Freeway Commercial North
Air Quality Impact Plan
(AQIP)

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1. EXECUTIVE SUMMARY

A. Intent of AQIP

This Air Quality Improvement Plan (AQIP) has been prepared in conjunction with the Otay Ranch Freeway Commercial Sectional Planning Area (SPA) Plan amendment, required for the proposed development of Freeway Commercial North (FC-2) site as a mixed-use project. The Otay Ranch Freeway Commercial SPA plan covers both Freeway Commercial South site, which was developed as Otay Ranch Town Center mall in 2006, and Freeway Commercial North site. The two parcels correspond to two major ownerships of the property. Because of the independent ownerships, project plans have been designed and structured to allow the two parcels develop separately but in a coordinated manner.

The purpose of the AQIP is to provide an analysis of air pollution impacts that would result from the proposed development in FC-2 and to demonstrate how the site design reduces vehicle trips, maintains or improves traffic flow, reduces vehicle miles traveled, and reduces direct or indirect greenhouse gas (GHG) emissions. This AQIP also demonstrates how FC-2 has been designed consistent with the City's Green Building Standards, (CVMC 15.26) and Energy Code (15.12) and represents the best available design in terms of improving energy efficiency and reducing GHG emissions. GHG emissions include gases such as Carbon Dioxide (CO_2), Methane (CH_4), and Nitrous Dioxide (N_20). They occur both naturally, and are produced by human activities, such as by automobile emissions and emissions from production of electricity to provide power to homes and businesses. These gases prevent heat from escaping the earth's atmosphere, while allowing in sunlight, which has the affect of warming the air temperature. Applicable action measures contained in the City's Carbon Dioxide (CO_2) Reduction Plan are also addressed.

B. Community Site Design Goals

Otay Ranch is a 23,000-acre master-planned community and includes a mix of land uses within 20 villages and/or planning areas. FC-2 is a mixed use site proposed to be developed with two commercial hotels, up to 900 multi-family residential units, 15,000 sq. ft. mixed use commercial retail, and a 2-acre public park. The project is located south of Olympic Parkway and east of SR-125.

The proposed project establishes a unified walkable mixed-use plan for the FC-2 site. It is intended to enhance living, working, shopping, and transit options in the area. It creates a walkable neighborhood that offers urban-style, smaller-scale living accommodations within walking distance to the already established local shops, services, schools, entertainment and dining, as well as a regional system of trails and open spaces.

The vision for this community is to develop a cohesive neighborhood with inter-connected uses and densities. The mix of proposed residential, commercial, and community uses is intended to provide a mixed-use environment that serves the needs of residents and employees. The increased density and housing choices will provide additional ridership opportunities for the regional Bus Rapid Transit and local bus system increasing the viability of transit and reducing automobile dependence. The densities and design patterns envisioned for FC-2 focus on promoting a walkable and bikeable community with less emphasis on automobile trips.

C. Planning Features

FC-2 project includes the following planning features to achieve the community site design goals:

Land Use features:

1) Integrated Circulation System. Project residents and visitors are afforded non-automobile related circulation options that include walking, bicycling, and transit. Town Center Drive – the main roadway with ground-floor mixed use commercial – as well as interior streets – are designed to provide a comfortable walking environment.
2) Mixed Uses. A 36-acre project houses a mix of residences, shops, restaurants, a park, and hotels. This type of development makes it easy for residents, visitors and employees to walk or bike to destinations, helping to efficiently connect the city's neighborhoods through sustainable mobility.
3) Residential Density. The high-density multi-family project is intended to promote walking and biking as a feasible alternative to driving due to reduced distances and the resulting close proximity of various services and destinations.
4) Street Widths, Pavement and Street Trees. Otay Ranch street sections are narrower than typical standards which reduces asphalt pavement and the "urban heat-island effect" by limiting the amount of reflective surfaces. Street trees provide shade which further reduces heat-gain. Widened landscape medians and parkways to reduce paving, thereby reducing heat gain and the demand for air conditioning. Street trees within the parkways and medians provide shade to further reduce ambient air temperatures.
5) Public Transportation. The design plan for the development is transit ready. In conformance with General Plan policy, public transportation is an integral part of Otay Ranch. Public transit lines and stops are integrated into the plan and are adjacent to the project. This is intended to help reduce the dependence on the passenger vehicle and encourage walking, biking, and transit trips. Bus Rapid Transit service is planned along the southern boundary of the site. In addition, Local Bus routes 709, 707, and 635 serve the project, with an additional new bus stop proposed near the hotels.
6) Alternative Travel Modes. FC-2 site will be connected to the regional trail network and will feature sharrow lanes through the project. Sidewalks will be provided throughout the project site. All internal roadways are designed to local street standards with speed limits of 25 to 30 mph. Slow traffic speeds are conducive to both walking and bicycling and provide the necessary linkage to the regional bicycle circulation network.

Building and Design Element Features:

1) Use of low-VOC paints as required under SDAPCD Rule 67.
2) Project-wide recycling as required under the County's recycling Ordinance.
3) Energy efficiency as required under the 2016 California Energy Code and CalGreen.
4) Indoor residential appliances that carry the Environmental Protection Agency's (EPA) ENERGYSTAR® certification, as applicable and feasible.
5) Inclusion of all residential units in the local utility demand response program to limit peak energy usage for cooling.
6) Indoor residential plumbing products that carry the EPA's WaterSense certification.
7) Passive solar design and building orientation principles to take advantage of the sun in the winter for heating and reduce heat gain and cooling needs during summer.
8) Energy efficient lighting for streets, parks, and other public spaces as well as for private development projects.

9) Installation of only electric or natural gas fireplaces in new development. No wood burning fireplaces are permitted.
10) Installation of solar water heater preplumbing.
11) Installation of solar photovoltaic prewiring.
12) Installation of residential graywater stub-out.

Landscape Features:

1) Watering three times daily to control fugitive dust to meet the requirements SDAPCD.
2) High-efficiency irrigation equipment, such as evapotranspiration controllers, soil moisture controllers and drip emitters for all projects that install irrigation water meters, per the City of Chula Vista Landscape Water Conservation Ordinance of the City of Chula Vista Municipal Code Chapter 20, Section 12.
3) Water efficient vegetation, including native species, planted in public and private landscape areas.
4) Natural turf in residential development limited to no more than 30% of the outdoor open space.
5) Vertical landscape elements, such as trees, large shrubs, and climbing vines, shall be installed in order to shade southern and western building facades to reduce energy needs for heating and cooling.
6) Compliance with the City's Shade Tree Policy for parking lot design to achieve 50% shade cover in five to fifteen years through tree canopies, shade structures, or light colored "cool" paving.

D. Modeled Effectiveness of Community Design

With implementation of the proposed site design features, the project is consistent with the City of Chula Vista INDEX CO2 model requirements, as shown in Tables ES1 and ES2 which describe the LEED-ND equivalency analysis (LEA) prepared for the project.

2. INTRODUCTION

A. Need for an AQIP

The objective of this AQIP is to fulfill the City of Chula Vista's Growth Management policy to improve air quality from existing conditions. As the result of rapid development not keeping pace with the demand for facilities and improvements, the City Council adopted Growth Management policy measures that would prohibit new development to occur unless adequate public facilities, improvements and environmental quality of life standards were put in place. The purpose of City of Chula Vista's Growth Management ordinance (CVMC Chapter 19.09) is to provide the following:

1. Provide quality housing opportunities for all economic sections of the community;
2. Provide a balanced community with adequate commercial, industrial, recreational and open space areas to support the residential areas of the City;
3. Provide that public facilities, services and improvements meeting City standards exist or become available concurrent with the need created by new development;
4. Balance the housing needs of the region against the public service needs of Chula Vista residents and available fiscal and environmental resources;
5. Provide that all development is consistent with the Chula Vista general plan;
6. Prevent growth unless adequate public facilities and improvements are provided in a phased and logical fashion as required by the general plan;
7. Control the timing and location of development by tying the pace of development to the provision of public facilities and improvements to conform to the City's threshold standards and to meet the goals and objectives of the growth management program;
8. Provide that the air quality of the City of Chula Vista improves from existing conditions;
9. Provide that the City of Chula Vista conserves water so that an adequate supply be maintained to serve the needs of current and future residents.

This AQIP is provided in accordance with CVMC 19.09.050B. The Growth Management Ordinance requires that no application for a SPA Plan or Tentative Map shall be deemed complete or accepted for review unless an AQIP is provided and approved as part of the approval of the SPA Plan or Tentative Map by the City.

B. AQIP as Tool for Implementation of Ordinances

This AQIP has been prepared based on the best available design practices and also serves to implement several of the key aspects of the City's CO_2 Reduction Plan, the Green Building Standards (CVMC Chapter 15.26) and the City's Energy Code (CVMC 15.12).

2a. PURPOSE & GOALS

A. Purpose of AQIP

The purpose of the AQIP is to provide an analysis of air pollution impacts that would result from development of the FC-2 site and to demonstrate how the project design reduces vehicle trips, maintains or improves traffic flow, reduces vehicle miles traveled, and reduces direct or indirect greenhouse gas (GHG) emissions. This AQIP also demonstrates how the project has been designed consistent with the City's Green Building Standards, (CVMC 15.26) and Energy Code (15.12) and represents the best available design in terms of improving energy efficiency and reducing GHG emissions. GHG emissions include gases such as Carbon Dioxide (CO2), Methane (CH4), and Nitrous Dioxide (N20). They occur both naturally, and are produced by human activities, such as by automobile emissions and emissions from production of electricity to provide power to homes and businesses. These gases prevent heat from escaping the earth's atmosphere, while allowing in sunlight, which has the effect of warming the air temperature. Applicable action measures contained in the City's Carbon Dioxide (CO2) Reduction Plan are also addressed.

B. Regulatory Framework Related to Air Quality

There are a number of actions that Federal, State and Local jurisdictions have taken to improve air quality, increase energy efficiency, and reduce GHG emissions. This section summarizes those actions.

Air quality is defined by ambient air concentrations of specific pollutants determined by the Environmental Protection Agency (EPA) to be of concern with respect to the health and welfare of the public. The subject pollutants monitored by the EPA include the following:

- Carbon Monoxide (CO),
- Sulfur Dioxide (SO_2),
- Nitrogen Dioxide (NO_2),
- Nitrogen Oxides (NO_x)
- Ozone (O_3),
- Respirable 10- and 2.5-micron particulate matter (PM_{10} and $PM_{2.5}$),
- Volatile Organic Compounds (VOC),
- Reactive Organic Gasses (ROG),
- Hydrogen Sulfide (H_2S),
- Sulfates,
- Lead (Pb),
- Vinyl Chloride, and
- Visibility reducing particles (VRP).

The EPA has established ambient air quality standards for these pollutants. These standards are called the National Ambient Air Quality Standards (NAAQS). The California Air Resources Board (CARB) subsequently established the more stringent California Ambient Air Quality Standards (CAAQS). Both sets of standards are shown in Figure 1 on the following page. Areas in California where ambient air concentrations of pollutants are higher than the state standard are considered to be in "non-attainment" status for that pollutant.

Regulation of air emissions from non-mobile sources within San Diego County has been delegated to the San Diego County Air Pollution Control District (APCD). As part of its air quality permitting process, the APCD has established thresholds for the preparation of Air Quality Impact Assessments (AQIAs) and/or Air

Quality Conformity Assessments (AQCAs). APCD has also established an "emissions budget" or Regional Air Quality Strategy (RAQS) for the San Diego Air Basin. This budget takes into account existing conditions, planned growth based on General Plans for cities within the region, and air quality control measures implemented by the APCD.

Figure 1: Ambient Air Quality Standards Matrix

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS		NATIONAL STANDARDS		
		Concentration	Measurement Method	Primary	Secondary	Measurement Method
Ozone (O_3)	1 hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	--	Ethylene Chemiluminescence
	8 hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)	0.075 ppm (147 µg/m^3)	
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm (56 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (338 µg/m^3)		0.100 ppm (188 µg/m^3)	--	
Sulfur Dioxide (SO_2)	24 hours	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	--	--	Pararosaniline
	3 hours	--		--	0.5 ppm (1300 µg/m^3)	
	1 hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)	--	
Respirable Particulate Matter (PM_{10})	24 hours	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	150 µg/m^3	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		--	--	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 µg/m^3	35 µg/m^3	
Sulfates	24 hours	25 µg/m^3	Ion Chromatography	--	--	--
Lead (Pb)	30-day Average	1.5 µg/m^3	Atomic Absorption	--	--	Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3	1.5 µg/m^3	
	3-month Rolling Average	--		0.15 µg/m^3	0.15 µg/m^3	
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride	24 hours	0.010 ppm (26 µg/m^3)	Gas Chromatography	--	--	--

ppm= parts per million
µg/m^3 = micrograms per cubic meter
mg/m^3= milligrams per cubic meter
Source: California Air Resources Board 2013

According to a report by the California Air Pollution Control Officers' Association (CAPCOA), 2013 was the cleanest year on record for the APCD. Accordingly, in 2013, the U.S. EPA redesignated the APCD as an attainment area for the 1997 8-hour federal ozone standard. The APCD has also been designated as a marginal non-attainment area for the more health-protective 2008 8-hour federal ozone standard, and monitoring data show continued progress toward achieving this standard (marginal non-attainment requires attainment by the year 2015). The APCD also continues to meet all air quality standards for PM2.5, including the tightened annual standard that the U.S. EPA promulgated in early 2013, which brings the federal standard in line with the state standard.

Figure 2 shows the APCD air quality emissions budget.

Figure 2: APCD Air Quality Emissions Budget

Pollutant	Construction	Operation
Criteria Pollutants Mass Daily Thresholds		
NO_x	100 lbs/day	55 lbs/day
ROG	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TAC, AHM, and Odor Thresholds		
Toxic Air Contaminants (TACs)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 Metric tons/year CO_2e for industrial facilities	
Ambient Air Quality for Criteria Pollutants		
NO_2 1-hour NO_2 annual	0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour PM_{10} annual average	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operations) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operations)	
SO_2 24-hour SO_2 annual average	0.25 ppm (state) and 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 µg/m^3	
CO 1-hour average CO 8-hour average	20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average Lead rolling 3-month average Lead quarterly average	1.5 µg/m^3 0.15 µg/m^3 1.5 µg/m^3	

µg/m^3 = microgram per cubic meter; pphm = parts per hundred million; mg/m^3 = milligram per cubic meter; ppm = parts per million; TAC = toxic air contaminant; GHG = greenhouse gases; CO_2e = CO_2-equivalent

Summary of Energy Efficiency Standards

Title 24, Part 6 of the California Building Standards Code regulates energy use including space heating and cooling, hot water heating, and ventilation. The energy code allows new buildings to meet a "performance" standard that allows a builder to choose the most cost effective energy saving measures to meet the standard from a variety of measures. These choices may include the following:

- Added insulation,
- Improved windows,
- Radiant barriers,
- Cool roofs,
- Improved HVAC systems,
- Alternative heating and cooling systems,
- More efficient water heating systems, and
- More efficient lighting systems.

The California Energy Commission's (CEC) 2013 Building Energy Efficiency Standards are 25% more efficient than previous standards for residential construction and 30% better for nonresidential construction. These standards took effect on July 1, 2014. On average, the standards increase the cost of constructing a new home by $2,290 but will return more than $6,200 in energy savings over 20 years. These new energy efficiency standards are designed toward the "Zero Net Energy" (ZNE) goal for new homes by 2020 and commercial buildings by 2030. The ZNE goal means that new buildings must use a combination of improved efficiency and distributed renewable generation to meet 100 percent of the annual energy need.

The City's Energy and Water Conservation Regulations (CVMC 20.04) require that all new residential units include the necessary plumbing to encourage the later installation of solar hot water heating. In addition, the electrical conduit necessary for installation of solar photovoltaic system is also required for all new residential units.

Water-related energy use consumes 19 percent of California's electricity, 30 percent of its natural gas, and 88 billion gallons of diesel fuel every year. The water-related energy use includes water and wastewater treatment as well as the energy needed to transport the water from it source (either northern California or the Colorado River). California Green Building Code Title 24, Part 11 (CALGreen) requires that indoor water use be reduced through stringent new water fixture flow rates. The City has also reduced the demand for outdoor water use through the adoption of the Landscape Water Conservation requirements (CVMC 20.12). The City of Chula Vista recently adopted a residential graywater sub-out requirement to allow the future installation of a clothes washer graywater irrigation system (CVMC 15.28.020).

CALGreen also requires that a minimum of 50% all new construction waste generated at the site be diverted to recycle or salvage. Additionally, the State has set per capita disposal rates of 5.3 pounds per person per day for the City of Chula Vista. The City requires new construction to divert 100% of the inert waste and not less than 50% of the remaining waste generated during construction (CVMC 8.25.020).

Summary of Greenhouse Gas (GHG) Reduction

Greenhouse gasses (GHGs) include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_20). These gases allow solar radiation (sunlight) into the Earth's atmosphere but prevent radiative heat from escaping, thus warming the earth's atmosphere. GHGs are emitted by both natural processes and human activities. As directed by Assembly Bill (AB) 32, the Climate Change Scoping Plan (December 2008 prepared by CARB) includes measures to reduce statewide GHGs to 1990 levels by 2020 from forecasted business-as-usual (BAU) 2020 emissions. Recent guidance in the draft AB32 2017 Scoping Plan has identified a local government per capita GHG emission goal of 6 MT CO_2e by 2030 and 2 MT CO_2e by 2050.

The majority of the reduction strategies are to come from the two sectors that generate the most CO_2 emissions statewide: transportation and electricity generation. The majority of the reduction in transportation-related and energy-related CO_2 emissions are to be achieved through statewide regulatory mandates affecting vehicle emissions and types of fuel the vehicles use, public transit, and public utilities. The remaining reductions are to be achieved through direct regulation and price incentive measures affecting oil and gas extraction industries and forestry practices (including increased tree planting programs).

BAU is defined as the emissions that would have occurred in the absence of reductions mandated under AB 32, including CHG reductions from the following:

- Implementation of Pavley 1 and Pavley 2 motor vehicle standards.
  Pavley regulations establish specific GHG emissions levels for both passenger cars and light-duty trucks. The standards become more stringent each year through 2016.
- Implementation of the Low Carbon Fuel Standard (LCFS).
  CARB has also adopted a LCFS that sets carbon reduction standards for the types of fuels that can be sold in California, particularly renewable fuels. This will reduce the GHG emissions even if total fuel consumption is not reduced.
- Implementation of the Renewable Portfolio Standard (RPS).
  RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase renewable energy resources to 33% by 2020.
- Increased energy efficiency measures codified in Title 24 as of 2016.
  BAU uses the energy efficiency standards codified in Title 24 as of 2005.
- Implementation of Federal Corporate Average Fuel Economy (CAFE) standards.
  The CAFE standards determine the fuel efficiency of certain vehicle classes.

The three most applicable measures to land use planning and development within the City of Chula Vista's control include the Regional Transportation-related GHG targets, support for the Million Solar Roofs program, and energy efficiency measures. Since the early 1990s, the City has been engaged in multiple climate change forums including the United Nations Framework Convention on Climate Change (UNFCCC), the Cities for Climate Protection campaign and the U.S. Conference of Mayor's Climate Protection Agreement. The key plans and ordinances that the City has adopted and implemented to achieve citywide GHG emissions reductions are summarized below.

Each participant in the International Council of Environmental Initiatives (ICLEI) was to create local policy measures to ensure multiple benefits in the City and at the same time identify a carbon reduction goal through the implementation of those measures. In its CO_2 Reduction Plan developed in 1995 and officially adopted in 2000, Chula Vista committed to lowering its CO_2 emissions by diversifying its transportation

system and using energy more efficiently in all sectors. To focus efforts in this direction, the City adopted the CO_2 reduction goal of 20% below 1990 levels by 2010. In order to achieve this goal, specific actions were identified, which when fully implemented, were anticipated to save 100,000 tons of CO_2 each year.

The 2008 GHG Emissions Inventory noted that compared to 1990, Chula Vista's citywide GHG emissions have increased by 29%, however, per capita and per housing unit levels are approximately 25% and 17% below 1990 levels, respectively. The Climate Change Working Group (CCWG) helped develop recommendations to reduce the community's GHGs in order to meet the City's 2010 GHG emissions reduction targets. The CCWG ultimately chose seven measures that were adopted by the City Council and the horizon date was delayed until 2012 instead of 2010.

During 2014, a CCWG reconvened to help update the City's Climate Action Plan. Specifically, the CCWG developed recommendations, through an open and transparent public process, for new greenhouse gas reduction strategies to assist Chula Vista in reaching its carbon reduction goals.

The most recent plan is the 2017 Climate Action Plan (CAP) which was adopted by City Council on September 26, 2017. New guidance, including the 2017 draft AB 32 Scoping Plan Update, lists a local government per capita, or person, reduction goal of 6 MT CO2e by 2030 and 2MT CO2e by 2050.

3. PROJECT DESCRIPTION

The FC-2 site is entitled for the construction of 600 multi-family residential units, 15,000 square-feet of commercial space in a mixed-use format, and 2.0 acres of public parkland, as shown on Figures 3 and 4. A SPA Plan Amendment is required to add 300 multi-family units to the existing entitlement.

The mixed-use residential would be located along Town Center Drive and would consist of ground floor commercial with residential above (approximately 600 units) on approximately 10.4 acres, resulting in a density of 58.5 dwelling units per acre. These residential units would be comprised of studio units, and one- and two-bedroom units.

The residential land uses within the western portion of the site would be comprised of approximately 290 multi-family units at the density of approximately 18 dwelling units per acre. The land uses for the western residential area would include a variety of building heights to enhance the visual appearance and to avoid adverse bulk and massing. Shared one-way streets for pedestrian, vehicular, and bicycle use, would be included in the circulation plan for this area.

The park is located near the center of the site and would be available for use by residents, retail employees, hotel guests, and visitors. The design of the park would incorporate flexibility for events for all potential users (hotel, residents, the City, etc.). The park would include an open lawn area, shaded picnic grove area, a water feature, food truck parking and plaza, a location for outdoor screening of movies, amphitheater seating, a boulder field, and hillsides.

Town Center Drive generally bisects the site in a north to south direction. The design of Town Center Drive would promote a walkable, safe, and visually appealing roadway. The roadway would have a narrower street to encourage slower travel and multimodal travel, angled parking, a landscaped median, landscaped buffers along the edges, and wide pedestrian sidewalks.

Site Utilization Plan

Symbol	Land Use	Acres	DU/Ac	Max Dus
FC-1 FREEWAY COMMERCIAL				
FC-1	Freeway Commercial	86.2		0
FC-2 RESIDENTIAL/COMMERCIAL & MIXED USE				
H	Fwy. Comm. (Commercial Hotel)	7.6		
RM	Fwy. Comm. (Multi-Fam. Res.)	16.3	17.914	292
R/MU	Fwy. Comm. (Mixed Use Res.)	10.4	58.462	608
	Sub-total residential	**26.7**	33.708	900
P	Public Park	2		
C/MU	Fwy Comm. (Mixed Use Comm.)	1.9		
	Total FC-2	**38.2**		
	Freeway	27		
	Project Total	**160**		900

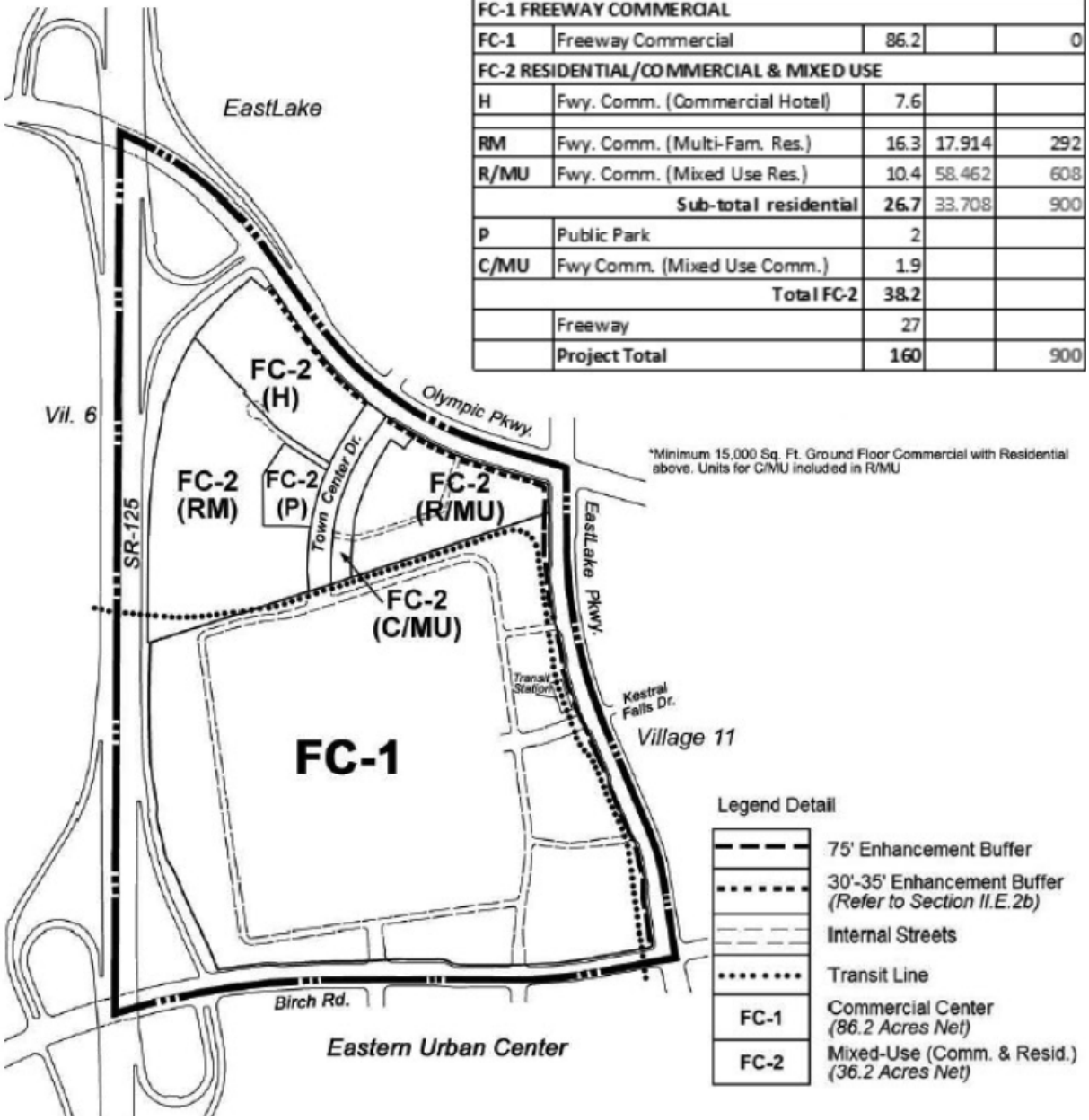


Figure 3: SPA Land Use Plan



Figure 4: Site Plan Illustration

4. EFFECT OF PROJECT ON LOCAL/REGIONAL AIR QUALITY

This section includes a generalized discussion of the short-term and long-term effects on local and regional air quality including its contribution to global climate change.

The project site is currently served by three Metropolitan Transit Service (MTS) Routes. The project is also anticipating future BRT service along the future extension of East Palomar Street adjacent to the southern boundary of the project site.

Construction Related Emissions
Air pollutant emission sources during project construction include exhaust and particulate emissions generated from construction equipment; fugitive dust from site preparation, grading, and excavation activities; and volatile compounds that evaporate during site paving and painting of structures. Because of their temporary nature, construction activity impacts have often been considered as having a less-than-significant air quality impact. However, the cumulative impact from all simultaneous construction in the basin is a contributor to the overall pollution burden.

Construction emissions as estimated in the air quality technical report would be below all significance thresholds for criteria air pollutants, and would not exceed those levels identified in the project FEIR. The site would be watered at least three times daily to control fugitive dust emissions, and vehicle speeds would not exceed 15 miles per hour, per FEIR mitigation measure 5.4-2. In addition, low-VOC paints would be utilized during architectural coatings. With incorporation of these design features, construction emissions were estimated to be below construction emissions estimated in the FEIR. The FEIR also identified mitigation measures 5.4-1 and 5.4-2, which reflect dust control measures and measures to reduce VOC and NOx emissions.

This development is subject to SDAPCD Rule 55 - Fugitive Dust Control that requires restrictions of visible emissions of fugitive dust beyond the property line. Construction fugitive dust will be reduced by implementing the following dust control measures:

- Watering active grading sites and unpaved roads three times daily to control fugitive dust to meet the requirements of SDAPCD Rule 55.
- Use of low-VOC as required under SPAPCD Rule 67.0.
- Replacement of ground cover as quickly as possible.
- Reducing speeds on unpaved roads to 15 miles per hour or less.
- Reduce dust during loading and unloading operations.

According to the Air Quality Report update memorandum, maximum daily emissions of all criteria pollutants would be below the significance thresholds for all criteria pollutants except NOx.

Operational Related Emissions

Operational impacts associated with the FC-2 project would include impacts associated with vehicular traffic, as well as area sources such as energy use, consumer products use, and architectural coatings use for maintenance purposes. Emissions associated with project operations were estimated in the Air Quality Report using the CalEEMod Model. With reductions for a mix of uses and access to transit (15%), the net project trip generation would be 7,681 ADT.

Figure 5 provides a summary of the estimated operational emissions for the project.

Figure 5: FC-2 Project Operational Emissions

Table 3
Criteria Pollutant Emissions from Proposed Project (lbs/day)
From CalEEMod Model, Version 2016.3.1

	VOC	NOx	CO	SO2	PM10	PM2.5
Maximum Daily Emissions	53.21	85.56	277.42	0.69	48.78	14.60
SCAQMD Significance Threshold, lbs/day	55	55	550	150	150	55
Above Threshold?	No	Yes	No	No	No	No

As shown in above table, operational emissions associated with the project would be below the significance criteria for operations for all criteria pollutants except NOx. NOx emissions are associated vehicles. NOx is produced from the reaction of nitrogen and oxygen gases in the air during combustion, especially at high temperatures. With future years, vehicle emissions would decrease due to phase-out of older, more polluting vehicles, and would be below the significance threshold of 55 lbs/day by the year 2025. NOx emissions would exceed the significance threshold for a temporary period, but would eventually be reduced below the City's significance thresholds. Emissions are well below the levels reported in the 2002 EIR (314.55 lbs/day), and therefore no new air quality impact is identified. No additional mitigation measures are proposed. All applicable measures have already been incorporated into the SPA plan, such as provision of bike lanes, providing services near residences, and providing transit support facilities such as bus stops. There are no other feasible mitigation measures available at the project level to reduce vehicular emissions other than reducing vehicle trips.

The project trip generation rates account for a reduction in vehicle trips that would occur as a result of the mixed-use areas and proximity to transit use proposed as part of the SPA plan. In addition, future vehicular emissions may be lower than estimated due to increasingly stringent California fuel efficiency requirements. Some measures cannot be implemented at the SPA level, such as providing video-conference facilities in work places or requiring flexible work schedules. Additionally, there are no feasible mitigation measures currently available to reduce area sources of emissions without regulating the purchases of individual consumers.

The project will provide a mixed-use development with access to transit. This purpose meets the goals of the Regional Air Quality Strategy (RAQS) and the State Implementation Plan (SIP), which include measures to encourage transit use and mixed-use developments. As indicated in the Traffic Analysis (Chen

Ryan 2017), the project would achieve a 15% reduction in vehicle trips by providing a mix of uses and access to transit. Accordingly, the project will meet the goals of the RAQS and SIP to reduce vehicle trips and therefore to improve air quality. The impacts associated with operations would be less than significant by the year 2025. Emissions are below the levels evaluated in the 2002 EIR, and no new air quality impacts are identified. No additional mitigation measures are required. Furthermore, the potential for health risks to residents of the project from surrounding land uses was evaluated in a screening health risk analysis. No adverse health risks would result from exposure to existing land uses. The project would therefore not result in a significant direct or cumulative impact on the ambient air quality.

5. QUANTITATIVE PROJECT DESIGN EVALUATION

Criterion Planners Inc. has performed a quantitative analysis for FC-2 project using Option (2): Alternative Modeling Programs, specifically LEED-ND equivalency analysis (LEA).
This analysis only pertains to the FC-2 site, and represents implementation of the 2004 full Freeway Commercial SPA AQIP which acknowledged that detailed FC-2 site planning had not yet occurred. With that planning now complete, sufficient data is available to support an LEA and fulfill the SPA AQIP requirements for FC-2.

- LEED-ND criteria are proposed as being more appropriate than INDEX indicators for FC-2 for four reasons:
- INDEX indicators and thresholds were originally developed using residential pilot projects in contrast to the mixed uses of FC-2. This difference was acknowledged in the 2004 full SPA AQIP, Section II.7.3.
- INDEX indicators are primarily internal-focused, whereas FC-2 is an infill project whose AQIP value derives in large part from surrounding uses that will interact with FC-2 uses. LEED-ND criteria measure these benefits to a greater and more accurate extent.
- The INDEX approach uses only 16 indicators, whereas LEED-ND has 56 indicators that are able to characterize a project much more comprehensively and thoroughly, and ultimately capture more contributors to GHG emission reductions.
- The underlying basics of the INDEX approach are nearly 15 years old, in contrast to LEED-ND's latest update in 2014. Consequently, current best practices in urban design, green infrastructure, and resilient neighborhoods are not addressed by INDEX indicators, but are covered by LEED-ND criteria.

Based on the amended FC-2 site development plan, the LEA finds that the amended FC-2 plan results in minor ND criteria changes (residential density, residential share of total floor area, diversity of residential units), but the changes are so small as to not alter the original SPA plan ND score of 56 points (see following amended scorecard table). Based on Criterion's original development of the INDEX indicator thresholds for the City, and the firm's experience certifying over 100 LEED-ND projects nationally, they have concluded that a base ND certification of 40 points is the functional equivalent of the INDEX thresholds, and a score of 56 points therefore represents a notable exceedance of the thresholds, and clear AQIP compliance.

Table ES2 identifies the INDEX indicators which correspond to each of the LEED ND credits achieved by FC North. Each INDEX indicator has at least one corresponding ND credit, and on average each indicator has four corresponding ND credits. Where it matters the most for GHG emissions, auto driving and building energy, the ND coverage jumps to 10 and 8 credits, respectively. Overall, the ND approach is able to double or triple the depth and extent of measurements in relation to INDEX indicators.

Otay Ranch FC-2 SPA Amendment - LEED-ND v2009 Equivalency Scorecard				
LEED-ND v2009 Prerequisites & Credits		**Options**	*Amended* FC North Prerequisite Compliance & Equivalency Points	*Amended* FC North Notes
SLLp1	Smart Location	Transit served	Yes	50% of dwellings & business within 1/2-mile walk of 179 weekday transit trips and 46 weekend daily trips (inclusive of BRT)
SLLc1	Preferred Locations	1. Location type	3	Infill site, not previously developed
		2. Connectivity	1	200 intersections/sq mi
SLLc3	Reduced Auto Dependence	1. Transit served	3	Weighted allocation of points based on 179 weekday trips & 46 weekend daily trips (inclusive of BRT)
SLLc4	Bike Network	Bicycle network	1	Existing bicycle network of at least 5 miles within 1/4-mile bicycling distance of project boundary
SLLc5	Housing/Jobs Proximity	1. Affordable residential infill	3	71% residential share of total floor area, and geographic center of project within 1/2-mile walk distance of more than 900 jobs
SLLc6	Steep Slopes	1. No slope over 15%	1	No substantive slopes over 15%
SLLc7	Habitat Site Design	1. No habitat	1	No significant habitat
NPDp1	Walkable Streets		Yes	90% of public-space facing building frontages with entries connected to sidewalks; 15% of street frontages with a building height to street width ratio of 1:3; 90% of streets with sidewalks on both sides; and less than 20% of street frontages devoted to garage or service bay openings
NPDp2	Compact Development		Yes	Residential density of 33.7 DU/acre, and non-residential density of 1.5 FAR (weighted between retail and hotels)
NPDp3	Connected & Open		Yes	Internal connectivity of 200 intersections/sq mi, and perimeter through-connections at least every 800 feet, except where physically-infeasible

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LEED-ND v2009 Prerequisites & Credits		**Options**	*Amended* FC North Prerequisite Compliance & Equivalency Points	*Amended* FC North Notes
NPDc1	Walkable Streets	a. 25 ft setback	8	80% of street facing building façades no more than 25 feet from the property line
		d. Entries every 75 ft		Functional entries to buildings occur at an average of 75 feet or less
		f. Ground-level glass facades		Ground-level retail/service spaces with clear glass on 60% of façade
		g. No blank walls		Blank walls along sidewalks of no more than 50 feet or 40% of façade length
		h. Unshuttered retail windows		Ground-level retail/service spaces remain un-shuttered at night
		i. On-street parking		On-street parking allowed on internal streets
		j. Sidewalks		All streets have sidewalks on both sides
		k. Ground floor dwellings above grade		Ground-floor dwellings at least 24 inches above grade
		n. 20 mph residential streets		20 mph residential streets
		o. 25 mph non-re/mixed-use streets		25 mph non-residential/mixed-use streets
		p. Driveways limited		Driveway widths are no more than 10% of total street length
NPDc2	Compact Development	Compact development	3	Residential density of 33.7 DU/acre, and non-residential density of 1.5 FAR (weighted between retail and hotels)
NPDc3	Mixed Use Centers	Mixed use centers	4	Over 19 diverse uses within 1/4-mile walk of 50% of dwellings
NPDc4	Mixed Income	1. Diverse housing types	2	SDI of 0.67
		2. Affordable housing	2	10% of units up to 60% of AMI
		3. Mixed Income Diverse Communities	1	Options 1 and 2 bonus point
NPDc7	Transit Facilities	Transit stop facilities	1	Transit stop planning/ongoing coordination
NPDc9	Access to Civic Spaces	Access to civic spaces	1	90% of dwelling units within 1/4-mile walk distance of civic space
NPDc10	Access to Recreation	Active rec space outdoors/indoors	1	90% of dwelling units within 1/2-mile walk distance of recreational facilities
NPDc11	Visitability & Univ Design	1. Residential units	1	100% of DU compliant
NPDc12	Community Outreach	1. Community outreach	1	Consultation with stakeholders throughout & communications Ongoing
NPDc13	Local Food	1. Neighborhood gardens	1	Neighborhood garden planned
		3. Farmers market		Farmers market at Town Center

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LEED-ND v2009 Prerequisites & Credits		**Options**	*Amended* FC North Prerequisite Compliance & Equivalency Points	*Amended* FC North Notes
NPDc14	Tree-Lined/Shaded Streets	1. Tree-lined streets	1	60% of streets with shade trees at least every 40 ft.
		2. shaded streets	1	40% of sidewalks shaded
NPDc15	School Proximity	School proximity	1	62% residential share of total floor area, and 50% of dwelling units within 1/2-mile walk distance of elementary & high schools (with BRT crossing)
GIBp1	Certified Green Building	Certified green building	Yes	One building assumed, consistent with regional certification rates
GIBp2	Minimum Building Energy Efficiency	Minimum building energy efficiency	Yes	California energy code exceeds LEED-ND 2009 minimum
GIBp3	Minimum Building Water Efficiency	Minimum building water efficiency	Yes	California plumbing code exceeds to LEED-ND 2009 minimum
GIBp4	Construction Pollution Prevention	Construction pollution prevention	Yes	California pollution prevention code exceeds LEED-ND 2009 minimum
GIBc2	Energy Efficient Bldgs	Energy efficient buildings	1	California energy code equates to LEED-ND 2009 one-point level of energy savings
GIBc3	Water Efficient Bldgs	Water efficient buildings	1	California plumbing code equates to LEED-ND 2009 one-point level of water savings
GIBc4	Water Efficient Landscaping	Water efficient landscaping	1	California water code exceeds LEED-ND 2009 minimum
GIBc9	Heat Island Reduction	3. Mix of roof & non-roof measures	1	Mix of roof & non-roof measures on 75% of qualifying areas
GIB c13	Infrastructure Energy Eff	Energy efficient infrastructure	1	15% efficiency gain assumed
IDPc1	Innovation	Exemplary performance	1	30+ diverse uses
IDPc2	Innovation	Exemplary performance	1	Outdoor irrigation efficiency
IDPc3	Innovation	Innovation	1	Achievement of SLLc5 Option 3 - non-residential infill
IDPc4	Innovation	Innovation	1	Environmentally-responsible landscape maintenance program assumed
IDPc2	LEED Accredited Professional	LEED AP on team	1	LEED AP assumed
RPc1	Regional Priorities	Regional priorities	4	Building water efficiency, walkable streets, shaded streets, mixed use neighborhoods
		Total equivalent points	**56**	***Total Corresponding LEED-ND Measurements***
		Equivalent certification level	***Silver***	

6 COMMUNITY DESIGN AND SITE PLANNING FEATURES

This section describes the specific strategies that have been integrated into the project to create a sustainable community, including those project attributes designed to reduce air quality impacts by promoting walking and alternative travel modes, reducing vehicle miles traveled, and improving energy conservation. Figure 6: Community Design and Site Plan Features includes the list of specific measures that have been included in the FC-2 project.

Figure 6: Community Design and Site Plan Features

Transportation Related Measures
An integrated circulation system provides residents with non-automobile related circulation options that include walking, bicycling, and transit.
The mix of proposed residential, commercial, and community uses provide a complementary, mixed-use environment with a focus on promoting a walkable and bikeable community that promotes pedestrian activity in and around the project.
Higher density uses support walking as distances are reduced, which results in lower GHG emissions from vehicles.
Direct pedestrian links, including the proposed pedestrian bridge over the SR-125, extend from the surrounding neighborhoods directly to the project site.
Bike lanes and bike racks will be provided through the project.
All internal roadways are designed to local street standards with speed limits of 25 to 30 mph. Slow traffic speeds are conducive to walking and bicycling and provide the necessary linkage to the regional bicycle circulation network.
LSVs may travel on all internal streets with a maximum travel speed of 35 miles per hour.
The current regional transit plan includes BRT transit lines the extension of East Palomar Street along the southern boundary of the project.
A future local transit stop is planned at the southeast intersection of Olympic Parkway and Town Center Drive, closest to the hotels and mixed use commercial uses.
Synchronization of the traffic lights is required as part of an individual development project with previously installed traffic lights in order to reduce traffic congestion.
Energy Conservation Related Measures
All of the residential units will be multi-family, which use less energy for heating and cooling when compared to single-family detached homes.
California Green Building Code Title 24, Part 11 (CALGreen) requires that a minimum of 50% all new construction waste generated at the site be diverted to recycle or salvage. Additionally, the State has set per capita disposal rates of 5.3 pounds per person per day for the City of Chula Vista. Reducing waste could reduce the amount of vehicle trips transporting materials to and from the site.
CVMC 8.25.095 requires all new construction and demolition projects to divert 100% of inert waste (asphalt, concrete, bricks, tile, trees, stumps, rocks and associated vegetation and soils resulting from land clearing from landfill disposal); and 50% of all remaining waste generated. Contractors will be required to put up a performance deposit and prepare a Waste Management Report form to ensure that all materials are responsibly handled. Upon verification that the diversion goals have been met the performance deposit will be refunded.
Utilize solar heating technology as practical. Generally, solar panels can be cost-effectively used to heat water for domestic use and for swimming pools. Advances in solar technology in the future may make other applications appropriate.
Enhance energy efficiency in building designs and landscaping plans.
Installation of solar water heater preplumbing.
Installation of solar photovoltaic prewiring.

Installation of residential graywater stub-out.
Other Measures to Improve Air Quality
Install only electric or natural gas fireplaces in new development. No wood burning fireplaces are permitted.
When siting sensitive land uses such as residences, schools, day care centers, playgrounds and medical facilities the recommendations set forth in Table 1-1 of California Air Resources Board's (CARB) Land Use and Air Quality Handbook (CARB 2004) will be use as a guideline. Specifically, new sensitive uses would not be located within 50 feet of any typical-sized gas station (one that has a throughput of less than 3.6 million gallons per year). No gas stations with a throughput of 3.6 million gallons per year or greater shall be developed within the project.
Compliance with the City's Shade Tree Policy for parking lot design to achieve 50% shade cover in five to fifteen years through tree canopies, shade structures, or light colored "cool" paving.

7. CHULA VISTA CLIMATE ACTION PLAN

This section provides a comparative evaluation between the community/site design features and the energy efficiency emission reduction action measures contained in the City's Climate Action Plan (CAP) which was adopted by City Council on September 26, 2017.

The City of Chula Vista original CO_2 Reduction Plan adopted in November 2000, was intended to reduce GHG emissions by 20% below 1990 levels. The CO_2 Reduction Plan outlined steps for Chula Vista to reduce energy consumption, promote alternative transportation and design transit-friendly, walkable communities. The 2005 GHG emissions inventory indicated that Chula Vista's annual citywide GHG levels had increased by 35% since 1990 due primarily to residential growth. During the same period, the City made significant progress in reducing annual per capita emissions by 17% and avoiding nearly 200,00 tons of GHG emissions annually. In addition, GHG emissions from municipal sources decreased by 18% mainly due to traffic signal energy-efficiency improvements. As a result of the 2005 Greenhouse Gas Emissions Inventory Report, in 2008, the City Council directed the re-evaluated of the program and convened a Climate Change Working Group (CCWG) to develop recommendations to reduce the community's greenhouse gas emissions or "carbon footprint" in order to meet the City's 2010 greenhouse gas emissions reduction targets. During the 2014 CCWG sessions, the City established a new plan of actions to take it closer to achieving statewide goals of reducing GHG emissions to 15% below 2005 levels by 2020 and 55% by 2030. These Implementation Measures include the following:

I. WATER CONSERVATION & REUSE
- Objective 1.1 – Water Education & Enforcement
  - Strategy 1. Expand education and enforcement targeting landscape water waste.
- Objective 1.2 – Water Efficiency Upgrades
  - Strategy 1. Update the City's landscaping regulations to promote more water-wise designs.
  - Strategy 2. Require water-savings retrofits in existing buildings at a specific point in time.
- Objective 1.3 – Water Reuse Plan & System Installations
  - Strategy 1. Develop a Water Reuse Framework for storm water, graywater, and onsite water reclamation.
  - Strategy 2. Facilitate simple graywater systems for Laundry-to-Landscape applications.
  - Strategy 3. Streamline complex graywater systems permit review

II. WASTE REDUCTION
- Objective 2.1 – Zero Waste Plan
  - Strategy 1. Develop a Zero Waste Plan to supplement statewide green waste, recycling, and plastic bag ban efforts.

III. RENEWABLE & EFFICIENT ENERGY
- Objective 3.1 – Energy Education & Enforcement
  - Strategy 1. Expand education targeting key community segments and facilitate energy performance disclosure.
  - Strategy 2. Leverage the building inspection process to deter unpermitted, low-performing energy improvements.
- Objective 3.2 – Clean Energy Sources

Strategy 1. Incorporate solar into all new buildings to help transition to Zero Net Energy design.

Strategy 2. Provide more grid-delivered clean energy (up to 100%) through Community Choice Aggregation or other mechanism.

Objective 3.3 – Energy Efficiency Upgrades

Strategy 1. Reauthorize the City's "cool roof" standards and expand to include re-roofs and western areas.

Strategy 2. Facilitate more energy upgrades in the community through incentives, permit streamlining (where possible), and education.

Strategy 3. Require energy-savings retrofits in existing buildings at a specific point in time.

Objective 3.4 – Robust Urban Forests

Strategy 4. Plant more shade trees to save energy, address heat island issues, and improve air quality.

IV. SMART GROWTH & TRANSPORTATION

Objective 4.1 – Complete Streets & Neighborhoods

Strategy 1. Incorporate "Complete Streets" principles into municipal capital projects and plans.

Strategy 2. Encourage higher density and mixed-use development in Smart Growth areas, especially around trolley stations and other transit nodes.

Objective 4.2 – Transportation Demand Management

Strategy 1. Utilize bike facilities, transit access/passes, and other Transportation Demand Management and congestion management offerings.

Strategy 2. Expand bike-sharing, car-sharing, and other "last mile" transportation options.

Objective 4.3 – Alternative Fuel Vehicles

Strategy 1. Support the installation of more local alternative fueling stations

Strategy 2. Designate preferred parking for alternative fuel vehicles.

Strategy 3. Design all new residential and commercial buildings to be "Electric Vehicle Ready."

Figure 7: Consistency with CAP Implementation Actions

Implementation Action	Project/Community Design Features	Describe how project design will Implement CAP Actions
Water Conservation & Reuse		
Objective 1.2. Strategy 1. Update the City's landscaping regulations to promote more water-wise designs.	Project is consistent with the water-wise landscape requirements.	Project will conserve water through selection of low water use plans and smart irrigation
Renewable & Efficient Energy		
Objective 3.2 Strategy 1. Adopt pre-wiring and pre-plumbing standards for solar photovoltaic and solar hot water, respectively	▪ Compliance with CVMC 20.04.030 that requires solar water heater preplumbing in all new residential units. ▪ Compliance with CVMC 20.04.040 that requires solar photovoltaic prewiring in all new residential units.	Reduces energy consumption that reduces GHG emissions.

Objective 3.4 Strategy 4. Plant more shade trees to save energy, address heat island issues, and improve air quality.	The land use plan includes widened landscape medians and parkways to reduce paving. Shade-producing street trees will be planted to reduce heat build-up and demand for air conditioning.	Reduces energy consumption that reduces GHG emissions.
Smart Growth & Transportation		
Objective 4.1. Strategy 1. Incorporate "Complete Streets" principles into municipal capital projects and plans.	▪ The SPA provides a detailed Circulation Network that links with the potential transit stops. The project is within walking distanced of 3 MTS bus routes. ▪ The mixed-use nature of the project encourages pedestrian and bicycle travel as an alternative to the automobile. Streets are designed to accommodate bicycle travel. ▪ Building and site design anticipates and accommodates pedestrian and vehicle circulation to reduce traffic impacts on neighboring streets and jointly optimize pedestrians and vehicles. Buildings are oriented toward sidewalks. Bike parking is required for all uses.	▪ Reduces vehicle-miles traveled that in turn reduces the GHG emissions. ▪ Promotes bicycling that can reduce vehicle-miles traveled that in turn reduces the GHG emissions.
Objective 4.1. Strategy 2. Encourage higher density and mixed-use development in Smart Growth areas, especially around trolley stations and other transit nodes.	▪ Project is located along BRT route, within walking distance to Park & Ride BRT station. The residential uses in the project are Multi-Family high-density. ▪ The mixed-use nature of the project encourages pedestrian and bicycle travel as an alternative to the automobile. Streets are designed to accommodate bicycle travel. Pedestrian pathways and trails accommodate pedestrian movement from the residential areas to schools, parks and commercial uses.	Reduces vehicle-miles traveled that in turn reduces the GHG emissions.
Objective 4.1, Strategy 1. Utilize bike facilities, transit access/passes, and other Transportation Demand Management and congestion management offerings.	The project will accommodate electric vehicle (EV) chargers, through programs such as SDG&E's Power Your Drive.	Reduces non-renewable energy consumption that reduces GHG emissions.
Objective 4.3. Strategy 1. Support the installation of more local alternative fueling stations.	Energy efficient light for streets, parks and other public spaces is required.	Reduces energy consumption that reduces GHG emissions.

8. CREDIT TOWARDS INCREASED MINIMUM ENERGY EFFICIENCY STANDARDS

Note: Detailed provisions related to the calculation and application of credits are currently under development and subject to subsequent review and approval of City Council.

9. Compliance Monitoring

This section includes a written description and a checklist (Figure 8) summarizing the project design features and mitigation measures that have been identified to reduce the development's effects on air quality and improve energy efficiency.

Figure 8: Air Quality Improvement Plan Compliance Checklist

	Method of Verification[1]	Timing of Verification	Responsible Party[2]	Project Consistency & Compliance Documentation[3]
PLANNING				
AQIP Project Design Features/Principles				
Pedestrian oriented development	Plan Review	Precise Plan, Design Review	City of Chula Vista	
Widened landscape medians and parkways with street trees	Plan Review	Precise Plan, Design Review	City of Chula Vista	
Integrated circulation system	Plan Review	Precise Plan, Design Review	City of Chula Vista	
Mix of uses	Plan Review	SPA Plan, Precise Plan	City of Chula Vista	
Higher density	Plan Review	SPA Plan, Precise Plan	City of Chula Vista	
Class II Bicycle facilities	Plan Check	Tentative Tract Final Map, Improvement Plans	City of Chula Vista	
Opportunity for employee services to be located near employers	Plan Review	Precise Plan	City of Chula Vista	
Circulation pattern w/less than 35mph	Plan Review	Tentative Tract Final Map, Improvement Plans	City of Chula Vista	
Available public transportation	Plan Review	Precise Plan	City of Chula Vista	
Transit Plan	Transit Review	Per SANDAG	SANDAG/MTS/City	
Compliance with the City's Shade Tree Policy for parking lots	Plan Review	Precise Plan, Construction Plans	City of Chula Vista	
Air Quality Mitigation Measures				
Construction related emissions	Permit Review	Grading Permit	City of Chula Vista	
Siting of sensitive land uses	Permit Review	Precise Plan	City of Chula Vista	
TAC Emission Compliance	Permit Review	Building Permit	City of Chula Vista	

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Figure 8: Air Quality Improvement Plan Compliance Checklist (Continued)

	Method of Verification[1]	Timing of Verification	Responsible Party[2]	Project Consistency & Compliance Documentation[3]
BUILDING				
Green Building Standards				
New Construction Recycling Plan	Waste Management Report Review	Construction or demolition permit	City of Chula Vista	
Project wide recycling	Plan Check	Tentative Tract OR Building Permit	San Diego County	
Energy Efficiency Standards				
Size of dwellings units	Plan Check	Building Permit	City of Chula Vista	
Compliance with 2016 California Energy Code	Plan Check	Building Permit/ Title 24 Energy Report	City of Chula Vista	
Installation of energy efficient appliances	Plan Check	Building Permit	City of Chula Vista	
Participation in a Utility Demand Response program	Plan Check	Building Permit	City of Chula Vista	
Compliance with 2016 CalGreen Indoor Water Use requirements	Plan Check	Plumbing Permit	City of Chula Vista	
Compliance with EPA's WaterSense certification	Plan Check	Plumbing Permit	City of Chula Vista	
Compliance with EPA's Energystar certification for indoor residential appliances	Plan Check	Plumbing Permit	City of Chula Vista	
Efficient irrigation equipment	Plan Check	Landscape Plan	City of Chula Vista	
Water efficient vegetation	Plan Check	Landscape Plan	City of Chula Vista	
Turf limited to 30% in residential areas	Plan Check	Landscape Plan	City of Chula Vista	
Solar access - use passive solar design and building orientation principles	Plan Check	Building Permit	City of Chula Vista	
Solar access - Use of vertical landscape elements to reduce heating/cooling loads	Plan Check	Building Permit	City of Chula Vista	
Energy efficient light of streets, parks and public spaces	Plan Check	Building Permit	City of Chula Vista	
Installation of solar water heater preplumbing	Plan Check	Building Permit	City of Chula Vista	
Installation of solar photovoltaic prewiring	Plan Check	Building Permit	City of Chula Vista	
Installation of residential graywater stub-out	Plan Check	Building Permit	City of Chula Vista	

Notes:

1. Method of verification may include, but is not limited to, plan check, permit review, site inspection.
2. Identify the party responsible for ensuring compliance (City of Chula Vista, San Diego APCD, Other)
3. This column shall include all pertinent information necessary to confirm compliance including document type, date of completion, plan/permit number, special notes/comments, and contact information.