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May 23, 2024
Project No. 23-14275

Ahmad Ghaderi
A & S Engineering, Inc.
28405 Sand Canyon Road, Suite "B"
Canyon Country, California 91387

Subject: Greenhouse Gas Emissions Memorandum for the Green Tree Boulevard and Hesperia Road Project, City of Victorville, California

Dear Mr. Ghaderi:

This Greenhouse Gas (GHG) Emissions Memorandum analyzes the Green Tree Boulevard and Hesperia Road Project (project) in Victorville, San Bernardino County, California. This analysis has been prepared in accordance with the City of Victorville's Climate Action Plan (CAP) and determines if the project is considered a cumulative impact on GHG emissions.

Project Location and Description

The project site is located at the southwest corner of Green Tree Boulevard and Hesperia Road. The project's land use is designated as General Commercial (C-2) (City of Victorville 2018). The project would involve construction of a 5,785-square foot food mart, a 1,733-square foot drive-thru car wash, and an eight fuel dispenser gas station with canopy on a vacant lot (see Attachment A for site plan).

Local Climate and Meteorology

The project site is in the Mojave Desert Air Basin (MDAB), which is under the jurisdiction of Mojave Desert Air Quality Management District (MDAQMD). The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB.

During the summer the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year and is classified as a dry-hot desert climate with at least three months having a maximum average temperature over 100.4 degree Fahrenheit (MDAQMD 2020).

The warmest month in Victorville is August, with the highest average temperature of 100 degrees Fahrenheit, while the coldest month of the year is December, with the highest average temperature of 59 degrees Fahrenheit. Typically, the city has an average annual high temperature of 79 degrees Fahrenheit and an average annual low temperature of 46 degrees Fahrenheit. Additionally, the city receives an average annual precipitation of 5.06 inches (U.S. Climate Data 2024).

Climate Change and Greenhouse Gases

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).[1]

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The IPCC expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatonnes of anthropogenic CO_2 was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021).

[1] The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33 degrees Celsius (°C) cooler (World Meteorological Organization 2023). However, since 1750, estimated concentrations of CO_2, CH_4, and N_2O in the atmosphere have increased by 47 percent, 156 percent, and 23 percent, respectively, primarily due to human activity (IPCC 2021). GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

Regulatory Setting

California Building Standards Code

The California Code of Regulations (CCR) Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2022 Title 24 standards. The California Building Standards Code's energy-efficiency and green building standards are outlined below.

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS/ENERGY CODE

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The 2022 Title 24 standards are the applicable building energy efficiency standards for the proposed project because they became effective on January 1, 2023.

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective on January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements. View the mandatory and voluntary standards for nonresidential development here: https://www.iccsafe.org/wp-content/uploads/errata_central/2022-California-Green-Code-Part-11-Errata-eff.-January-2023-5570S221.pdf

Regional and Local Regulations

City of Victorville Climate Action Plan

The City of Victorville adopted their *City of Victorville Climate Action Plan* (CAP) in September 2015 (City of Victorville 2015). This CAP presents the GHG inventories, identifies the effectiveness of California initiatives to reduce GHG emissions, and identifies local measures that were selected by the City to

reduce GHG emissions under the City's jurisdictional control to achieve the City's identified GHG reduction target. The City of Victorville participated in the San Bernardino County *Regional Greenhouse Gas Reduction Plan* which presents the collective results of all local efforts to reduce GHG emissions consistent with statewide GHG targets expressed in AB 32 and SB 375. Victorville used the technical information within the San Bernardino County *Regional Greenhouse Gas Reduction Plan* in the development of the CAP.

City of Victorville GHG Screening Tables

The purpose of the City's GHG Screening Tables (one for residential and one for commercial and industrial projects) are 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 are based upon San Bernardino County's Greenhouse Gas Emissions Reduction Plan Update, which includes GHG reduction targets for years 2020 and 2030 and the goals and policies to reach those targets. The Screening Tables have a range of point values assigned for each project design aspect incorporated into a project as a project design feature or mitigation. Projects that garner at least 100 points are considered to be consistent with the reduction quantities anticipated in County's Development Review Process (DPR), and thus, would be determined to have a less than significant individual and cumulative impact on GHG emissions per the CEQA Guidelines. 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. The project will be built to meet the newer standards that became effective January 1, 2022.

Impact Analysis

The screening table provides the points for different types of measures and level of commitment the proposed project would implement to meet the County's reduction targets. Table 1 shows the Victorville GHG Screening Table and the points the project achieves with project features, which are highlighted in bold. The completed checklist by the applicant is also attached as Attachment B.

Table 1 Victorville GHG Screening Table for Commercial/Industrial Project

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency Development			
Building Envelope			
Insulation	2019 baseline (walls R-16; roof/attic R-32) Modestly Enhanced Insulation (walls R-15, roof/attic R-38) **Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38)** Greatly Enhanced Insulation (spray foam insulated walls R-18 or higher, roof/attic R-38 or higher)	0 points 9 points 11 points 12 points	11
Windows	2019 Baseline Windows (0.3 U-factor, 0.23 solar heat gain coefficient [SHGC) **Enhanced Window Insulation (0.28 U-factor, 0.22 SHGC)** Enhanced Window Insulation (0.28 U-factor, 0.22 SHGC) Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	0 points 4 points 4 points 5 points	4

Feature	Description	Assigned Point Values	Project Points
Cool Roof	2019 Standard (none) Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance) **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, 0.75 thermal emittance)	0 points 7 points 7 points 8 points	7
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 excess air leakage. **Air barrier applied to exterior walls, calking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent)** Blower Door HERS Verified Envelope Leakage or equivalent	0 points 7 points 6 points	7
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 thick exposed 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 covering such as carpet, linoleum, wood or other insulating materials)	2 points 14 points	2
Building Envelope Performance Standard	Projects that have not been designed to a level of detail to know the specific attributes of the building envelope can use this option in committing to one of the following performance standards Modestly Enhanced Building Envelope (5% > Title 24) Enhanced Building Envelope (15% > Title 24) Greatly Enhanced Building Envelope (20% > Title 24)	TBD TBD TBD	
Indoor Space Efficiencies Commercial			
Heating/ Cooling Distribution System	Minimum Duct Insulation (R-6 required) **Enhanced Duct Insulation (R-8) Enhanced** Duct Insulation (R-8) Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	0 points 5 points 5 points 6 points	5
Space Heating/ Cooling Equipment	2019 Minimum HVAC Efficiency (EER 13/75% AFUE or 7.7 HSPF) Improved Efficiency HVAC (EER 14/78% AFUE or 8 HSPF) **High Efficiency HVAC (EER 15/80% AFUE or 8.5 HSPF)** Very High Efficiency HVAC (EER 16/82% AFUE or 9 HSPF)	0 points 4 points 5 points 7 points	5
Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings	TBD TBD	

Feature	Description	Assigned Point Values	Project Points
Water Heaters	2019 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)	0 points 8 points 10 points 11 points 2 points 5 points	11
Daylighting	All peripheral rooms within the customer areas have at least one window **All rooms within the customer areas have daylight (through use of windows, solar tubes, skylights, etc.) such that each room has at least 800 lumens of light during a sunny day** All rooms daylighted	0 points 1 point 1 point	1
Artificial Lighting	2019 Minimum (required) Efficient Lights (25% of in-unit fixtures considered high efficacy. High efficacy 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 efficacy) **Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)**	0 points 5 points 7 points 8 points	8
Appliances	**EnergyStar Commercial Refrigerator (new) Energy** Star Commercial Dish Washer (new) Energy Star Commercial Cloths Washing Machine (new)	2 points 2 points 2 points	2
Indoor Space Performance Standard	Projects that have not been designed to a level of detail to know the specific attributes of the interior design of the buildings can use this option in committing to one of the following performance standards Modestly Enhanced Interior and appliances (5% > Title 24) Enhanced Interior and appliances (15% > Title 24) Greatly Enhanced Interior and appliances (20% > Title 24)	 TBD TBD TBD	
Miscellaneous Commercial/Industrial Building Efficiencies			
Building Placement	**North/South alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.**	4 points	4
Shading	**At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on Jun 21st.**	6 Points	6
Other	This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. 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	

Feature	Description	Assigned Point Values	Project Points
Existing Commercial building Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing Commercial dwelling units to further the point value of their project. Retrofitting existing Commercial dwelling units within the City is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case-by-case basis and must have the approval of the Escondido Planning Department. The decision to allow applicants to ability to participate in this program will be evaluated based upon, but not limited to the following: Will the energy efficiency retrofit project benefit low income or disadvantaged residents? Does the energy efficiency retrofit project fit within the overall assumptions in Reduction Measure R2E3? Does the energy efficiency retrofit project provide co-benefits important to the City? Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.	TBD	
Reduction Measure PS E2: New Commercial/Industrial Renewable Energy			
Photovoltaic	Solar Photovoltaic panels installed on commercial buildings orin collective arrangements within a commercial development 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	8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 points	8
Wind turbines	Some areas of the City lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature. Wind turbines as part of the commercial development 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	8 points 12 points 16 points 19 points 23 points 26 points 30 points 34 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 Commercial that will help implement R2 E4, or existing commercial/industrial that will help implement R2 E7. These off-site renewable energy retrofit project proposals will be determined on a case-by-case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be determined based upon the energy generated by the proposal.	TBD	

Feature	Description	Assigned Point Values	Project Points
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 energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	
Reduction Measure PS W2: Water Use Reduction Initiative			
Irrigation and Landscaping			
Water Efficient Landscaping	Eliminate conventional turf from landscaping Only moderate water using plants **Only low water using plants** Only California Native landscape that requires no or only supplemental irrigation	0 points 2 points 3 points 5 points	3
Water Efficient irrigation systems	Low precipitation spray heads< .75”/hr or drip irrigation **Weather based irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use)**	1 point 3 points	3
Recycled Water	Recycled water connection (purple pipe)to irrigation system on site	5 points	
Trees	Increase tree planting in parking areas 50% beyond City Code requirements	TBD	
Storm water Reuse Systems	Innovative on-site stormwater 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	
Potable Water Commercial			
Showers	Water Efficient Showerheads (2.0 gpm)	2 points	
Toilets	**Water Efficient Toilets/Urinals (1.5gpm)** **Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)**	3 points 3 points	6
Faucets	**Water Efficient faucets (1.28gpm)**	2 points	2
Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	2 points	
Commercial Laundry Washers	EPA Water Efficient laundry (15% water savings) EPA High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings)	2 points 4 points	
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	
Potable Water Performance Standard	Projects that have not been designed to a level of detail to know the specific attributes design can use this in committing to a potable water efficiency	TBD	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure: Land Use Based Trips and VMT Reduction			
Mixed Use Commercial	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-use projects will be determined based upon a Transportation Impact Analysis (TIA) demonstrating trip reductions and/or reductions in vehicle miles traveled. Suggested ranges: Mixes of land uses that complement one another in a way that reduces the need for vehicle, determined based upon a Transportation Impact Analysis (2-28 points) Increased destination accessibility other than transit (1-18 points) Increased transit accessibility (1-28 points) Infill location that reduces vehicle trips or VMT beyond the specified measures	TBD TBD TBD TBD TBD	
Local Retail Near Residential (Commercial 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. Preferential parking Synchronize signals Connect signals to existing ITS	TBD 1 point 1 point 3 points	
Reduction Measure: Bicycle Master Plan Development			
Bicycle Infrastructure	**Provide bicycle paths within project boundaries.** Provide bicycle path linkages between project site and other land uses. Provide bicycle path linkages between project site and transit.	1 point 2 points 5 points	1
Cars Trucks	Level 2 240 volt AC Fast Chargers **Level 3 480 volt DC Rapid Chargers** **Medium & Heavy Duty Electric Truck Chargers** Level 1 AC Chargers for EV Medium Duty Truck Level 1 AC Chargers for EV Class 8 (Heavy Duty) Truck Level 2 AC Chargers for EV Medium Duty Truck Level 2 AC Chargers for EV Class 8 (Heavy Duty) Truck Level 3 DC Chargers for EV Class 8 (Heavy Duty) Truck	5 points 8 points 3 points 5 points 8 points 12 points 16 points	8
Total Points from Commercial/Industrial Project:			**104**

Conclusion

As shown in Table 1, the project would achieve 104 points based on the point values assigned for the project features that have been incorporated into the design. These points exceed the minimum 100 points needed for screening purposes. Therefore, the project would be considered consistent with the City's GHG-reduction strategy. Projects that garner at least 100 points are considered to be consistent with the reduction quantities anticipated in the DPR, and thus, would be determined to have a less than significant individual and cumulative impact on GHG emissions per the CEQA Guidelines.

Sincerely,

RINCON CONSULTANTS, INC.

Bill Vosti, MESM
Senior Environmental Planner

Josh Carman
Director

Attachment A – Site Plan
Attachment B – Victorville GHG Screening Table

References

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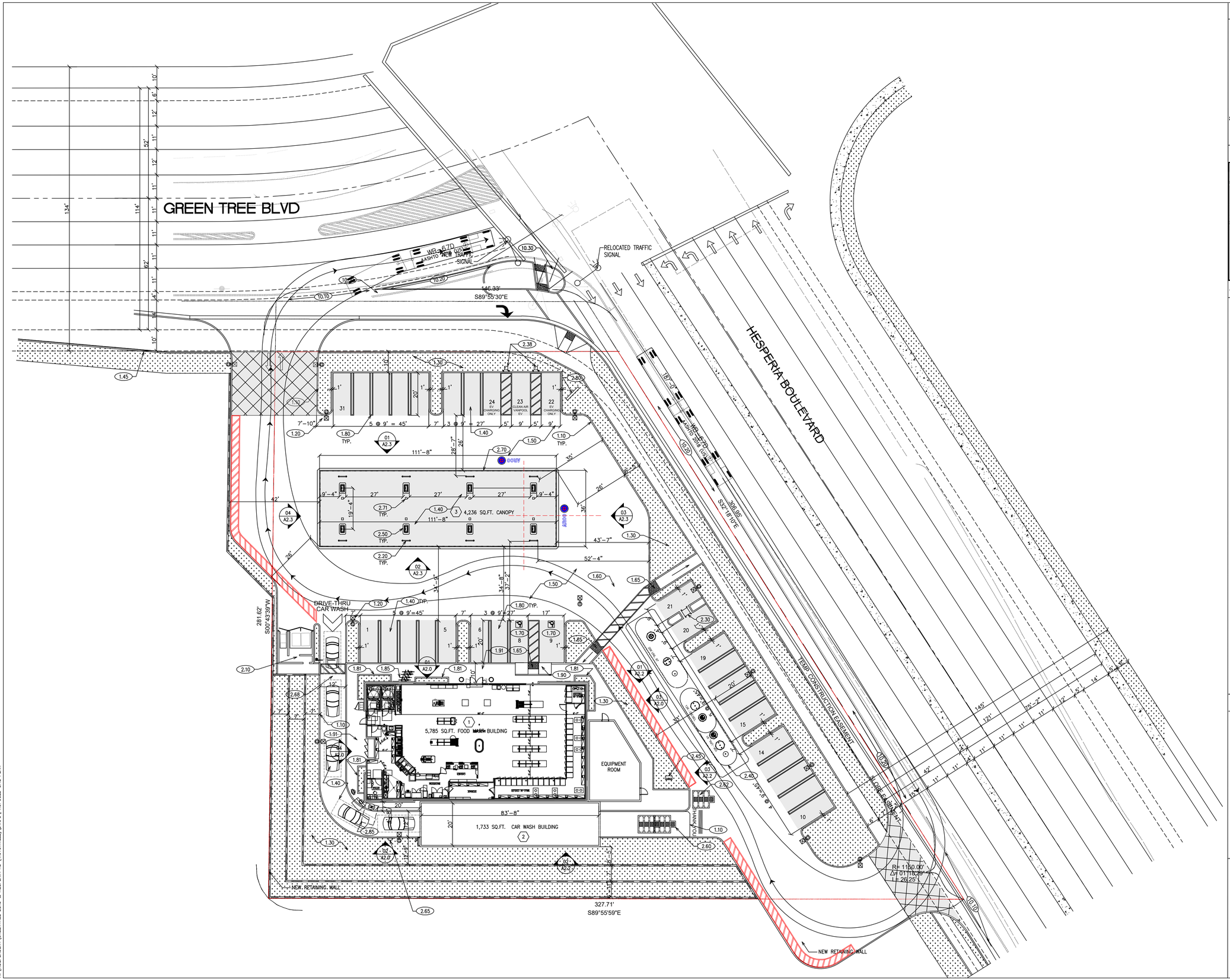
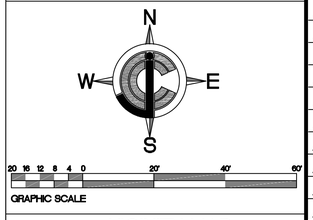
Attachment A

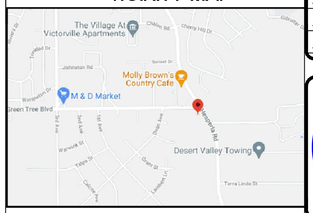
Site Plan



NORTH ARROW/GRAPHIC SCA



VICINITY MAP



CONSTRUCTION NOTES

1.10	NEW 6" CONCRETE CURB
1.20	NEW AREA LIGHT
1.30	NEW LANDSCAPING WITH AUTOMATIC IRRIGATION
1.40	NEW 6" CONCRETE DRIVE SLAB WITH #3 BARS @ 18" O.C. O SPECIFIED IN SOILS REPORT IF AVAILABLE.
1.45	NEW COLORED STAMPED CONCRETE AT DRIVEWAYS
1.50	NEW 6" OVER 4" A.B. ASPHALT PAVING OR AS SPECIFIED IN S REPORT IF AVAILABLE.
1.60	NEW 48" HANDICAP PATH OF TRAVEL (SLOPE NOT TO EXCEED EACH WAY
1.65	NEW TRUNCATED DOME WITH MINIMUM 36" WIDTH TO BE INSTA
1.70	NEW 17'X20' HANDICAP PARKING SPACE WITH ALL RELATED SI (SLOPE NOT TO EXCEED 2% E.W.)
1.80	NEW 9'X20' STANDARD PARKING SPACES
1.81	NEW RAISED PLANTER
1.85	NEW BICYCLE RACK
1.90	NEW CONCRETE HANDICAP RAMP (SLOPE 8.33%)
1.91	NEW CONCRETE SIDEWALK (MIN. 48" WHERE HANDICAP PATH TRAVEL OCCURS)
2.10	NEW TRASH ENCLOSURE WITH (3) STEEL GATES
2.20	NEW 6" CONCRETE FILLED STEEL GUARD POSTS
2.30	NEW AIR/WATER UNIT
2.35	NEW VACUUM UNITS
2.38	NEW EV CHARGING STATION
2.40	NEW UNDERGROUND STORAGE TANKS UNDER REINFORCED CON SLAB
2.45	NEW UNDERGROUND TANK VENT RISERS
2.50	NEW CONCRETE ISLAND W/ (1) MULTI PRODUCT DISPENSER (& 8" MAX. HEIGHT)
2.60	NEW 3,000 GALLON UNDERGROUND CLARIFIER
2.62	NEW 750 GALLON GREASE INTERCEPTOR
2.65	NEW PAYPOINT STATION
2.68	NEW CLEARANCE BAR
2.70	NEW FUELING CANOPY (16' CLEARANCE BELOW DECK)
2.71	NEW FUELING CANOPY COLUMNS
2.80	NEW ID SIGNAGE
2.85	FUTURE Q.S.R. MENU BOARD
10.10	NEW CONCRETE DRIVE APPROACH PER SB COUNTY STD 129B
10.20	NEW CONCRETE SIDWALK PER SB COUNTY STD 109C
10.30	NEW CONCRETE CURB AND GUTTER PER SB COUNTY STD 110

SITE DATA INFORMATION

LOT AREA :		63,110 SQ.F
STORE AREA:		5,785 SQ.FT
CANOPY AREA:		4,236 SQ.FT
CARWASH AREA:		1,813 SQ.FT
EQUIPMENT ROOM AREA:		760 SQ.FT.
PARKING CALCULATION: STORE AREA / 200 = 5,785 / 200 =		28.9
HANDICAP	17'-0"X20'-0"	2
REGULAR	9'-0"X20'-0"	24
EV CHARGING	9'-0"X20'-0"	3
AIR/WATER	9'-0"X20'-0"	2
PARKING REQUIRED:		28.9
PARKING PROVIDED:		31

REVISIONS	BY
1 10/12/2022	ER
2 10/06/2023	AR
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PLANS PREPARED BY:
A & S ENGINEERING INC.
PLANNING · ENGINEERING · CONSTRUCTION MANAGEMENT
26465 RAILROAD CANYON ROAD, SUITE B
CANYON COUNTRY, CA 91387
PHONE #: (661) 250-9300; FAX #: (661) 250-9333

INDEPENDENT STATION

ADDRESS: SW CORNER GREEN TREE BOULEVARD @ HESPERIA ROAD
VICTORVILLE, CA 92395

DRAWN	ER
CHECKED	--
DATE	09/13/2022
SHT. TITLE	SITE PLAN
JOB NUMBER	-
SHEET	PS1

H:\INDEPENDENT\GREENTREE BLVD & HESPERIA RD (VICTORVILLE)\DWG'S\PROPOSED SITE PLAN

Attachment B

Victorville GHG Screening Table

City of Victorville
Department of Development
Planning • Building • Code Enforcement

14343 Civic Drive
PO Box 5001
Victorville, CA 92393-5001
(760) 955-5135
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Greenhouse Gas Emissions Screening Table Review

Note: This form is to be used only for projects which are subject to CEQA and not exempt from CEQA (i.e. Negative Declaration, Mitigated Negative Declaration or Environmental Impact Report).

GENERAL INFORMATION

Applicant: A & S ENGINEERING ON BEHALF OF MR. KARAN BAHTIA Contact Name: AHMAD GHADERI

Address: 28405 SAND CANYON ROAD, CANYON COUNTRY, CA. 91387

Telephone No.: 661.250.9300 Email Address: ahmadg@asengineer.com

TYPE OF PROJECT

☐ Residential (Single-Family or Multi-Family) ☑ Commercial or Industrial

PROJECT LOCATION

General Location/Address of Project: SWC HESPERIA BLVD & GREENTREE BLVD

Name of Business (if applicable): ARCO

Assessor's Parcel No(s): 3070-331-02-0-000

Existing Zoning: C-2 GENERAL COMMERCIAL

PROJECT DESCRIPTION:

PROPOSED GAS STATION, FOODMART & CARWASH

Instructions

1. Fill out the appropriate section below for either Residential or Commercial/Industrial.
2. Choose items which the proposed project will incorporate into the development to reach a minimum of 100 points.
3. Do not choose items which are independently required by other laws, codes or the VVMC, such as the California Building Code, the Civic Center Sustainability Plan or required infrastructure improvements.
4. For those items listed with a TBD point value, please provide specific information and background studies (i.e. traffic study) for Staff to determine an assigned point value.
5. Submit the Screening Table along with the Planning Commission Review Application.

Commercial/Industrial Section

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS E3: Energy Efficiency For Commercial Development			
Building Envelope			
Insulation	2019 baseline (walls R-16; roof/attic R-32)	0 points	11
	Modestly Enhanced Insulation (walls R-15, roof/attic R-38)	9 points	
	Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38)	11 points	
	Greatly Enhanced Insulation (spray foam insulated walls R-18 or higher, roof/attic R-38 or higher)	12 points	
Windows	2019 Baseline Windows (0.3 U-factor, 0.23 solar heat gain coefficient [SHGC)	0 points	4
	Enhanced Window Insulation (0.28 U-factor, 0.22 SHGC)	4 points	
	Enhanced Window Insulation (0.28 U-factor, 0.22 SHGC)	4 points	
	Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC)	5 points	
Cool Roofs	2019 Standard (none)	0 points	7
	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	7 points	
	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	7 points	
	Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	8 points	
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 excess air leakage	0 points	7
	Air barrier applied to exterior walls, calking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent)	7 points	
	Blower Door HERS Verified Envelope Leakage or equivalent	6 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.		2
	Modest Thermal Mass (10% of floor or 10% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	2 points	
	Enhanced Thermal Mass (20% of floor or 20% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	14 points	

Feature	Description	Assigned Point Values	Project Points
Building Envelope Performance Standard	Projects that have not been designed to a level of detail to know the specific attributes of the building envelope can use this option in committing to one of the following performance standards Modestly Enhanced Building Envelope (5% > Title 24) Enhanced Building Envelope (15% > Title 24) Greatly Enhanced Building Envelope (20% > Title 24)	 TBD TBD TBD	
Indoor Space Efficiencies Commercial			
Heating/ Cooling Distribution System	Minimum Duct Insulation (R-6 required) Enhanced Duct Insulation (R-8) Enhanced Duct Insulation (R-8) Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	0 points 5 points 5 points 6 points	5
Space Heating/ Cooling Equipment	2019 Minimum HVAC Efficiency (EER 13/75% AFUE or 7.7 HSPF) Improved Efficiency HVAC (EER 14/78% AFUE or 8 HSPF) High Efficiency HVAC (EER 15/80% AFUE or 8.5 HSPF) Very High Efficiency HVAC (EER 16/82% AFUE or 9 HSPF)	0 points 4 points 5 points 7 points	5
Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings	TBD TBD	
Water Heaters	2019 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)	0 points 8 points 10 points 11 points 2 points 5 points	11
Daylighting	All peripheral rooms within the customer areas have at least one window All rooms within the customer areas have daylight (through use of windows, solar tubes, skylights, etc.) such that each room has at least 800 lumens of light during a sunny day All rooms daylighted	0 points 1 points 1 points	1

Feature	Description	Assigned Point Values	Project Points
Artificial Lighting	2019 Minimum (required)	0 points	
	Efficient Lights (25% of in-unit fixtures considered high efficacy. High efficacy 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)	5 points	
	High Efficiency Lights (50% of in-unit fixtures are high efficacy)	7 points	
	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	8 points	8
Appliances	Energy Star Commercial Refrigerator (new)	2 points	2
	Energy Star Commercial Dish Washer (new)	2 points	
	Energy Star Commercial Cloths Washing Machine (new)	2 points	
Indoor Space Performance Standard	Projects that have not been designed to a level of detail to know the specific attributes of the interior design of the buildings can use this option in committing to one of the following performance standards		
	Modestly Enhanced Interior and appliances (5% > Title 24) Enhanced Interior and appliances (15% > Title 24) Greatly Enhanced Interior and appliances (20% > Title 24)	TBD TBD TBD	
Miscellaneous Commercial/Industrial 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.	4 points	4
Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on Jun 21st.	6 points	6
Other	This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. 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 Commercial Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing Commercial dwelling units to further the point value of their project. Retrofitting existing Commercial dwelling units within the City is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case by case basis and must have the approval of the Escondido Planning Department. The decision to allow applicants to ability to participate in this program will be evaluated based upon, but not limited to the following: Will the energy efficiency retrofit project benefit low income or disadvantaged residents? Does the energy efficiency retrofit project fit within the overall assumptions in Reduction Measure R2E3?		

Feature	Description	Assigned Point Values	Project Points
	Does the energy efficiency retrofit project provide co-benefits important to the City? Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.	TBD	
Reduction Measure PS E2: New Commercial/Industrial Renewable Energy			
Photovoltaic	Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments:		
	30 percent of the power needs of the project	8 points	8
	40 percent of the power needs of the project	12 points	
	50 percent of the power needs of the project	16 points	
	60 percent of the power needs of the project	19 points	
	70 percent of the power needs of the project	23 points	
	80 percent of the power needs of the project	26 points	
	90 percent of the power needs of the project	30 points	
	100 percent of the power needs of the project	34 points	
Wind turbines	Some areas of the City lend themselves to wind turbine applications. Analysis of the area's 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	8 points	
	40 percent of the power needs of the project	12 points	
	50 percent of the power needs of the project	16 points	
	60 percent of the power needs of the project	19 points	
	70 percent of the power needs of the project	23 points	
	80 percent of the power needs of the project	26 points	
	90 percent of the power needs of the project	30 points	
	100 percent of the power needs of the project	34 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 Commercial that will help implement R2 E4, or existing commercial/industrial that will help implement R2 E7. These off-site renewable energy retrofit project proposals will be determined on a case by case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be determined based upon the energy generated by the proposal.	TBD	

Feature	Description	Assigned Point Values	Project Points
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 energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	
Reduction Measure PS W2: Water Use Reduction Initiative			
Irrigation and Landscaping			
Water Efficient Landscaping	Eliminate conventional turf from landscaping ~~Only moderate water using plants~~ Only low water using plants Only California Native landscape that requires no or only supplemental irrigation	0 points 2 points 3 points 5 points	3
Water Efficient Irrigation Systems	Low precipitation spray heads< .75"/hr. or drip irrigation Weather based irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use)	1 point 3 points	3
Recycled Water	Recycled water connection (purple pipe) to irrigation system on site	5 points	
Trees	Increase tree planting in parking areas 50% beyond City Code requirements	TBD	
Storm water Reuse Systems	Innovative on-site stormwater 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	
Potable Water Commercial			
Showers	Water Efficient Showerheads (2.0 gpm)	2 points	
Toilets	Water Efficient Toilets/Urinals (1.5gpm) Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	3 points 3 points	6
Faucets	Water Efficient faucets (1.28gpm)	2 points	2
Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	2 points	

Feature	Description	Assigned Point Values	Project Points
Commercial Laundry Washers	EPA Water Efficient laundry (15% water savings) EPA High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings)	2 points 4 points	
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	
Potable Water Performance Standard	Projects that have not been designed to a level of detail to know the specific attributes design can use this in committing to a potable water efficiency	TBD	
Reduction Measure: Land Use Based Trips and VMT Reduction			
Mixed Use Commercial	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 use projects will be determined based upon a Transportation Impact Analysis (TIA) demonstrating trip reductions and/or reductions in vehicle miles traveled. Suggested ranges: Mixes of land uses that complement one another in a way that reduces the need for vehicle, determined based upon a Transportation Impact Analysis *(2-28 points)* Increased destination accessibility other than transit *(1-18 points)* Increased transit accessibility *(1-28 points)* Infill location that reduces vehicle trips or VMT beyond the specified measures	TBD TBD TBD TBD TBD	
Local Retail Near Residential (Commercial 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. Preferential parking Synchronize signals Connect signals to existing ITS	TBD 1 point 1 point 3 points	
Reduction Measure: Bicycle Master Plan Development			
Bicycle Infrastructure	Provide bicycle paths within project boundaries. Provide bicycle path linkages between residential and other land uses. Provide bicycle path linkages between residential and transit.	1 point 2 points 5 points	

Feature	Description	Assigned Point Values	Project Points
Reduction Measure: Electric Vehicle Infrastructure			
Cars	Level 2 240 volt AC Fast Chargers	5 points	8
	Level 3 480 volt DC Rapid Chargers	8 points	
Trucks	**Medium & Heavy Duty Electric Truck Chargers**		
	Level 1 AC Chargers for EV Medium Duty Truck	3 points	
	Level 1 AC Chargers for EV Class 8 (Heavy Duty) Truck	5 points	
	Level 2 AC Chargers for EV Medium Duty Truck	8 points	
	Level 2 AC Chargers for EV Class 8 (Heavy Duty) Truck	12 points	
	Level 3 DC Chargers for EV Class 8 (Heavy Duty) Truck	16 points	
Total Points from Commercial/Industrial Project:			104

-Commercial/Industrial Section Ends-