5.6 Greenhouse Gases

5.6.1 INTRODUCTION

This section evaluates the potential for implementation of the proposed Specific Plan to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, impacts of the proposed Specific Plan are considered on a cumulative basis. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD). This section also addresses the Specific Plan's consistency with applicable plans, policies, and public agency regulations adopted for the purpose of reducing the emissions of greenhouse gases. The analysis within this section is based on the following City documents and the technical report prepared for the Project:

- *City of Redlands 2035 General Plan*, 2017
- *City of Redlands General Plan Update and Climate Action Plan Environmental Impact Report* (GP EIR), 2017
- *City of Redlands Municipal Code*
- *Transit Villages District and Specific Plan Greenhouse Gas Impact Analysis*, Urban Crossroads, 2022, Appendix E.

5.6.2 REGULATORY SETTING

5.6.2.1 State Regulations

California Assembly Bill 1493– Pavley

In 2002, the California Legislature adopted AB 1493 requiring the adoption of regulations to reduce GHG emissions in the transportation sector. In September 2004, pursuant to AB 1493, the CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year (Pavley Regulations). In September 2009, CARB adopted amendments to the Pavley Regulations to reduce GHG from 2009 to 2016. CARB, EPA, and the U.S. Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) have coordinated efforts to develop fuel economy and GHG standards for model 2017-2025 vehicles. The GHG standards are incorporated into the "Low Emission Vehicle" (LEV) Regulations.

California Executive Order S-3-05 – Statewide Emission Reduction Targets

Executive Order S-3-05 was signed by Governor Arnold Schwarzenegger in June 2005. Executive Order S-3-05 establishes statewide emission reduction targets through the year 2050:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

California Assembly Bill 32 (AB 32), Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006)

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32)], which created a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California. AB 32 required the California Air Resources Board (CARB or Board) to develop a Scoping Plan

that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the Board in 2008 and must be updated at least every five years. Since 2008, there have been two updates to the Scoping Plan. Each of the Scoping Plans have included a suite of policies to help the State achieve its GHG targets, in large part leveraging existing programs whose primary goal is to reduce harmful air pollution. The 2017 Scoping Plan identifies how the State can reach the 2030 climate target to reduce greenhouse gas (GHG) emissions by 40 percent from 1990 levels, and substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

The AB 32 Scoping Plan also anticipates that local government actions will result in reduced GHG emissions because local governments have the primary authority to plan, zone, approve, and permit development to accommodate population growth and the changing needs of their jurisdictions. The Scoping Plan also relies on the requirements of Senate Bill 375 (discussed below) to align local land use and transportation planning for achieving GHG reductions.

The Scoping Plan must be updated every five years to evaluate AB 32 policies and ensure that California is on track to achieve the 2020 GHG reduction goal. In 2014, CARB released the First Update to the Scoping Plan, which builds upon the Initial Scoping Plan with new strategies and recommendations. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. This update defines CARB's climate change priorities for the next five years and sets the groundwork to reach long-term goals set forth in Executive Order S-3-05. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals in the original 2008 Scoping Plan. It also evaluates how to align the state's "longer-term" GHG reduction strategies with other state policy priorities for water, waste, natural resources, clean energy, transportation, and land use.

In 2017, CARB released the proposed Second Update to the Scoping Plan, which identifies the State's post-2020 reduction strategy. The Second Update would reflect the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes.

Senate Bill 375 (Chapter 728, Statutes of 2008)

In August 2008, the Legislature passed, and on September 30, 2008, Governor Schwarzenegger signed, SB 375, which addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. Regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, as determined by CARB, are required to consider the emission reductions associated with vehicle emission standards (see SB 1493), the composition of fuels (see Executive Order S-1-07), and other CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations (MPOs) will be responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. SB 375 provides incentives for streamlining CEQA requirements by substantially reducing the requirements for "transit priority projects," as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects

are consistent with the SCS or Alternative Planning Strategy. On September 23, 2010, CARB adopted the SB 375 targets for the regional MPOs.

Executive Order B-30-15 – 2030 Statewide Emission Reduction Target

Executive Order B-30-15 was signed by Governor Jerry Brown on April 29, 2015, establishing an interim statewide GHG reduction target of 40 percent below 1990 levels by 2030, which is necessary to guide regulatory policy and investments in California in the midterm, and put California on the most cost-effective path for long-term emission reductions. Under this Executive Order, all state agencies with jurisdiction over sources of GHG emissions are required to continue to develop and implement emissions reduction programs to reach the state's 2050 target and attain a level of emissions necessary to avoid dangerous climate change. According to the Governor's Office, this Executive Order is in line with the scientifically established levels needed in the United States to limit global warming below 2°C - the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels.

Senate Bill 32 (Chapter 249, Statutes of 2016)

Senate Bill 32 was signed on September 8, 2016 by Governor Jerry Brown. SB 32 requires the state to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80 percent below 1990 levels by 2050. A related bill that was also approved in 2016, AB 197 (Chapter 250, Statutes of 2016) creates a legislative committee to oversee regulators to ensure that ARB is not only responsive to the Governor, but also the Legislature.

Senate Bill 97 (Chapter 185, Statutes of 2007)

SB 97 (Health and Safety Code Section 21083.5) was adopted in 2007 and required the Office of Planning and Research to prepare amendments to the CEQA Guidelines for the mitigation of GHG impacts. The amendments became effective on March 18, 2010. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of GHG emissions. The CEQA Section gives discretion to the lead agency whether to: (1) use a model of methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. CEQA does not provide guidance to determine whether the project's estimated GHG emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. However, GHG mitigation measures are referenced in general terms, and no specific measures are identified. Additionally, the revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze GHG emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic GHG analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

Title 24 Energy Efficiency Standards and California Green Building Standards

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code (CalGreen) is updated every three years. The most recent update was the 2019 California Green Building Code Standards that became effective January 1, 2020.

The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrade requirements.

The 2019 CALGreen standards that reduce GHG emissions and are applicable to the proposed Project include, but are not limited to, the following:

- Bicycle parking at new buildings to encourage non-vehicular transportation.
- Designated parking for clean air vehicles. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles per Title 24 Part 6 Table 5.106.5.2.
- Electric vehicle charging stations. The regulation requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Title 24 Part 6 Table 5.106.8.
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste.
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) meeting Title 24 standards shall be installed.
- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent.

The 2019 CalGreen Building Standards Code has been adopted by the City of Redlands in Municipal Code Chapter 15.16.

5.6.2.2 Local Regulations

City of Redlands 2035 General Plan

The General Plan Sustainable Community Element contains the following policies related to greenhouse gas emissions that are applicable to the Project:

Principle 8-P.1 Promote energy efficiency and conservation technologies and practices that reduce the use and dependency of nonrenewable resources of energy by both City government and the community.

Action 8-A.8 Implement and enforce California Code of Regulations Title 24 building standards (parts 6 and 11) to improve energy efficiency in new or substantially remodeled construction. Consider implementing incentives for builders that exceed the standards included in Title 24 and recognize their achievements over the minimum standards.

Action 8-A.9 Encourage the use of construction, roofing materials, and paving surfaces with solar reflectance and thermal emittance values per the California Green Building Code (Title 24, Part 11 of the California Code of Regulations) to minimize heat island effects.

Action 8-A.10 Integrate trees and shade into the built environment to mitigate issues such as stormwater runoff and the urban heat island effect.

Principle 8-P.8 Promote sustainability by reducing the community's greenhouse gas (GHG) emissions and fostering green development patterns – including buildings, sites, and landscapes.

City of Redlands Climate Action Plan

The City of Redlands Climate Action Plan (CAP) was designed to reinforce the City's commitment to reducing GHG emissions and demonstrate compliance with the State's GHG emissions reduction standards. The CAP includes goals and policies to promote energy efficiency, waste reduction, and resource conservation and recycling. The CAP's GHG emission targets and goals were based on meeting the goals in EO B-30-15 and SB 32 and the following guidance established in the 2017 Scoping Plan. The CAP used the 2017 Scoping Plan recommended Plan Level emissions target of 6.0 MTCO2e per capita per year for 2030. Based on the CAP analysis, the City of Redlands will achieve the 2030 target based on state actions and existing development standards and would not require any specific measures to reduce GHG emissions. Regardless, the CAP does recommend some actions including encourage the development of solar photovoltaic systems on residential and non-residential development, increase energy efficiency 5 percent over standards, increase the use of high efficiency lighting, and reduce the intensity of GHG emissions associated with water delivery and treatment.

5.6.3 ENVIRONMENTAL SETTING

Gases that trap heat in the atmosphere are called GHGs. The major concern with GHGs is that increases in their concentrations are contributing to global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long-term global temperature increases.

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because different GHGs have different warming potential, and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually world-wide, is a much more potent GHG, with 22,800 times the global warming potential as CO_2. Therefore, an emission of one metric ton (MT) of SF_6 could be reported as an

emission of 22,800 MT of CO_2e. Large emission sources are reported in million metric tons (MMT) of CO_2e. The principal GHGs are described below, along with their global warming potential.

Carbon dioxide: Carbon dioxide (CO_2) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (manmade) sources are from burning coal, oil, natural gas, and wood.

Methane: Methane (CH_4) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years, and its global warming potential is 28. Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.

Nitrous oxide: Nitrous oxide (N_2O) (laughing gas) is a colorless GHG that has a lifetime of 121 years, and its global warming potential is 265. Sources include microbial processes in soil and water, fuel combustion, and industrial processes.

Sulfur hexafluoride: Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas that has a lifetime of 3,200 years and a high global warming potential of 23,500. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.

Perfluorocarbons: Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Their global warming potential ranges from 7,000 to 11,000. Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.

Hydrofluorocarbons: Hydrofluorocarbons (HFCs) are a group of GHGs containing carbon, chlorine, and at least one hydrogen atom. Their global warming potential ranges from 100 to 12,000. Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.

Some of the potential effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more forest fires, and more drought years. Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects:

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

GHGs are produced by both direct and indirect emissions sources. Direct emissions include consumption of natural gas, heating and cooling of buildings, landscaping activities and other equipment used directly by land uses. Indirect emissions include the consumption of fossil fuels for vehicle trips, electricity generation, water usage, and solid waste disposal.

Existing Project Site Conditions

The TVSP area consists of approximately 947 acres of land that surrounds three proposed Arrow stations. The area is current developed with a mix of commercial, industrial, and residential uses. The primary GHG emissions in the TVSP area are from on-road transportation; building energy; and waste.

5.6.4 THRESHOLDS OF SIGNIFICANCE

Appendix G of State CEQA Guidelines indicates that a project could have a significant effect if it were to:

GHG-1 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

GHG-2 Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

CEQA Guidelines Section 15064.4 provides discretion to the lead agency whether to: (1) use a model of methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. In addition, CEQA does not provide guidance to determine whether the project's estimated GHG emissions are significant, but recommends that lead agencies consider several factors that may be used in the determination of significance of project related GHG emissions, including:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- 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 GHG emissions.

CEQA Guidelines Section 15130(f) describes that the effects of GHG emissions are by their very nature cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis. Additionally, CEQA Guidelines Section 15064(h)3 states that a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides requirements to avoid or lesson the cumulative problem.

The SCAQMD formed a working group to identify greenhouse gas emissions thresholds for land use projects that could be used by local lead agencies in the Basin in 2008. The working group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold, that could be applied by lead agencies, which includes the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.

- Tier 2 consists of determining whether the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
    - All land use types: 3,000 $MTCO_2E$ per year
    - Based on land use type:
        - Residential: 3,500 $MTCO_2E$ per year
        - Commercial: 1,400 $MTCO_2E$ per year
        - Mixed use: 3,000 $MTCO_2E$ per year
- Tier 4 has the following options:
    - Option 1: Reduce business as usual emissions by a certain percentage; this percentage is currently undefined.
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures.
    - Option 3, 2020 Target: For service populations (SP), including residents and employees, 4.8 $MTCO_2E$/SP/year for projects and 6.6 $MTCO_2E$/SP/year for plans.
    - Option 3, 2035 Target: 3.0 $MTCO_2E$/SP/year for projects and 4.1 $MTCO_2E$/SP/year for plans.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO2 concentrations at 450 ppm, thus stabilizing global climate.

The SCAQMD defines the Service Population (SP) as used under Tier 4 thresholds the total residents and employees associated with a project. The origin of the SP is based on CARB's *2008 Scoping Plan*. The *2008 Scoping Plan* identified that based on the GHG emissions inventories for the state, the people of California generate approximately 14 tons of GHG emissions per capita and would need to reduce annual emissions to approximately 10 tons per capita in order to meet the GHG reduction target of AB 32.

The SP threshold is widely accepted and used by numerous cities in the basin and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*. The SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* identifies a screening threshold to determine whether additional analysis is required. As noted by the SCAQMD:

> *"…the…screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects...the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the*

> *cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 [MMTCO2e/yr]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility.*"

Based on the type of programmatic planning project being proposed and the SCAQMD guidance described above, the City has determined that the SCAQMD's Tier 4, Option 3 project-level efficiency threshold methodology is an appropriate significance criterion by which to determine whether the Project emits a significant amount of GHG due to the threshold's applicability to programmatic planning projects. The City of Redlands CAP was adopted on December 5, 2017. The CAP was prepared pursuant to Section 15183.5(b) of the CEQA Guidelines to be utilized as a tiering document for the General Plan as well as future projects within the City of Redlands that are consistent with the General Plan. The CAP incorporates the guidelines established in CARB's 2017 Scoping Plan. The 2017 Scoping Plan was prepared to meet the most current GHG emissions reduction targets set in Executive Order S-3-15 and SB 32 that recommends local governments to develop plans to reduce GHG emissions to 6 MTCO2e/yr by the year 2030 and 2 MTCO2e/yr by the year 2050. Since the CAP was prepared in coordination with the General Plan that has a horizon year of 2035, the Redlands CAP also provided a year 2035 target of 5 MTCO2e/yr, which was determined through interpolation of the 2030 and 2050 GHG emissions targets from the 2017 Scoping Plan.

Since the Project is anticipated to be fully operational by 2040, for analysis purposes herein, the service population threshold for the Project's buildout year of 2040 was calculated by linear interpolation between the 2035 target of 5 MTCO2e/yr and the 2050 target of 2 MTCO2e/yr. As such, the target for the Project's buildout year of 2040 is 4.0 MTCO2e/yr and the proposed Project would be considered to create a significant cumulative GHG impact if implementation of the Project would exceed this threshold.

5.6.5 METHODOLOGY

The California Emissions Estimator Model (CalEEMod) v2020.4.0 has been used to determine construction and operational GHG emissions for buildout of the proposed Project, based on the maximum development assumptions outlined in Section 3.0*, Project Description*.

The purpose of this model is to calculate construction-source and operational-source GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from measures incorporated into the Project to reduce or minimize GHG emissions. For construction phase project emissions, GHGs are quantified and, per SCAQMD methodology, the total GHG emissions for construction activities are divided by 30-years, and then added to the annual operational phase of GHG emissions.

In addition, CEQA requires the lead agency consider 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 GHG emissions. Therefore, this section addresses whether the Project complies with various programs and measures designed to reduce GHG emissions.

5.6.6 ENVIRONMENTAL IMPACTS

As detailed in Section 3.0, *Project Description*, the proposed Project would provide a form-based code that would allow development of up to 2,400 residential units; 613,000 square feet of retail commercial, hotel, and office space; and 280,000 square feet of open space and parks within the TVSP area. However, the timing of development and operation of the development pursuant to the TVSP would be dependent upon market conditions and development applications for new projects. However, buildout of the Project is evaluated to occur by 2040 to provide a conservative analysis.

IMPACT GHG-1: THE PROJECT WOULD NOT GENERATE GREENHOUSE GAS EMISSIONS, EITHER DIRECTLY OR INDIRECTLY, THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT

Less than Significant with Mitigation Incorporated.

Construction

Construction activities would occur at different sites throughout the TVSP area through the Plan's estimated 18-year build out. The site-specific development projects that would occur pursuant to the TVSP would be temporary at any one location, but numerous site-specific development projects are anticipated to occur pursuant to buildout of the proposed TVSP. Construction of site-specific development projects would create new sources of GHG and could contribute to global climate change. Construction activities would result in the emission of GHGs from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers.

Total estimated construction related GHG emissions from build out of the proposed TVSP were amortized over 30 years per SCAQMD methodology, and as shown on Table 5.6-1 would equal approximately 554.66 MT/yr CO_2E per year.

Table 5.6-1: TVSP Construction Greenhouse Emissions

TVSP Area	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e[1]
State Street Village	6,532.27	0.69	0.31	6,638.88
The Grand Apartments	552.90	0.11	0.01	557.94
City Center Mixed-Use	547.52	0.11	0.01	552.52
Downtown Village Future Projects	832.62	0.15	0.02	841.62
University Village	6,959.00	0.66	0.26	7,054.30
New York Street Village	982.08	0.16	0.03	994.59
Total GHG Emissions	16,406.39	1.88	0.64	16,639.84
Amortized Construction Emissions ($MTCO_2e$)	**546.88**	**0.06**	**0.02**	**554.66**

Source: GHG, 2022 (Appendix E).

Operation

Long-term operations of uses included in the TVSP would generate GHG emissions from the following primary sources:

- **Area Source Emissions.** Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers,

[1] CalEEMod reports the most common GHGs emitted which include CO_2, CH_4, and N_2O. These GHGs are then converted into the CO_2e by multiplying the individual GHG by the GWP.

shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping.

- **Energy Source Emissions.** GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions.
- **Mobile Source Emissions.** The Project related GHG emissions are derived primarily from vehicle trips generated by the Project, including employee trips to and from the TVSP area, truck trips associated with the proposed uses, and trips related to residential uses. Trip characteristics from the Trip Generation (Appendix H) were utilized to quantify the GHGs from operation of the TVSP at buildout.
- **Water Supply, Treatment, and Distribution.** Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required depends on the volume of water as well as the sources of the water. For purposes of analysis, CalEEMod default parameters were used in modeling GHGs from Project water demand.
- **Solid Waste.** The proposed land uses would result in the generation and disposal of solid waste. A percentage of this waste would be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted would be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. For purposes of analysis, CalEEMod default parameters were used in modeling GHGs from Project generation of solid waste.

Service Population. Based on the 2035 General Plan estimates of 2.65 persons per household, buildout of the TVSP would generate approximately 6,421 people; and the estimate of 1 employee per 500 square feet would generate 1,039 employees, which would result in a total service population of 7,460.

Table 5.6-2: TVSP Service Population

TVSP Area	Residents	Employees	Total
State Street Village	1,916	200	2,116
The Grand Apartments	395	-	395
City Center Mixed-Use	366	21	387
Downtown Village Future Projects	432	178	610
University Village	2,783	220	3,003
New York Street Village	530	420	950
Total Service Population	**6,421**	**1,039**	**7,460**

Source: GHG, 2022 (Appendix E)

The annual GHG emissions from operation of the TVSP at buildout are summarized in Table 5.6-3. As shown, construction and operation of the Project would generate a CO2e per service population of 2.84, which would not exceed the threshold of 4.0. Thus, operational impacts would be significant.

Table 5.6-3: Operational Greenhouse Emissions

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
Annual construction-related emissions amortized over 30 years	546.88	0.06	0.02	554.66
State Street Village	4,049.78	11.79	0.13	4,385.13
The Grand Apartments	950.09	1.19	0.04	991.16
City Center Mixed-Use	1,007.15	1.28	0.04	1,052.03
Downtown Village Future Projects	2,869.47	2.82	0.12	2,975.89
University Village	7,273.88	10.17	0.29	7,616.10
New York Street Village	3,463.45	5.24	0.15	3,638.55
Total CO_2e (All Sources)	**21,213.54**			
Service Population	**7,460**			
Total CO_2e/Service Population	**2.84**			
Screening Threshold (CO_2e)	**4.0**			
Threshold Exceeded?	**NO**			

Source: GHG, 2022 (Appendix E).

Additionally, Mitigation Measure AQ-7 would be implemented to require development projects in the TVSP area to achieve 5 percent efficiency beyond the incumbent California Building Code Title 24 requirements; and Mitigation Measure AQ-8 would require enhanced water conservation for TVSP development projects. These measures are designed to reduce Project operational-source emissions of GHGs. However, it should be noted that there is no way to quantify these reductions in the CalEEMod. Therefore, to provide a conservative disclosure of Project emissions, no reductions in emissions are assumed to occur even with implementation of the below measures. As the Project total GHG emissions per service population would not exceed the screening threshold of 4.0 $MTCO_2e$ per service population per year, Project related GHG emissions would be less than significant.

IMPACT GHG-2: THE PROJECT WOULD NOT CONFLICT WITH AN APPLICABLE PLAN, POLICY OR REGULATION ADOPTED FOR THE PURPOSE OF REDUCING THE EMISSIONS OF GREENHOUSE GASES

Less than Significant Impact. As described previously, the City of Redlands CAP was designed to reinforce the City's commitment to reducing GHG emissions and demonstrate compliance with the State's GHG emissions reduction standards. The CAP used the 2017 Scoping Plan recommended Plan Level emissions target of 6.0 MTCO2e per capita per year for 2030. As described in Impact GHG-1, the TVSP would result in GHG emissions per service population that would be less than 4.0 MTCO2e, and therefore would be consistent with the CAP emission goals. Also, the Project would implement CalGreen building standards, as verified through the City's permitting process, that include requirements such as solar photovoltaic systems, increased energy and water efficiency.

The TVSP development would include contemporary, energy-efficient/energy-conserving design features and operational procedures. The proposed TVSP would not interfere with the state's implementation of Executive Order B-30-15 and SB 32's target of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030; or Executive Order S-3-05's target of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050 because it does not interfere with implementation of the GHG reduction measures listed in CARB's 2007 Scoping Plan or CARB's Updated Scoping Plan (2017). CARB's Updated Scoping Plan reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order S-3-05, and codified by AB 32.

The development resulting from the TVSP would include sustainable design features related to reduction of GHG emissions that would be consistent with CARB's Scoping Plans (the 2007 and 2017) that provide measures to reduce GHG emissions, which the Project is consistent with as discussed below and detailed in Tables 5.6-4 and 5.6-5 and the requirements listed and described below. Thus, the TVSP would not conflict with the CARB Scoping Plans and related regulations.

- Pavley emissions standard and Low Carbon Fuel Standard: Pavley emissions standards (AB 1493) apply to all new passenger vehicles starting with model year 2009, and the Low Carbon Fuel Standard became effective in 2010 and regulates the transportation fuel used. The second phase of implementation of the Pavley regulations per AB 1493 is referred to as the Advanced Clean Car program, which combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The TVSP is consistent with these requirements as they apply to all new passenger vehicles and vehicle fuel purchased in California.
- Energy Efficiency – Title 24/CalGreen: The proposed TVSP are subject to the CalGreen Code Title 24 building energy efficiency requirements that offer builders better windows, insulation, lighting, ventilation systems, and other features as listed in Section 5.6.2, *Regulatory Setting* that reduce energy consumption. Compliance with the CalGreen standards would be verified by the City during building permitting process.
- Renewable Portfolio Standard. As a customer of Southern California Edison (SCE), the development within the TVSP would purchase from an increasing supply of renewable energy sources and more efficient baseload generations, reduce GHG emissions, and be consistent with this requirement.
- Million Solar Roofs Program: The TVSP is consistent with this scoping plan measure as the TVSP structures would provide either solar powered or solar ready roofs, as appliable to each structure.
- Water Efficiency and Waste Diversion: Development and operation of new development pursuant to the TVSP would be implemented in consistency with water conservation requirements (as included in Title 24) and solid waste recycling and landfill diversion requirements of the State.

Table 5.6-4: Project Consistency with the CARB 2007 Scoping Plan

Action	Supporting Measures[2]	Consistency
Cap-and-Trade Program	--	**Not applicable.** These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect residential, office, and commercial projects.
Light-Duty Vehicle Standards	T-1	**Not applicable.** While these are CARB-enforced measures that are not directly applicable to the Project, vehicles that access the TVSP area are required to comply with the standards and would comply with this strategy. Electric Vehicle (EV) charging stations within the TVSP area are required to be installed on site per the 2019 Title 24 standards.
Energy Efficiency	E-1	**Consistent.** The TVSP would implement a variety of building, water, and solid waste efficiencies consistent with the most current CALGreen requirements.
	E-2	
	CR-1	
	CR-2	

[2] Supporting measures can be found at the following link: http://www.arb.ca.gov/cc/scopingplan/2013_update/appendix_b.pdf

Action	Supporting Measures[2]	Consistency
Renewables Portfolio Standard	E-3	**Not applicable.** Establishes the minimum statewide renewable energy mix.
Low Carbon Fuel Standard	T-2	**Not applicable.** Establishes reduced carbon intensity of transportation fuels.
Regional Transportation-Related GHG Targets	T-3	**Not applicable.** This is a statewide measure and is not within the purview of this Project.
Vehicle Efficiency Measures	T-4	**Not applicable.** Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.
Goods Movement	T-5 T-6	**Not applicable.** Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are not directly applicable to the Project, any activity associated with Goods Movement would be required to comply with these measures as adopted. As such, the Project would not interfere with their implementation.
Million Solar Roofs (MSR) Program	E-4	**Consistent.** The MSR program sets a goal for use of solar systems throughout the state as a whole. While the TVSP does not include solar energy generation, the non-residential building roof structures would be solar ready and residential structures would include solar power, consistent with Title 24 requirements.
Medium- & Heavy-Duty Vehicles	T-7 T-8	**Not applicable.** MD and HD trucks and trailers for industrial uses are subject to aerodynamic and hybridization requirements as established by CARB; the Project would not interfere with implementation of these requirements and programs.
Industrial Emissions	I-1 I-2 I-3 I-4 I-5	**Not applicable.** These measures are applicable to large industrial facilities (> 500,000 $MTCO_2e/yr$) and other intensive uses such as refineries.
High Speed Rail	T-9	**Not applicable.** Supports increased mobility choice.
Green Building Strategy	GB-1	**Consistent.** The Project would include a variety of building, water, and solid waste efficiencies consistent with the current CALGreen requirements.
High Global Warming Potential Gases	H-1 H-2 H-3 H-4 H-5 H-6 H-7	**Not applicable.** The Project is not a substantial source of high GWP emissions and would comply with any future changes in air conditioning, fire protection suppressant, and other requirements.
Recycling and Waste	RW-1 RW-2 RW-3	**Consistent.** The Project would be required to recycle a minimum of 65 percent from construction activities and Project operations per State and City requirements.
Sustainable Forests	F-1	**Consistent.** The TVSP would support carbon sequestration by providing new trees per the Project landscaping.
Water	W-1 W-2 W-3 W-4 W-5 W-6	**Consistent.** The development projects within the TVSP area would be required to install low-flow fixtures and efficient landscaping per State requirements.
Agriculture	A-1	**Not applicable.** The Project is not an agricultural use and the TVSP area does not include agricultural uses.

Table 5.6-5: Project Consistency with the CARB 2017 Scoping Plan

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50 percent of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	**Consistent.** The TVSP area would use energy from SCE, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The TVSP would not interfere with or obstruct SCE energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		**Consistent.** The development projects under the TVSP would be designed and constructed to implement the energy efficiency measures. The TVSP would not interfere with or obstruct policies or strategies to establish annual targets for statewide energy efficiency savings and demand reduction.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		**Consistent.** The development projects pursuant to the TVSP would be designed and constructed to implement energy efficiency measures acting to reduce electricity consumption. The TVSP development would include energy efficient HVAC, lighting and equipment that meet the current Title 24 Standards.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	**Consistent.** This is a CARB Mobile Source Strategy. The TVSP would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty electric vehicle 2025 targets.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		**Consistent.** This is a CARB Mobile Source Strategy. The TVSP would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty electric vehicle 2030 targets.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		**Consistent.** This is a CARB Mobile Source Strategy. The TVSP would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.
Medium- and Heavy-Duty GHG Phase 2.		**Consistent.** This is a CARB Mobile Source Strategy. The TVSP would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be		**Consistent.** This is a CARB Mobile Source Strategy. The TVSP would not obstruct or interfere with CARB efforts improve transit-source emissions.

Action	Responsible Parties	Consistency
zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.		**Consistent.** This is a CARB Mobile Source Strategy. The TVSP would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		**Consistent.** The Project implements infill residential in walkable communities near transit stations, which that would act to reduce VMT. Please refer to the Project VMT Assessment and EIR Section 5.14 *Transportation.*
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	**Consistent.** This is a CARB Mobile Source Strategy. The TVSP would not obstruct or interfere with CARB efforts to Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).
By 2019, adjust performance measures used to select and design transportation facilities. Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g. via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	**Consistent.** The TVSP would not obstruct or interfere with agency efforts to harmonize transportation facility project performance with emissions reductions and increase competitiveness of transit and active transportation modes.

Action	Responsible Parties	Consistency
By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	**Consistent.** The TVSP would not obstruct or interfere with agency efforts to develop pricing policies to support low-GHG transportation.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	**Consistent.** This measure would apply to all trucks accessing the TVSP area, this may include existing trucks or new trucks that are part of the statewide goods movement sector. The TVSP would not obstruct or interfere with agency efforts to Improve freight system efficiency.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		**Consistent.** The TVSP would not obstruct or interfere with agency efforts to deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18 percent.	CARB	**Consistent.** When adopted, this measure would apply to all fuel purchased and used in the state. The TVSP would not obstruct or interfere with agency efforts to adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18 percent.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40 percent reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	**Consistent.** The TVSP would be required to comply with this measure and reduce any Project-source SLPS emissions accordingly. The TVSP would not obstruct or interfere agency efforts to reduce SLPS emissions.
50 percent reduction in black carbon emissions below 2013 levels.		
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	**Consistent.** The TVSP would implement waste reduction and recycling measures consistent with State requirements. The TVSP would not obstruct or interfere agency efforts to support organic waste landfill reduction goals in the SLCP and SB 1383.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	**Consistent.** The TVSP would be required to comply with any applicable Cap-and-Trade Program provisions. The TVSP would not obstruct or interfere agency efforts to implement the post-2020 Cap-and-Trade Program.

Action	Responsible Parties	Consistency
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	**Consistent.** The TVSP would not obstruct or interfere agency efforts to protect land from conversion through conservation easements and other incentives.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		**Consistent.** The TVSP area is urban and disturbed property and does not comprise an area that would effectively provide for substantial carbon sequestration. The TVSP would install landscaping that would enhance the sequestration capacity and would not obstruct or interfere agency efforts to increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		**Consistent.** Where appropriate, project designs would incorporate wood or wood products. The TVSP would not obstruct or interfere agency efforts to encourage use of wood and agricultural products to increase the amount of carbon stored in the natural and built environments.
Establish scenario projections to serve as the foundation for the Implementation Plan		**Consistent.** The TVSP would not obstruct or interfere agency efforts to establish scenario projections to serve as the foundation for the Implementation Plan.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	**Consistent.** The TVSP would not obstruct or interfere agency efforts to establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	**Consistent.** The TVSP would not obstruct or interfere agency efforts to implement the Forest Carbon Plan.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	**Consistent.** The TVSP would not obstruct or interfere agency efforts to identify and expand funding and financing mechanisms to support GHG reductions across all sectors.

Further, the TVSP is consistent with AB 32 and SB 32 through implementation of regulatory requirements that address GHG emissions related to building energy, solid waste management, wastewater, and water conveyance. Thus, the Project would be consistent with the State's requirements for GHG reductions. In

addition, as detailed in Table 5.6-6 below, the Project would not conflict with the relevant General Plan policies related to GHG emissions.

Table 5.6-6: Project Consistency with the City General Plan Sustainable Community Element Policies

General Plan Policy	Consistency
Principle 8-P.1 Promote energy efficiency and conservation technologies and practices that reduce the use and dependency of nonrenewable resources of energy by both City government and the community.	**Consistent.** As described in previously, the TVSP would implement a variety of building, water, and solid waste efficiencies consistent with the most current CALGreen requirements. Therefore, the Project is consistent with Principle 8-P.1.
Action 8-A.8 Implement and enforce California Code of Regulations Title 24 building standards (parts 6 and 11) to improve energy efficiency in new or substantially remodeled construction. Consider implementing incentives for builders that exceed the standards included in Title 24 and recognize their achievements over the minimum standards.	**Consistent.** As described previously, the TVSP would implement the most current CALGreen requirements and Mitigation Measure AQ-8 requires enhanced energy efficiency to achieve a 5% efficiency beyond the most current Title 24 building standards. Therefore, the proposed TVSP is consistent with Action 8-A.8.
Action 8-A.9 Encourage the use of construction, roofing materials, and paving surfaces with solar reflectance and thermal emittance values per the California Green Building Code (Title 24, Part 11 of the California Code of Regulations) to minimize heat island effects.	**Consistent.** As described previously, the TVSP would implement the most current CALGreen requirements and Mitigation Measure AQ-8 requires enhanced energy efficiency to achieve a 5% efficiency beyond the most current Title 24 building standards. This includes use of materials with solar reflectance and thermal emittance required by Title 24. Therefore, the proposed Project is consistent with Action 8-A.9.
Action 8-A.10 Integrate trees and shade into the built environment to mitigate issues such as stormwater runoff and the urban heat island effect.	**Consistent.** The proposed Project includes substantial landscaping throughout the public realm and requires landscaping be included in private development projects. Therefore, the proposed TVSP is consistent with Action 8-A.10.
Principle 8-P.8 Promote sustainability by reducing the community's greenhouse gas (GHG) emissions and fostering green development patterns – including buildings, sites, and landscapes.	**Consistent.** As detailed in Section 3.0, *Project Description*, the TVSP would implement green development patterns of mixed-use communities with pedestrian and bicycle circulation near transit stations. The pattern of development is intended to reduce vehicle miles traveled while providing for projected growth. Thus, the proposed TVSP is consistent with Action 8-P.8.

Overall, the proposed TVSP would not result in a conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. The TVSP would be implemented in compliance with state energy standards provided in Title 24, in addition to provision of sustainable design features. The TVSP would not interfere with the state's implementation of Executive Order B-30-15 and SB 32's target of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030; or Executive Order S-3-05's target of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050 because it would be consistent with the CARB 2007 and 2017 Scoping Plans, which are intended to achieve the reduction targets required by the state. In addition, the TVSP would be consistent with the relevant City General Plan policies and the City's Climate Action Plan. Thus, the proposed TVSP would not result in a

conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

5.6.7 CUMULATIVE IMPACTS

GHG emissions impacts are assessed in a cumulative context, since no single project can cause a discernible change to climate. Climate change impacts are the result of incremental contributions from natural processes, and past and present human-related activities. Therefore, the area in which a TVSP in combination with other past, present, or future projects, could contribute to a significant cumulative climate change impact would not be defined by a geographical boundary such as a project site or combination of sites, city or air basin. GHG emissions have high atmospheric lifetimes and can travel across the globe over a period of 50 to 100 years or more. Even though the emissions of GHGs cannot be defined by a geographic boundary and are effectively part of the global issue of climate change, CEQA places a boundary for the analysis of impacts at the state's borders. Thus, the geographic area for analysis of cumulative GHG emissions impacts is the State of California.

Executive Order S-3-05, Executive Order B-30-15, AB 32, and SB 32 recognizes that California is the source of substantial amounts of GHG emissions and recognizes the significance of the cumulative impact of GHG emissions from sources throughout the state and sets performance standards for reduction of GHGs.

The analysis of GHG emission impacts under CEQA contained in this EIR effectively constitutes an analysis of a project's contribution to the cumulative impact of GHG emissions. As described previously, the estimated GHG emissions from development and operation of the proposed TVSP at buildout would not exceed the service population threshold of 4.0 MTCO2e per year. Therefore, the contribution of the TVSP to significant cumulative GHG impacts is less than significant and not cumulatively considerable.

5.6.8 EXISTING REGULATIONS, STANDARD CONDITIONS, AND PLANS, PROGRAMS, OR POLICIES

Existing Regulations

State

- Clean Car Standards – Pavley Assembly Bill 1493
- California Executive Order S-3-05
- Assembly Bill 32 (Global Warming Solutions Act of 2006)
- Senate Bill 375
- California Executive Order B-30-15
- Senate Bill 32
- California Green Building Standards Code (Code of Regulations, Title 24 Part 6)

Local

- City of Redlands Climate Action Plan
- City of Redlands General Plan Sustainable Community Element

Standard Conditions

None.

Plans, Programs, or Policies

None.

5.6.9 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Impact GHG-1 would be less than significant. As a result of compliance with existing regulatory requirements Impact GHG-2 would be less than significant.

5.6.10 MITIGATION MEASURES

Mitigation measures identified below are also listed in Draft EIR Section 5.2.15, *Air Quality*.

Mitigation Measure AQ-7: Enhanced Energy Efficiency: Prior to the issuance of building permits, the Project applicant shall submit energy usage calculations to the Planning Division showing that the Project is designed to achieve 5 percent (%) efficiency beyond the incumbent California Building Code Title 24 requirements. Example of measures that reduce energy consumption include, but are not limited to, the following (it being understood that the items listed below are not all required and merely present examples; the list is not all-inclusive and other features that reduce energy consumption also are acceptable):

- Increase in insulation such that heat transfer and thermal bridging is minimized;
- Limit air leakage through the structure and/or within the heating and cooling distribution system;
- Use of energy-efficient space heating and cooling equipment;
- Installation of electrical hook-ups at loading dock areas;
- Installation of dual-paned or other energy efficient windows;
- Use of interior and exterior energy efficient lighting that exceeds then incumbent California Title 24 Energy Efficiency performance standards;
- Installation of automatic devices to turn off lights where they are not needed;
- Application of a paint and surface color palette that emphasizes light and off-white colors that reflect heat away from buildings;
- Design of buildings with "cool roofs" using products certified by the Cool Roof Rating Council, and/or exposed roof surfaces using light and off-white colors;
- Design of buildings to accommodate photo-voltaic solar electricity systems or the installation of photo-voltaic solar electricity systems;
  Installation of ENERGY STAR-qualified energy-efficient appliances, heating and cooling systems, office equipment, and/or lighting products.

Mitigation Measure AQ-8: Enhanced Water Conservation. To reduce water demands and associated energy use, subsequent development proposals within the TVSP area shall incorporate a Water Conservation Strategy and demonstrate a minimum 30% reduction in outdoor water usage when compared to baseline water demand (total expected water demand without implementation of the Water Conservation Strategy)[3]. Development proposals within the TVSP area shall also implement the following:

- Landscaping palette emphasizing drought tolerant plants;

[3] The analysis includes a reduction of 20% indoor water usage consistent with the current CALGreen Code (11) for residential and non-residential land uses. Per CALGreen, the reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the California Building Standards Code.

- Use of water-efficient irrigation techniques;
- U.S. EPA Certified WaterSense labeled or equivalent faucets, high-efficiency toilets (HETs), and water-conserving shower heads.

5.6.113 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Though impacts related to Impact GHG-1 would be below thresholds prior to inclusion of mitigation, Mitigation Measure AQ-7 and AQ-8 would further reduce GHG emissions and impacts would be less than significant.

REFERENCES

City of Redlands General Plan Update and Climate Action Plan Environmental Impact Report 2017. Accessed: https://www.cityofredlands.org/post/planning-division-general-plan

City of Redlands 2035 General Plan, 2017. Accessed: https://www.cityofredlands.org/post/planning-division-general-plan

City of Redlands Municipal Code. Accessed: https://codelibrary.amlegal.com/codes/redlandsca/latest/redlands_ca/0-0-0-1

SCAG 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction. Accessed: https://scag.ca.gov/sites/main/files/file-attachments/2016_2040rtpscs_finalgrowthforecastbyjurisdiction.pdf?1605576071

Urban Crossroads. "Transit Villages District and Specific Plan Greenhouse Gas Impact Analysis" 2022. Appendix E.