4.3 Air Quality

The following analysis is based in part on the following:

- *Summary of CalEEMod Model Runs and Output for TTM-20188*, EPC Environmental, November 12, 2021, and is included as Technical Appendix A to this Initial Study.

- MDAQMD *California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, February 2020,* available at: https://www.mdaqmd.ca.gov/rules/overview.

Air Quality Setting

Topography and Climate

The Project site is located within the Mojave Desert portion of the Mojave Desert Air Basin (MDAB) is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel's by the Cajon Pass (4,200 ft). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley). The MDAB is classified as a dry-hot desert (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least three months have maximum average temperatures over 100.4° F.[1]

Air Pollutants and Health Effects

Air Pollutants are the amounts of foreign or natural substances occurring in the atmosphere that may adversely affect humans, animals, vegetation, and/or materials. The Air Pollutants regulated by the MDAQMD that apply to the Project are described below.[2]

Carbon Monoxide (CO). A colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels. Over 80 percent of the CO emitted in urban areas is contributed by motor vehicles. Carbon monoxide is harmful when breathed because it displaces oxygen in the blood and deprives the heart, brain, and other vital organs of oxygen.

Nitrogen Dioxide NOx). Nitrogen dioxide (NO2) is a byproduct of fuel combustion. The main form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts quickly to form NO2, creating the mixture of NO and NO2, commonly called NOx. NOx can irritate eyes, nose, throat, and lungs, possibly leading to coughing, shortness of breath, tiredness, and nausea.

Particulate Matter ($PM_{2.5}$ and PM_{10}): One type of particulate matter is the soot seen in vehicle exhaust. Fine particles — less than one-tenth the diameter of a human hair — pose a serious threat to human health, as they can penetrate deep into the lungs. PM can be a primary pollutant or a

[1] MDAQMD CEQA Guidelines, February 2020, Page 6-7.
[2] http://www.aqmd.gov/home/air-quality

secondary pollutant from hydrocarbons, nitrogen oxides, and sulfur dioxides. Diesel exhaust is a significant contributor to PM pollution.

Sulfur Dioxide (SO_2). A strong-smelling, colorless gas that is formed by the combustion of fossil fuels. Power plants, which may use coal or oil high in sulfur content, can be significant sources of SO_2. Sulfur dioxide irritates the skin and mucous membranes of the eyes, nose, throat, and lungs.

Ozone: Ozone is formed when several gaseous pollutants react in the presence of sunlight. Most of these gases are emitted from vehicle tailpipe emissions. Ozone can reduce lung function worsen bronchitis, emphysema, and asthma.

Volatile Organic Compounds (VOCs): VOCs contribute to smog formation or may themselves be toxic. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Health effects may include eye, nose, and throat irritation, headaches, loss of coordination, and nausea.

Non-attainment Designations and Classification Status

The United States Environmental Protection Agency and the California Air Resources Board have designated portions of the District non-attainment for various pollutants. An "attainment" designation for an area signifies that criteria pollutant concentrations did not exceed the established standard. In contrast to attainment, a "non-attainment" designation indicates that pollutant concentration criteria have exceeded the established standard. Table 4.3-1 shows the attainment status of criteria pollutants in the MDAB.

Table 4.3-1- Attainment Status of Criteria Pollutants in the Mojave Desert Air Basin

Criteria Pollutant	State Designation	Federal Designation
Ozone – 1-hour standard	Nonattainment	No Standard
Ozone – 8-hour standard	Nonattainment	Nonattainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (N0x)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Unclassified /Attainment	Unclassified/Attainment
Lead	Attainment	Attainment

Source: California Air Resources Board, 2015.

As shown in Table 4.3-1 above, the MDAB is classified as Nonattainment for Ozone – 1-hour standard, Ozone – 8-hour standard, Respirable Particulate Matter (PM_{10}), and Fine Particulate Matter ($PM_{2.5}$)

Threshold 4.3 (a). Would the Project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Conflict with or obstruct implementation of the applicable air quality plan?			✓	

Impact Analysis

The following analysis is consistent with the preferred analysis approach recommended by the MDAQMD *California Environmental Quality Act (CEQA) and Federal Conformity Guidelines.*

Conformity with Air Quality Management Plans

The Project is located within the Mojave Desert Air Basin and under the jurisdiction of the Mojave Desert Air Quality Management District. Under the Federal Clean Air Act, the Mojave Desert Air Quality Management District has adopted a variety of attainment plans (i.e., "Air Quality Management Plans") for various non-attainment pollutants. A complete list of the different air quality management plans is available from the Mojave Desert Air Quality Management District located at 14306 Park Avenue, Victorville, CA 92392 or on their website: https://www.mdaqmd.ca.gov/rules/overview.

The Mojave Desert Air Quality Management District is responsible for maintaining and ensuring compliance with the various Air Quality Management Plans. Conformity is determined based on the following criteria:

- A project is non-conforming if it conflicts with or delays the implementation of any applicable attainment or maintenance plan. A project may also be non-conforming if it increases the gross number of dwelling units, increases the number of trips, or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan).

- A project is conforming if it complies with all applicable Mojave Desert Air Quality Management District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan).

Consistency with Emission Thresholds

As shown in Tables 4.3-2 and 4.3-3 below, the Project would not exceed Mojave Desert Air Quality Management District's significance thresholds for any criteria pollutant during construction or long-term operation. Accordingly, the Project's air quality emissions are less than significant.

Consistency with Control Measures

The construction contractors must comply with rules, regulations, and control measures to control fugitive dust from grading (Rule 403) and the application of architectural coatings during building construction (Rule 1113).

Consistency with Growth Forecasts

The Project site is designated as R-1 (Single Family Residential) by the General Plan Land Use & Zoning Map. This land use designation is consistent with the land use plan that the MDAQMD used to generate the growth forecasts for the air quality plans referenced above.

Threshold 4.3 (b). Would the Project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	

Impact Analysis

The following provides an analysis based on the applicable regional significance thresholds established by the Mojave Desert Air Quality Management District to meet national and state air quality standards.

Table 4.3-2. MDAQMD Air Quality Significance Thresholds

Pollutant	Daily Emissions (pounds/day)
Carbon Monoxide (CO)	548
Oxides of Nitrogen (NOx)	137
Volatile Organic Compounds (VOC)	137
Oxides of Sulphur (SOx)	137
Particulate Matter (PM10)	82
Particulate Matter (PM 2.5)	65

Source: MDAQMD CEQA Guidelines, February 2020, Table 6.

Both construction and operational emissions for the Project were estimated based on a worst-case scenario of 194 dwelling units by using the California Emissions Estimator Model (CalEEMod), which is a statewide land-use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model can be used for various

situations where an air quality analysis is necessary or desirable, such as California Environmental Quality Act (CEQA) documents and authorized by the Mojave Desert Air Quality Management District.

Construction Emissions

Construction activities associated with the Project will result in emissions of CO, VOCs, NOx, SOx, PM10, and PM2.5. Construction-related emissions are expected from the following on-site and off-site construction activities:

- Site Preparation 60 - days
- Grading 155 - days
- Building Construction 1550 – days
- Architectural Coating 110 – days
- Paving 110-days

Construction activities produce combustion emissions from various sources (equipment engines, tenant improvements, and motor vehicles transporting the construction crew). Exhaust emissions from construction activities envisioned on-site would vary daily as construction activity levels change. Construction emissions are shown in Table 4.3-3 below.

Table 4.3-3. Construction Emissions

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	ROG	CO	SOx	PM10	PM2.5
	38.89	99.52	29.66	0.06	9.38	5.46
Regional Threshold	**137**	**137**	**548**	**137**	**82**	**65**
Exceeds Regional Threshold?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: MDAQMD and CalEEMod 2020.4.0

Operational Emissions

The Project would be operated as a residential subdivision. Typical operational characteristics include residents and visitors traveling to and from the site, delivery of goods and services to the residents, energy use, and maintenance activities. Table 4.3-4 shows the Mojave Desert Air Quality Management District thresholds for operational emissions compared to the Project's maximum daily emissions.

Table 4.3-4. Operational Emissions

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	ROG	CO	SOx	PM10	PM2.5
	11.50	18.03	74.31	0.14	11.54	3.39
Regional Threshold	**137**	**137**	**548**	**137**	**82**	**65**
Exceeds Regional Threshold?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: MDAQMD and CalEEMod 2020.4.0 .

Table 4.3-4 above shows that operational related emissions would not exceed Mojave Desert Air Quality Management District thresholds. Accordingly, the Project would not emit substantial concentrations of these pollutants during operation and would not contribute to an existing or projected air quality violation on a direct or cumulative basis. As such, impacts are less than significant, and no mitigation measures are required.

Threshold 4.3 (d). Would the Project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Expose sensitive receptors to substantial pollutant concentrations?				✓

Impact Analysis

The Project is a residential subdivision and does not produce toxic air emissions such as those generated by industrial manufacturing uses or uses that generate heavy-duty diesel truck emissions. According to the MDAQMD, residences, schools, daycare centers, playgrounds, and medical facilities are considered sensitive receptor land uses. The nearest sensitive receptors are the residential neighborhood and Sunset Ridge Park, located approximately 350-feet east of the Project site.

The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated:

- □ Any industrial project within 1,000 feet;
- □ A distribution center (40 or more trucks per day) within 1,000 feet;
- □ A major transportation project (50,000 or more vehicles per day) within 1,000 feet;
- □ A dry cleaner using perchloroethylene within 500 feet; and,
- □ A gasoline dispensing facility within 300 feet.

The Project is a proposal to construct 194 single-family units. The Project does not meet the criteria listed above. As a result, no impact will occur.

Threshold 4.3 (d). Would the Project	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

Impact Analysis

Potential odor sources associated with the Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities, and the temporary storage of typical solid waste (refuse) associated with the proposed Project's long-term operational uses.

The construction odor emissions would be temporary, short-term, and intermittent and would cease upon completion of the respective construction phase and are thus considered less than significant. Project-generated refuse is expected to be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. Therefore, odors associated with the proposed Project construction and operations would be less than significant, and no mitigation is required.

4.8 Greenhouse Gas Emissions

The following documents were used in the preparation of this analysis:

- *City of Victorville Climate Action Plan*, September 2015.
- *Summary of CalEEMod Model Runs and Output for TTM-20188*, EPC Environmental, November 12, 2021, is included as Technical Appendix A to this Initial Study.
- Mojave Desert Air Quality Management District, *California Environmental Quality Act (CEQA) And Federal Conformity Guidelines,* February 2020.

Threshold 4.8 (a-b) Would the Project:	**Potentially Significant or Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	

Impact Analysis

According to CEQA Guidelines Section 15064.4, when making a determination of the significance of greenhouse gas emissions, the "*lead agency shall have discretion to determine, in the context of a particular project, whether to use a model or methodology to quantify greenhouse gas emissions resulting from a project and which model or methodology to use*." Moreover, CEQA Guidelines section 15064.7(c) provides that "*a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts*" on the condition that "the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

Mojave Desert Air Quality Management District Thresholds of Significance

The Mojave Desert Air Quality Management District (MDAQMD) has established GHG significance thresholds of 100,000 tons annually for this type of Project. A summary of the projected annual operational greenhouse gas emissions, including amortized construction-related emissions associated with the development of the Project, is provided in Table 4.8-1.

Construction GHG Emissions

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). Table 4.8-1 illustrates the specific construction generated GHG emissions that would result from the construction of the Project.

Table 4.8-1. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Construction	
Annual (Maximum Tons per Year)	
Construction in Year One	613 tons
Construction in Year Two	414 tons
Construction in Year Three	415 tons
Construction in Year Four	411 tons
Construction in Year Five	408 tons
Construction in Year Six	406 tons
Construction in Year Seven	373 tons
Construction in Year Eight	71 tons
MDAQMD Annual Threshold	*100,000 metric tons/year*
Exceed Annual Threshold?	**No**
Daily (Maximum Pounds per Day)	
Construction in Year One	6,199 pounds
Construction in Year Two	3,501 pounds
Construction in Year Three	3,479 pounds
Construction in Year Four	3,459 pounds
Construction in Year Five	3,439 pounds
Construction in Year Six	3,420 pounds
Construction in Year Seven	3,403 pounds
Construction in Year Eight	2,314 pounds
MDAQMD Daily Threshold	*548,000 pounds/day*
Exceed Daily Threshold?	**No**

Operational GHG Emissions

Operation of the Project would result in GHG emissions associated with energy, water, and waste use, along with vehicle trips generated by residents. Construction emissions have been amortized over the estimated 50-year life of the Project and added to the operational totals identified in Table 4.8-2, which summarizes all the direct and indirect annual GHG emissions levels associated with the Project.

Table 4.8-2. Operational Greenhouse Gas Emissions

Emissions Source ***Annual (Maximum Tons per Year)***	**CO_2e (Metric Tons/ Year)**
Construction Emissions (amortized over the 50-year life of theProject)	62 tons
Area Source	87 tons
Energy	570 tons
Mobile	1,829 tons
Waste	114 tons
Water	62 tons
Total	**2,724 tons**
MDAQMD Annual Threshold	*100,000 metric tons/year*
Exceed Annual Threshold?	**No**
Emissions Source ***Summer Daily (Maximum Pounds per Day)***	**CO_2e (Pounds/ Day)**
Construction Emissions (amortized over the 50-year life of theProject)	124 pounds
Area Source	2,302 pounds
Energy	1,779 pounds
Mobile	12,118 pounds
Waste	689 pounds
Water	374 pounds
Total	**17,386 pounds**
MDAQMD Daily Threshold	*548,000 pounds/day*
Exceed Daily Threshold?	**No**

Emissions Source *Winter Daily (Maximum Pounds per Day)*	CO_2e (Pounds/ Day)
Construction Emissions (amortized over the 50-year life of theProject)	124 pounds
Area Source	2,302 pounds
Energy	1,779 pounds
Mobile	11,114 pounds
Waste	689 pounds
Water	374 pounds
Total	**16,382 pounds**
MDAQMD Daily Threshold	*548,000 pounds/day*
Exceed Daily Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Appendix A for Model Data Outputs.

As shown in Table 4.8-2, the Project can generate a total of approximately 2,724 $MTCO_2e$ tons per year. As such, the Project would not exceed the MDAQMD's significance threshold of 100,000 $MTCO_2e$ tons per year. Thus, Project-related emissions would not have a significant direct or indirect impact on greenhouse gas emissions that could impact climate change, and no mitigation or further analysis is required.

Threshold 4.8 (b) Would the Project:	**Potentially Significant or Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?		✓		

City of Victorville GHG Emissions Screening Table

The purpose of the Screening Tables is to provide guidance in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The analysis, methodology, and significance determination (thresholds) are based upon the GHG Reduction Plan and GHG Reduction Plan Update, which include GHG emission inventories (2008 and 2016); forecasts for years 2020, 2030, and 2045; GHG reduction targets for years 2020 and 2030; and the goals and policies to reach the targets.

The Screening Tables assign points for each option incorporated into a project as mitigation or a project design feature (collectively referred to as "feature"). The point values correspond to the minimum emissions reduction expected from each feature. The menu of features allows maximum flexibility and options for how development projects can implement the GHG reduction measures. **Projects that garner at least 45 points will be consistent with the reduction quantities anticipated in the GHG Reduction Plan Update**. Consistent with *CEQA Guidelines*, such projects would be determined to have a less than significant individual and cumulative impact on GHG emissions.

The Screening Tables use a base level of efficiency that corresponds to the California Building Energy Efficiency Standards for Residential and Non-residential Buildings (Title 24, Part 6) that became effective January 1, 2020. These are the statewide minimum requirements of efficiency that are currently in effect.

Table 4.8-3 lists the GHG reduction measure options and the associated point values in the GHG Screening Table.

Table 4.8-3: Screening Table for Implementing GHG Performance Standards for Residential Development

Reduction Measure Energy: Exceed Energy Efficiency Standards in New Residential Units			
Building Envelope			
Insulation	• 2019 Title 24 Requirements (walls R-8, roof/attic R-30) • Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38) • Greatly Enhanced Insulation (spray foam wall insulated walls R-18 or higher, roof/attic R-38 or higher)	4 points 9 points 11 points	4
Windows	• 2019 Title 24 Windows (0.3 U-factor, 0.23 solar heat gain coefficient [SHGC]) • Enhanced Window (0.28 U-Factor, 0.22 SHGC) • Greatly Enhanced Window (less than 0.28 U-Factor, less than 0.22 SHGC)	2 points 4 points 5 points	2
Cool Roofs	• Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) • Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75thermal emittance)	6 points 7 points	6
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excessair leakage. • Air barrier applied to exterior walls, caulking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent) • Blower Door HERS Verified Envelope Leakage or equivalent	6 points 5 points	
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls. • Modest Thermal Mass (10% of floor or 10% of walls 12" or more thickexposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood, or other insulating materials) • Enhanced Thermal Mass (20% of floor or 20% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor coveringsuch as carpet, linoleum, wood, or other insulating materials)	1 point 2 points	

Indoor Space Efficiencies			
Heating/ Cooling Distribution System	• Minimum Duct Insulation (R-6 required) • Enhanced Duct Insulation (R-8) • Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	2 points 4 points 5 points 7 points	2
Space Heating/ Cooling Equipment	• 2019 Title 24 Minimum HVAC Efficiency (SEER 13/75% AFUE or 7.7 HSPF) • Improved Efficiency HVAC (SEER 14/78% AFUE or 8 HSPF) • High Efficiency HVAC (SEER 15/80% AFUE or 8.5 HSPF) • Very High Efficiency HVAC (SEER 16/82% AFUE or 9 HSPF)	1 points 2 points 4 points 5 points	1
Water Heaters	• 2019 Title 24 Minimum Efficiency (0.57 Energy Factor) • Improved Efficiency Water Heater (0.675 Energy Factor) • High Efficiency Water Heater (0.72 Energy Factor) • Very High Efficiency Water Heater (0.92 Energy Factor) • Solar Pre-heat System (0.2 Net Solar Fraction) • Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	4 points 7 points 9 points 11 points 2 points 5 points	4
Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours. • All peripheral rooms within the living space have at least one window (required) • All rooms within the living space have daylight (through use of windows, solar tubes, skylights, etc.) • All rooms daylighted	0 points 1 point 1 point	
Artificial Lighting	• Efficient Lights (25% of in-unit fixtures considered high efficiency. High efficiency is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40watt) • High Efficiency Lights (50% of in-unit fixtures are high efficiency) • Very High Efficiency Lights (100% of in-unit fixtures are high efficiency)	5 points 6 points 7 points	5
Appliances	• Energy Star Refrigerator (new) • Energy Star Dishwasher (new) • Energy Star Washing Machine (new)	1 point 1 point 1 point	3
Miscellaneous Residential Building Efficiencies			
Building Placement	North/south alignment of building or other building placement such that the orientation of the buildings optimizes natural heating, cooling, and lighting.	3 points	
Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on June 21.	2 points	
Energy Star Homes	EPA Energy Star for Homes (version 3 or above)	15 points	
Independent Energy Efficiency Calculations	Provide point values based upon energy efficiency modeling of the Project. Note that engineering data will be required documenting the energy efficiency and point values based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	
Other	This allows innovation by the applicant to provide design features that increase the energy efficiency of the Project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	

Existing Residential Retrofits	Having residential developments within walking and biking distances of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled (VMT). The suburban Project will have at least three of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, OpenSpace, or Office. The mixed-use development should encourage walking and other non-auto modes of transport from residential to office/commercial locations (and vice versa). The Project should minimize the need for external trips by including services/facilities for daycare, banking/ATM, restaurants, vehicle refueling, and shopping.	TBD	
Reduction Measure Energy 3: All Electric Homes			
All-Electric Homes	All electric homes reduce GHG emissions, as the grid electricity they use is generated using less carbon over time. Grid electricity in California will be 60 percent renewable energy by 2030 and 100 percent renewable energy by 2040.	12 points	
Reduction Measure Energy-7: Clean Energy			
Residential Renewable Energy Generation			
Photovoltaic	Solar Photovoltaic panels installed on individual homes or in collective neighborhood arrangements such that the total power provided augments: • 30 percent of the power needs of the Project • 40 percent of the power needs of the Project • 50 percent of the power needs of the Project • 60 percent of the power needs of the Project • 70 percent of the power needs of the Project • 80 percent of the power needs of the Project • 90 percent of the power needs of the Project • 100 percent of the power needs of the Project	9 points 12 points 17 points 20 points 23 points 25 points 28 points 31 points	
Wind Turbines	Some areas of the County lend themselves to wind turbine applications. Analysisof the areas' capability to support wind turbines should be evaluated prior to choosing this feature. Individual wind turbines at homes or collective neighborhood arrangements of wind turbines such that the total power provided augments: • 30 percent of the power needs of the Project • 40 percent of the power needs of the Project • 50 percent of the power needs of the Project • 60 percent of the power needs of the Project • 70 percent of the power needs of the Project • 80 percent of the power needs of the Project • 90 percent of the power needs of the Project • 100 percent of the power needs of the Project	9 points 12 points 17 points 21 points 23 points 25 points 28 points 31 points	
Off-site Renewable Energy Project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing homes. These off-site renewable energy retrofit project proposals will be determined on a case-by- case basis and shall be accompanied by a detailed plan that documents the quantity of renewable energy the proposal would generate. Point values will be determined based upon the energy generated by the proposal.	TBD	

Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the Project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energyand the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	
Reduction Measure Water : Exceed Water Efficiency Standards			
Residential Irrigation and Landscaping			
Water Efficient Landscaping	• Limit conventional turf to < 25% of required landscape area • Limit conventional turf to < 50% of required landscape area • No conventional turf (warm season turf to < 50% of required landscapearea and/or low water using plants are allowed) • Only California Native Plants that require no irrigation or some supplemental irrigation	0 points 2 points 4 points 5 points	
Water Efficient Irrigation Systems	• Low precipitation spray heads < 0.75"/hr or drip irrigation • Weather based irrigation control systems or moisture sensors (demonstrate 20% reduced water use)	1 point 2 points	1
Storm Water Reuse Systems	Innovative on-site storm water collection, filtration, and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	
Residential Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	2 points	3
Toilets	Water Efficient Toilets (1.5 gpm)	2 points	2
Faucets	Water Efficient Faucets (1.28 gpm)	2 points	2
Dishwasher	Water Efficient Dishwasher (6 gallons per cycle or less)	1 point	1
Washing Machine	Water Efficient Washing Machine (Water factor <5.5)	1 point	1
WaterSense	EPA WaterSense Certification	7 points	7
Increase Residential Reclaimed Water Use			
Recycled Water	5% of the total Project's water use comes from recycled/reclaimed water	5 points	

Reduction Measure On Road: Alternative Transportation Options			
Increase Residential Density			
Residential Density	Designing the Project with increased densities, where allowed by the GeneralPlan and/or Zoning Ordinance, reduces GHG emissions associated with traffic in several ways. Increased densities affect the distance people travel and providegreater options for the modes of travel they choose. This strategy also provides a foundation for implementation of many other strategies, which would benefit from increased densities. 1 point is allowed for each 10% increase in density beyond 7 units/acre, up to500% (50 points)	1–50 points	
Mixed-Use Development			
Mixed-Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed-useprojects will be determined based upon a Transportation Impact Analysis (TIA)demonstrating trip reductions and/or reductions in vehicle miles traveled. Suggested ranges: • Diversity of land uses complementing each other (2–28 points) • Increased destination accessibility other than transit (1–18 points) • Increased Transit Accessibility (1–25 points) • Infill location that reduces vehicle trips or VMT beyond the measures described above (points TBD based on traffic data).	TBD	
Residential Near Local Retail (Residential-only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled (VMT). The suburban Project will have at least three of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, OpenSpace, or Office. The mixed-use development should encourage walking and other non-auto modes of transport from residential to office/commercial locations (and vice versa). The Project should minimize the need for external trips by including services/facilities for day care, banking/ATM, restaurants, vehicle refueling, and shopping.	1–16 points	
Traffic Flow Management Improvements			
Signal Synchroni-zation	Techniques for improving traffic flow include: traffic signal coordination to reduce delay, incident management to increase response time to breakdownsand collisions, Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions, and speed managementto reduce high free-flow speeds. • Signal synchronization • Traffic signals connected to existing ITS	 1 point/signal 3 points/signal	
Increase Public Transit			
Public Transit Access	The point value of a project's ability to increase public transit use will be determined based upon a Transportation Impact Analysis (TIA) demonstrating decreased use of private vehicles and increased use of public transportation. Increased transit accessibility (1–15 points)	TBD	

Reduction Measure: Install Electric Chargers			
Single-family DU EV Chargers	Installation of Electric Vehicle (EV) chargers in the garage of single-family DUs: • Level 1 110 volt AC Chargers • Level 2 240 volt AC Fast Chargers	2 points 5 points	
Multi-family DU EV Chargers	Installation of Electric Vehicle (EV) chargers in the parking areas of Multi-family Residential Development: • Level 1 110 volt AC Chargers • Level 2 240 volt AC Fast Chargers	2 points/charger 5 points/ charger	
Reduction Measure: Adopt and Implement a Bicycle Master Plan to Expand Bike Routes around the County			
Sidewalks	• Provide sidewalks on both sides of the street (required) • Provide pedestrian linkage between residential and commercial uses within 1 mile	1 point 3 points	1
Bicycle Paths	• Provide bicycle paths within project boundaries • Provide bicycle path linkages between residential and other land uses • Provide bicycle path linkages between residential and transit	TBD 2 points 5 points	
Reduction Measure Waste-2: Reduce Waste to Landfills			
Recycling	County-initiated recycling program diverting 100% of waste requires coordination in neighborhoods to realize this goal. The following recycling features will help the County fulfill this goal: • Provide green waste composting bins at each residential unit • Multifamily residential projects that provide dedicated recycling bins separated by types of recyclables combined with instructions/education program explaining how to use the bins and the importance of recycling • Construction waste recycling	4 points 3 points 4 points	4
Other GHG Reduction Feature Implementation			
Other GHG Emissions Reduction Features	This allows innovation by the applicant to provide residential design features for the GHG emissions from construction and/or operation of the Project not provided in the table. Note that engineering data will be required documenting the GHG reduction amount and point values given based upon emission reductions calculations using approved models, methods, and protocols.	TBD	
Total Points Earned by Residential Project:			**49**

As shown in Table 4.8-3, the Project would earn 49 points, which would achieve the necessary 45 points (or more) from the City GHG Emissions Screening Table and therefore would be considered consistent with the City's GHG-reduction strategy. Projects that garner 45 or more points on the Screening Table are considered less than significant.

Mitigation Measure GHG-1. GHG Screening Tabl*The City of Victorville Planning Department shall verify incorporation of the identified Screening Table Measures within the Project building plans and Site designs prior to the issuance of building permit(s) and shall verify the implementation of the identified Screening Table Measures prior to the issuance of Certificate(s) of Occupancy.*