comply with the City's residential GHG emissions levels, the project must demonstrate a total reduction of 1,128.4 metric tons of CO_2e for the 560 proposed residential units (since 1,344.0 - 215.6 = 1,128.4). Implementation of Mitigation Measure 3.7-1 would provide a reduction at least equal to this amount, thereby reducing this impact to a ***less than significant*** level.

Table 3.7-7 provides an analysis of the mitigation measure credits that would reduce GHG emissions levels from the residential component of the proposed project to a level that is below the 1990 GHG emissions threshold used in this analysis. This reflects the total reduction that would be expected to occur due to implementation of Mitigation Measure 3.7-1.

As shown in the table below, the implementation of the GHG mitigation measure credits would reduce residential GHG emissions throughout the project by approximately 1,631.7 metric tons of CO_2e, which exceeds the required reduction for the project of 1,128.4 metric tons of CO_2e (by 503.3 metric tons of CO_2e).

TABLE 3.7-7: PRELIMINARY GHG MITIGATION MEASURES

MITIGATION MEASURES	% OF REDUCTION TOTAL	METRIC TONS PER UNIT	# OF UNITS	CO_2 (METRIC TONS)	LB CO_2E
15% Better than 2016 Title 24	100%	2.91	560	(1,631.7)	(3,597,206)
ENERGY STAR Appliances	-	-	-	-	-
Solar PV Installation (All Residential Rooftops)	-	-	-	-	-
Total Reduction Due to Mitigation[1]				**(1,631.7)**	**(3,597,206)**

NOTES:

1: THERE IS NO GUARANTEE THAT ESTIMATED ENERGY USAGE OR ESTIMATED SAVINGS PRESENTED HERE WILL OCCUR. ENERGY USE WILL VARY BASED ON FINAL DESIGN, OCCUPANCY, AND OPERATING CONDITIONS.

SOURCES: CALIFORNIA ENERGY COMMISSION, 2012A; CALIFORNIA ENERGY COMMISSION, 2015.

The assumptions used in the GHG reduction calculations shown in Table 3.7-7 are described below.

RESIDENTIAL UNIT BUILDING PERFORMANCE

The proposed residential units would be built to a level that is 15% better than the 2016 Title 24 California Building Energy Code. Savings are relative to the 2008 Title 24 Energy Code baseline and assume that the 2016 Title 24 code provides energy savings equivalent to 37.68% less energy than the 2008 Title 24 code. This was calculated based on the assumption that the 2013 Title 24 code is 25% more energy efficient than the 2008 Title 24 code[1], and that the 2016 Title 24 code is 16.9% more energy efficient than the 2013 Title 24 code[2]. In addition, compliance with Tier 1 standards of the CALGreen Code would provide an additional increase in energy efficiency of about 15% beyond the State-mandated 2016 Title 24 Code. This provides an aggregate 47.02% reduction in energy use as compared to the 2008 Title 24 Energy Code baseline.

ENERGY STAR APPLIANCES

The proposed residential units would also be required to install ENERGY STAR-compliant refrigerators and dishwashers. However, it not currently known what proportion of project energy usage would be reduced by Energy Star appliances. Therefore, the potential reduction in energy usage from this mitigation has not been quantified (for the sake of a conservative analysis).

ON-SITE SOLAR PV

The proposed project would also install on-site solar PV on residential rooftops. However, since it not currently known what proportion of project energy usage would be offset by on-site solar PV, the potential reduction in energy usage from this mitigation is also not quantified (for the sake of a conservative analysis).

MITIGATION MEASURE(S)

Mitigation Measure 3.7-1: *Prior to issuance of building permits, the applicant shall ensure that all residential units are designed such that they to achieve a minimum of 15% greater energy efficiency than the baseline 2016 Title-24 Energy Efficiency requirements (compliant with Tier 1 of the 2016 CalGreen Code).*

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure 3.7-1 would require implementation of GHG reduction measures in order to reduce GHG emissions. This mitigation measure would reduce potential impacts related to generation of GHGs to a ***less than significant*** level.

[1] According to the following California Energy Commission website: http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/2013_Building_Energy_Efficiency_Standards_FAQ.pdf

[2] According to the following California Energy Commission website: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf

Impact 3.7-3: The proposed project may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant)

CONSISTENCY WITH CITY OF DAVIS GHG REDUCTION PLANS

The City's adopted GHG standard for new residential projects of 26 units or more is to reduce GHG emissions to 1990 levels (2.4 Metric Tons of CO_2e reduction per unit). As previously described under Impact 3.7-2, at 560 residential units, a reduction of 1,344.0 MT CO_2e in residential operational GHG emissions is required for the proposed project. With implementation of Mitigation Measure 3.7-1, which would ensure that the proposed project residences would be 15% more energy efficient than the most recent (2016) version of the Title 24 Energy Code (via compliance with CALGreen Tier 1), the proposed project would be in compliance with the applicable City of Davis GHG standard for new residential projects of 26 units or more.

The City's adopted GHG standard for new residential projects of 26 units or more is also in accordance with the Davis Climate Action and Adaption Plan (D-CAAP), adopted by the City Council in November 2008. The targets contained in the D-CAAP were also based on a range that uses the State of California targets as a minimum goal and deeper reductions as the desired outcome. The City adopted this range in recognition that emission reductions are not precise and that many scientists believe that a reduction of 80 percent below 1990 levels by 2050 may not be adequate. Since the proposed project achieves the City's GHG standard for new residential projects of 26 units or more, the proposed project would be consistent with the applicable targets contained in the D-CAAP.

The proposed project would not conflict with the City's adopted standards for the reduction of GHG emissions, and would not conflict with plans or programs adopted by the City of Davis to reduce community-wide GHG levels. This is a ***less than significant*** impact, following implementation of Mitigation Measure 3.7-1.

CONSISTENCY WITH STATE OF CALIFORNIA GHG REDUCTION TARGETS

The State of California has a target to reach 1990 GHG levels by 2020 (consistent with AB 32), 40 percent below 1990 levels by 2030 (consistent with EO B-30-15), and 80 percent below 1990 levels by 2050 (consistent with EO S-03-05). The Davis CAAP considers consistency with the State reduction goals as the "minimum" reduction target for the community, but sets more stringent "desired" reduction targets than the State. For example, the Davis CAAP has a minimum goal to reach 1990 GHG levels by the year 2020, consistent with AB 32, but had developed a desired goal to reach the same target by 2010. In addition, the D-CAAP includes a desired 2020 target of an additional 28 percent reduction below 1990 levels, a desired 2040 target of 80 percent below 1990 levels (ten years earlier than the State's goal), and a desired 2050 target of carbon neutral.

Since the proposed project is consistent with the applicable targets contained with the Davis D-CAAP, and since the D-CAAP is consistent with the State of California reduction goals, the proposed project would also be consistent with State GHG reduction goals, including AB 32, EO B-30-15, and

EO S-03-05. This is a ***less than significant*** impact, following implementation of Mitigation Measure 3.7-1.

CONSISTENCY WITH THE YSAQMD CONSTRUCTION GHG THRESHOLD

As previously described, the City of Davis has decided to utilize the YSAQMD threshold of 1,100 MT CO_2e/year for construction-related emissions. The proposed project would not exceed this threshold, as described under Impact 3.7-1. Therefore, the proposed project would have a ***less than significant*** impact relative to this threshold.

CONSISTENCY WITH THE SACOG MTP/SCS

The project site is outside of the City limits, and not part of the SCS growth projections. The proposed project would therefore not conflict with the MTP/SCS. The proposed project would have a ***less than significant*** impact relative to this threshold.

CONCLUSION

The proposed project would reduce residential unit energy use and building energy-related greenhouse gas emissions at least 15% beyond current (Year 2016) Title 24 levels through project design (as described by Mitigation Measure 3.7-1). This would, along with the additional mitigation required as part of Mitigation Measures 3.3-1, allow the proposed project to meet or exceed the adopted Scoping Plan reduction targets.

The City of Davis General Plan provides policy direction and support for natural resource conservation, compact community design and energy efficiency. The City has adopted standards and guidelines to address local, regional and global climate change impacts of future development. Moreover, the proposed project is designed in furtherance of the D-CAAP, as described in greater detail previously in this chapter.

The long-range goals and objectives for sustainability and smart growth initiated by the Davis City Council address land use policy through implementation of mandatory Tier 1 of the 2016 California Green Building Standards Code (CalGreen) and the City's greenhouse gas emissions reduction targets in the D-CAAP. The City of Davis requires new construction to achieve the CalGreen Tier 1 standard, which is equivalent to achieving an increase in energy efficiency of at least 15% beyond the base requirements of the 2016 version of Title 24.

The proposed project is consistent with the D-CAAP, which lays the framework for the City of Davis to achieve its target reduction goals of GHG emissions, and is consistent with the City's Davis GHG Thresholds and Standards for New Residential Development, which shall be demonstrated through the implementation of Mitigation Measure 3.7-1.

As demonstrated in the analysis provided above, the proposed project is consistent with these adopted plans, and would assist the City and the State of California in achieving their adopted GHG reduction targets. The proposed project would also achieve the YSAQMD operational GHG

emissions threshold of 1,100 MT CO_2e per year for construction-related emissions. Therefore, there is a ***less than significant*** impact relative to this topic.

Impact 3.7-4: Project implementation may result in the inefficient, wasteful, or unnecessary use of energy resources (Less than Significant)

Appendix F of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project is primarily a residential development, with a few commercial/mixed use buildings. The amount of energy used at the project site would directly correlate to the number and size of the residential units, the energy consumption of associated unit appliances, outdoor lighting, and energy use associated with other on-site (e.g. restaurant and health club) buildings and activities. Other major sources of proposed project energy consumption include fuel used by vehicle trips generated during project construction and operation, and fuel used by off-road construction vehicles during construction. The following discussion provides calculated levels of energy use expected for the proposed project, based on commonly used modelling software (i.e. CalEEMod v.2016.3.2 and the California Air Resource Board's EMFAC2014). It should be noted that many of the assumptions provided by CalEEMod are conservative relative to the proposed project. Therefore, this discussion provides a conservative estimate of proposed project emissions.

ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed project would be used primarily to power on-site buildings. Total annual unmitigated and mitigated electricity (kWh) and natural gas (kBTU) usage associated with the operation of the proposed project are shown in Tables 3.7-8 and 3.7-9, below (as provided by CalEEMod). The proposed project incorporates feasible mitigation to reduce the proposed project's operational electricity and natural gas consumption.

According to Calico's *Appendix A: Calculation Details for CalEEMod*, CalEEMod uses the California Commercial End Use Survey (CEUS) database to develop energy intensity value for non-residential buildings. The energy use from residential land uses is calculated based on the Residential Appliance Saturation Survey (RASS). Similar to CEUS, this is a comprehensive energy use assessment that includes the end use for various climate zones in California.

TABLE 3.7-8: PROJECT OPERATIONAL NATURAL GAS AND ELECTRICITY USAGE (UNMITIGATED SCENARIO)

EMISSIONS[A]	*NATURAL GAS (KBTU/YEAR)*	*ELECTRICITY (KWH/YEAR)*
Apartments Low Rise	1,814,810	674,136
City Park	0	0
Congregate Care (Assisted Living)	292,443	127,694
Health Club	149,120	67,600
High Turnover (Site Down Restaurant)	547,050	156,750
Retirement Community	1,560,730	604,362
Retirement Community	1,718,020	665,267
Single Family Housing	1,989,270	650,171
Total	**8,071,443**	**2,945,980**

NOTE: [A] NUMBERS PROVIDED HERE MAY NOT ADD UP EXACTLY TO TOTAL DUE TO ROUNDING.

SOURCE: CALEEMOD (V.2016.3.2)

TABLE 3.7-9: PROJECT OPERATIONAL NATURAL GAS AND ELECTRICITY USAGE (MITIGATED SCENARIO)

EMISSIONS[A]	*NATURAL GAS (KBTU/YEAR)*	*ELECTRICITY (KWH/YEAR)*
Apartments Low Rise	1,576,220	641,730
City Park	0	0
Congregate Care (Assisted Living)	256,643	121,798
Health Club	124,000	62,041
High Turnover (Site Down Restaurant)	512,760	145,473
Retirement Community	1,355,550	572,557
Retirement Community	1,492,160	630,256
Single Family Housing	1,688,050	621,515
Total	**7,005,383**	**2,795,370**

NOTE: [A] NUMBERS PROVIDED HERE MAY NOT ADD UP EXACTLY TO TOTAL DUE TO ROUNDING.

SOURCE: CALEEMOD (V.2016.3.2)

As shown in Tables 3.7-8 and 3.7-9, project operational energy usage would be reduced with implementation of project components considered mitigation by CalEEMod (note: given the limited mitigation options available in the current version of CalEEMod, the reduction attributable to mitigation represents a conservative analysis). As described under Mitigation Measure 3.3-1 (see Section 3.3 "Air Quality"), the proposed project incorporates feasible mitigation that would reduce the proposed project's energy consumption, as compared to the unmitigated scenario. Mitigation Measure 3.7-1, as provided previously under Impact 3.7-2, would require further mitigation that would reduce proposed project operational electricity and natural gas emissions. These reductions in overall proposed project energy usage also reflect a reduction in the project's energy intensity.

ON-ROAD VEHICLES (OPERATION)

The proposed project would generate vehicle trips during its operational phase. According to the Traffic Study prepared for the proposed project (Fehr & Peers, 2017), the project would generate

approximately 3,586 new daily vehicles trips. In order to calculate operational on-road vehicle energy usage and emissions, default trip lengths generated by CalEEMod were used, which are based on the project location and urbanization level parameters De Novo (the EIR consultant) selected within CalEEMod (i.e. "Yolo County" and "Urban", respectively). These values are provided by the individual districts or use a default average for the state, depending on the location of the proposed project (CAPCOA, 2017). Based on default factors provided by CalEEMod, the average distance per trip was conservatively calculated to be approximately 8.1 miles. Therefore, the proposed project would generate at total of approximately 29,118 average daily vehicle miles travelled (Average Daily VMT). Using fleet mix data provide by CalEEMod (v2016.3.2), and Year 2018 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2014, De Novo derived weighted MPG factors for operational on-road vehicles of approximately 23.7 MPG for gasoline and 12.6 MPG for diesel vehicles. With this information, De Novo calculated as a conservative estimate that the unmitigated proposed project would generate vehicle trips that would use a total of approximately 1,069 gallons of gasoline and 404 gallons of diesel fuel per day, on average, or 390,032 gallons of gasoline and 147,345 annual gallons of diesel fuel per year.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed project would also generate on-road vehicle trips during project construction (from construction workers and vendors). Estimates of vehicle fuel consumed were derived based on the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2018 gasoline MPG factors provided by EMFAC2014. For the purposes of simplicity, it was assumed that all vehicles used gasoline as a fuel source (as opposed to diesel fuel or alternative sources). Table 3.7-10, below, describes gasoline and diesel fuel used by on-road mobile sources during each phase of the construction schedule. As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed project would occur during the building construction phase. See Appendix B for a detailed calculation.

TABLE 3.7-10: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	*# OF DAYS*	*TOTAL DAILY WORKER TRIPS[A]*	*TOTAL DAILY VENDOR TRIPS[A]*	*GALLONS OF GASOLINE FUEL[B]*	*GALLONS OF DIESEL FUEL[B]*
Site Preparation	30	18	-	221	-
Grading	75	20	-	636	-
Building Construction	740	378	66	118,639	50,465
Paving	55	15	-	350	-
Architectural Coating	513	76	-	16,439	-
Total	**N/A**	**N/A**	**N/A**	**136,285**	**50,465**

NOTE: [A] PROVIDED BY CALEEMOD. [B]SEE APPENDIX B FOR FURTHER DETAIL

SOURCE: CALEEMOD (V.2016.3.2); EMFAC2014.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the construction phase of the proposed project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the proposed project includes: cranes, forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed project (as provided by the CalEEMod output), and a CO_2 to diesel fuel conversion factor (provided by the U.S. Energy Information Administration), the proposed project would use a total of approximately 25,103 gallons of diesel fuel for off-road construction vehicles (during the site preparation and grading phases of the proposed project). Detailed calculations are provided in Appendix B.

OTHER

Proposed project landscape maintenance activities would generally require the use fossil fuel (i.e. gasoline) energy. For example, lawn mowers require the use of fuel for power. As an approximation, it is estimated that landscape care maintenance would require approximately nine individuals one full day per week, or 3,744 hours per year. Assuming an average of approximately 0.5 gallons of gasoline used per person-hour, the proposed project would require the use of approximately 1,842 gallons of gasoline per year to power landscape maintenance equipment. The energy used to power landscape maintenance equipment would not differ substantially from the energy required for landscape maintenance for similar project.

The proposed project could also use other sources of energy not identified here. Examples of other energy sources include alternative and/or renewable energy (such as solar PV) and/or on-site stationary sources (such as on-site diesel generators) for electricity generation. The proposed project would introduce solar PV onto residential rooftops, which would reduce the need for fossil fuel-based energy (for proposed project buildings), including for electricity.

CONCLUSION

The proposed project would use energy resources for the operation of project buildings (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed project, and from off-road construction activities associated with the proposed project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed project would be responsible for conserving energy, to the extent feasible, and relies heavily on reducing per capita energy consumption to achieve this goal, including through Statewide and local measures.

The proposed project would be in compliance with all applicable Federal, State, and local regulations regulating energy usage. For example, PG&E is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the Statewide Renewable Portfolio Standard (RPS) to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E is expected to achieve at least a 33% mix of renewable energy resources by 2020, and 50% by 2030. Additionally, energy-saving regulations,

including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the proposed project (note: as provided under Mitigation Measure 3.7-1, the proposed project would achieve a 15% increase in energy efficiency beyond the 2016 version of the Title 24 Energy code). Other Statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Furthermore, as described previously, the incorporation of the mitigation measures described previously in this section would further reduce project energy consumption. The proposed project would also be in compliance with the planning documents described previously within this section.

As a result, the proposed project would not result in any significant adverse impacts related to project energy requirements, energy use inefficiencies, and/or the energy intensiveness of materials by amount and fuel type for each stage of the project including construction, operations, maintenance, and/or removal. PG&E, the electricity and natural gas provider to the site, maintains sufficient capacity to serve the proposed project. The proposed project would comply with all existing energy standards, including those established by the City of Davis, as described under Impacts 3.7-1 and 3.7-2, previously, and would not result in significant adverse impacts on energy resources. Furthermore, existing connections exist between the project site and nearby pedestrian and bicycle pathways, and public transit access exists nearby, reducing the need for local motor vehicle travel. Although improvements to the City's pedestrian, bicycle, and public transit systems would provide further opportunities for alternative transit, the proposed project would be linked closely with existing networks that, in large part, are sufficient for most residents of the proposed project and the City of Davis as a whole. The proposed project would also be required to implement Mitigation Measures 3.3-1 and 3.7-1. For these reasons, the proposed project would not be expected cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by Appendix F of the *CEQA Guidelines*. This is a ***less than significant*** impact.

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