



Santa Cruz Climate Action Plan (CAP) 2030

Draft Initial Study – Negative Declaration

prepared for

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Acronyms and Abbreviations

CCCE	Central Coast Community Energy
AB	Assembly Bill
ABAU	adjusted business-as-usual
AMBAG	Association of Monterey Bay Area Governments
ATP	Active Transportation Plan
BAU	business-as-usual
BMPs	Best Management Practices
CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalGREEN	California's Green Building Standards Code
CAP	Climate Action Plan
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCA	Community Choice Aggregation
CCRWQCB	Central Coast Regional Control Board
CEC	California Energy Commission
CFGC	California Fish and Game Code
CGS	California Geological Survey
CH ₄	Methane
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
dB	decibels
dBA	A-weighted sound pressure level
DOC	California Department of Conservation
DOF	Department of Finance
EIR	Environmental Impact Report
EO	Executive Order
EV	Electric Vehicle

FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse Gas
GWh	gigawatt-hours
HFC	hydrofluorocarbon
Ldn	day/night average sound level
LHMP	Local Hazard Mitigation Plan
MBARD	Monterey Bay Air Resources District
MBTA	Migratory Bird Treaty Act
MPO	Metropolitan Planning Organizations
MT	metric tons
MTP	Metropolitan Transportation Plan
N ² O	nitrous oxide
NCCAB	North Central Coast Air Basin
NPDES	National Pollutant Discharge Elimination System
PCE	Peninsula Clean Energy
PFC	perfluorinated compound
PGE	Pacific Gas & Electric
PPV	peak particle velocity
RMS	Root Mean Square
ROG	reactive organic gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCMC	Santa Cruz Municipal Code
SCS	Sustainable Communities Strategies
SF6	sulfur hexafluoride
SIP	State Implementation Plan
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
UCSC	University of California at Santa Cruz
U.S. EPA	United States Environmental Protection Agency
USIEA	United States Energy Information Administration

UWMP	Urban Water Management Plan
VdB	vibration decibels
VMT	vehicle miles traveled
ZNE	zero net energy

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Initial Study

Proposed Plan Title

Santa Cruz Climate Action Plan (CAP) 2030

Lead Agency/Plan Sponsor and Contact

Lead Agency/Plan Sponsor

City of Santa Cruz

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Plan Location and Physical Setting

The City of Santa Cruz Climate Action Plan (CAP) 2030 applies to all areas, plans, and projects within the City of Santa Cruz limits. Figure 1 shows the City's regional location, and Figure 2 shows the plan location. The plan location includes all of Santa Cruz's incorporated lands including the City's landfill and the Hill Water Treatment Plant, both of which fall within the City's incorporated lands but are surrounded by unincorporated Santa Cruz County.

Regional Location and Setting

The City of Santa Cruz is approximately 13 square miles and is located on the north shore of the Monterey Bay in the central portion of Santa Cruz County of California's central coast. The City is almost entirely surrounded by the Santa Cruz Mountains and protected open spaces (City of Santa Cruz 2012). Specifically, the City is bordered by the Santa Cruz Harbor, the Arana Gulch, and Anna Jean Cummings County Park to the east, Henry Cowell Redwoods State Park to the north, Wilder Ranch State Park to the west, and the Pacific Ocean to the south. The nearest major cities are Watsonville, San Jose, Fremont, and San Francisco, which are located approximately 16 miles to the southeast, 25 miles to the north, 35 miles to the north, and 55 miles to the northwest, respectively.

Vehicular access to Santa Cruz is primarily provided by Highway 1 (Cabrillo Highway), State Route (SR)-17 (Santa Cruz Highway), and SR-9 (River Street). The City's downtown core is located just south of the junction of north-south SR-17, which leads north to San José, the cities of Silicon Valley, and the San Francisco Bay Area beyond, and SR- 1, which follows the coast north to the San Francisco Bay Area. SR-9 is a winding two-lane road that traverses the Santa Cruz Mountains, passing through the communities of Felton, Ben Lomond, Brookdale, and Boulder Creek.

Figure 1 Regional Location



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 City of Santa Cruz

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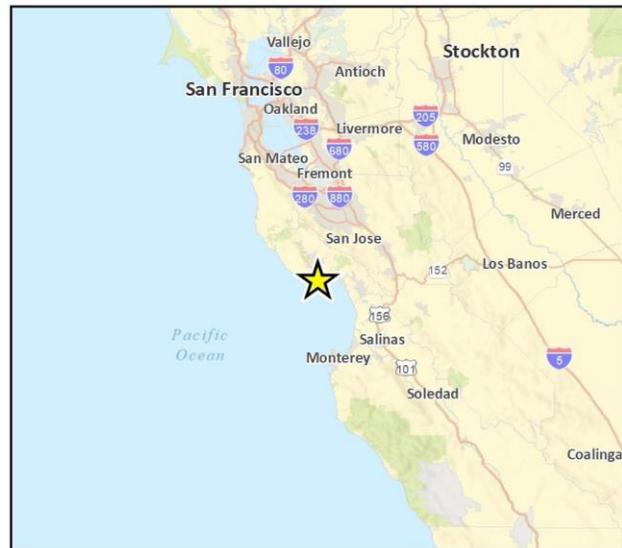


Fig. 1 Regional Location

Figure 2 Plan Location



The City is served by several public transit providers, including the Santa Cruz Metro, Amtrak passenger rail, and Greyhound Lines, Inc. motorcoach services. The City's Metro Center Transit Station is located on Pacific Avenue. The City also provides an electric trolley service, the Santa Cruz Trolley, as a means to travel between the beach and the City's downtown areas (Santa Cruz County Chamber of Commerce 2022). The nearest airport to Santa Cruz is the Norman Y. Mineta San Jose International Airport, located approximately 30 miles northeast of the City.

Local Setting

Santa Cruz is the most populous city in Santa Cruz County, with an estimated total population of 65,041 in 2019 (California Department of Finance [DOF] 2021). According to the City of Santa Cruz 2030 General Plan, the City contains a mix of small-scale residential neighborhoods; widely-visited beaches; a river, many creeks, and riparian corridors; a more intensely developed downtown area with distinctive buildings; and automobile-oriented commercial corridors. The City is also home to the University of California Santa Cruz (UCSC). Residential uses comprise the largest portion of existing land uses within Santa Cruz with community commercial development along major transportation corridors. Other major land uses include park space, natural areas, and lands associated with UCSC (City of Santa Cruz 2012). The City supports a diverse range of industries. In 2021, there were over 3,500 businesses within the City limits providing approximately 39,000 jobs. The top sectors for employment in the City are Education, Retail Trade, Accommodation and Food Services, and Health Care Services, which represent 57 percent of Santa Cruz Employment (City of Santa Cruz 2021a).

The City of Santa Cruz maintains a clearly defined urban boundary due to the natural features and green space that border the City on all sides. The San Lorenzo River is a defining feature of the City, as it flows through its center and serves as the dividing line between the City's eastern and western areas. The City also features four miles of coastline along the Monterey Bay on its southern border. The City's beaches and coastal bicycle, pedestrian, and automobile routes are extremely popular destinations for both residents and visitors. Santa Cruz is shaped by a various topography that creates a variety of public views throughout the community, including views of Monterey Bay and the City as a whole. The City's arroyos and steep coastal cliffs provide the greatest variation in topography, along with pronounced hills, such as the coastal terraces of the UCSC campus, Pogonip, and the Carbonera area; smaller hills, such as Beach Hill and Mission Hill, which act as community landmarks; and shallow slopes toward the Monterey Bay. Other significant topographical features of note include the ridgelines along Escalona Drive and Grandview Street.

The City can be characterized by its warm, temperate, Mediterranean climate with dry summers and rainier winters. The warmest months of the year in Santa Cruz are typically August and September, and the coldest months of the year are typically December and January. The average temperature in the month of September is 61.6 degrees Fahrenheit while the average temperature in the month of January is 51.0 degrees Fahrenheit. The driest month of the year is typically July with an average of 0.0 inches of rainfall, and the wettest month of the year is typically January with an average of 5.9 inches of rainfall (Climate Data 2022).

Existing Sustainability Setting

City of Santa Cruz Sustainability and GHG Reduction Efforts

The City has implemented a variety of environmental policies and programs since 2011 contributing to Greenhouse Gas (GHG) reductions. The following is a list of the City's primary sustainable and climate protection policies and programs:

- Community Climate Action Task Force established (2008)
- Climate Change Vulnerability Assessment adopted (2011)
- 2012-2020 Climate Action Plan adopted (2012)
- Polystyrene Ban Ordinance adopted (2012)
- Santa Cruz City Schools Complete Streets Master Plan adopted (2015)
- Water Efficient Landscape Ordinance adopted (2016)
- Climate Action Milestones revised (2016)
- Global Covenant of Mayors for Climate and Energy Resolution adopted (2016)
- 2015-2023 Housing Element of General Plan adopted (2016)
- Active Transportation Plan (2017)
- Resolution in Support of Paris Agreement adopted (2017)
- Local Hazard Mitigation Plan Five Year Update adopted (2018)
- Climate Emergency Resolution adopted (2018)
- 2018-2023 Climate Adaptation Plan Update adopted (2018)
- Health In All Policies Ordinance and City Council Policy adopted (2019)
- Green New Deal Resolution adopted (2019)
- Wastewater Treatment Plant upgrades (2018)
- Emergency Operations Plan adopted (2018)
- 2030 General Plan adopted (2012, as amended 2019)
- Beach Vulnerability and Adaptation Strategy completed (2021)
- Parks Master Plan 2030 adopted (2020)
- Re-Envision Santa Cruz Interim Recovery Plan adopted (2020)
- 2020 Urban Water Management Plan adopted (2020)
- Local Coastal Program updated (currently underway)

Regional Sustainability and GHG Reduction Efforts

In coordination with Santa Cruz County (hereinafter "County"), the State of California (hereinafter "State"), and the federal government, the City of Santa Cruz has committed to implementing regional and State policies related to GHG emissions reduction. The following is a summary of regional GHG emissions reduction efforts, which the City of Santa Cruz CAP is intended to be consistent with or exceed.

Monterey Bay Air Resources District CEQA Guidelines

The Monterey Bay Air Resources District ('MBARD') published the *Guidelines for Implementing CEQA* in February 2016, which provides guidelines for the assessment of air quality and GHG emissions impacts for projects subject to CEQA review. The *Guidelines for Implementing CEQA* notes that MBARD's GHG threshold is defined in terms of carbon dioxide equivalent (CO₂e), a metric that accounts for the emissions from various GHGs based on their global warming potential. If annual emissions of GHGs exceed these threshold levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and must implement mitigation measures. A proposed stationary source project would not have a significant GHG impact, if operation of the project would (MBARD 2014):

- Emit less than the significance level of 10,000 metric tons per year (MT/yr) CO₂e, or
- In accordance with the State CEQA Guidelines Section 15064.4(b)(3), the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions [such as, sources subject to the Cap-and-Trade requirements pursuant to Title 17, Article 5 (California Cap on Greenhouse Gas Emissions and Market-based Compliance Mechanisms)].

This approach is consistent with State CEQA Guidelines, Section 15183.5, which states that:

"Lead agencies may analyze and mitigate the significant impacts of greenhouse gas emissions at a programmatic level, such as...a plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an [Environmental Impact Report] containing a programmatic analysis of greenhouse gas emissions."

Association of Monterey Bay Area Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy

The Association of Monterey Bay Area Governments (AMBAG) adopted the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) in June 2018. The MTP/SCS outlines policies, projects, and programs required to improve the County's transportation system over the next 20 years and demonstrates how the region will integrate transportation and land use planning to meet the greenhouse gas reduction targets established by Senate Bill (SB) 375 and air quality requirements established by the State Implementation Plan. The 2040 MTP/SCS describes 6 goals and policy objectives related to access and mobility, economic vitality, environment, healthy communities, social equity, and system preservation and safety (AMBAG 2018a).

AMBAG is currently developing the 2045 MTP/SCS, which is scheduled for adoption in June 2022.

2045 Santa Cruz County Regional Transportation Plan

The Santa Cruz County Regional Transportation Commission adopted the 2045 Regional Transportation Plan (RTP) in March 2022. The 2045 RTP acts as a comprehensive planning document that provides guidance for transportation policy and projects through the year 2045 and is incorporated into the AMBAG 2040 MTP/SCS. The RTP incorporates sustainability principles in all of its elements. Each of the goals, policies, performance measures and targets included within the 2045 RTP were developed with extensive public and partner input to form the foundation for a sustainable transportation plan. The three major goals for the 2045 RTP are as follows (Santa Cruz County Regional Transportation Commission 2022):

- Establish livable communities that improve people’s access to jobs, schools, recreation, healthy lifestyles, and other regular needs in ways that improve health, reduce pollution, and retain money in the local economy.
- Reduce transportation related fatalities and injuries for all transportation modes
- Deliver access and safety improvements cost effectively, within available revenues, equitably and responsive to the needs of all users of the transportation system and beneficially for the natural environment.

Central Coast Community Energy

Central Coast Community Energy (CCCE) is a joint powers authority based in Monterey and governed by a Board of local elected officials, city managers and city administrators from each of the participating jurisdictions. Launched in 2018 in Monterey, San Benito and Santa Cruz Counties, the cities of San Luis Obispo and Morro Bay elected to join CCCE in 2020 With San Luis Obispo and Santa Barbara counties soon following suit. CCCE aims to expand consumer choice, reduce utility costs, and invest in California’s renewable energy projects. CCCE is committed to reducing greenhouse gas emissions through local control of utility scale renewable electricity generation provided at competitive rates. Renewable energy is energy that comes from resources that are naturally replenished, create limited carbon emissions, and include small hydroelectric, solar, wind, biomass, biowaste, and geothermal sources. CCCE also focuses on the implementation of innovative energy programs that facilitate the electrification of the transportation and built environments (CCCE 2022).

State Sustainability and GHG Reduction Efforts

The following summarizes the State GHG emissions reduction efforts, which the City of Santa Cruz CAP is intended to be consistent with or exceed.

Assembly Bill 1493, the Pavley Bill

In 2002, the California State Legislature enacted AB 1493 (aka “the Pavley Bill”), which directs the California Air Resources Board (CARB) to adopt standards that will achieve "the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles," taking into account environmental, social, technological, and economic factors. In September 2009, the ARB adopted amendments to the “Pavley” regulations to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The Pavley Bill is considered to be the national model for vehicle emissions standards. In January of 2012, the ARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and greenhouse gases and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

Assembly Bill 117, Community Choice Aggregation

AB 117 establishes the creation of Community Choice Aggregation (CCA) that fosters clean and renewable energy markets. CCA allows cities and counties to aggregate the buying power of individual jurisdictions. The California CCA markets were created as an answer to the brownouts and energy shortages of the early 2000’s. AB 117 was passed in 2002 as an answer to California’s increased energy independency by incorporating more alternative and renewable energy sources into its energy portfolio. With AB 117, municipalities can provide alternative energy choices to their local carrier (e.g., the Pacific Gas and Electric Company [PG&E]). Marin Clean Energy was the first

CCA in the State of California to go online with a 50 percent to 100 percent clean energy portfolio in 2010. Peninsula Clean Energy (PCE) was created in February 2016 when all 20 towns/cities in San Mateo County, plus the County of San Mateo, voted unanimously to form a Joint Powers Authority to administer the program. PCE is a public, locally controlled electricity provider that gives PG&E customers in San Mateo County the choice of having 50 percent to 100 percent of their electricity supplied from clean, renewable sources at competitive rates. CCAs are governed by the CPUC. SB 790 further ensures fair and transparent competition by creating a code of conduct and guiding principles for entrants into the CCA field.

California Executive Order S-3-05

In 2005, the California governor issued Executive Order (EO) S-3-05, which identifies Statewide GHG emissions reduction targets to achieve long-term climate stabilization as follows:

- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

In response to EO S-3-05, California Environmental Protection Agency (CalEPA) created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the “2006 CAT Report”). The *2006 CAT Report* identified a recommended list of strategies that the State could pursue to reduce GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, among others.

California Assembly Bill 32

In 2006, the California legislature signed Assembly Bill (AB) 32 – the Global Warming Solutions Act – into law, requiring a reduction in Statewide GHG emissions to 1990 levels by 2020 and CARB preparation of a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of Statewide GHG emissions. Based on this guidance, CARB approved a 1990 Statewide GHG level and 2020 limit of 427 MT of CO₂e.

California Senate Bill 375

In 2008, SB 375 enhanced the State’s ability to reach AB 32 targets by directing CARB to develop regional GHG emissions reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State’s 18 major Metropolitan Planning Organizations (MPO) to prepare a SCS that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective RTP.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. AMBAG was assigned targets of a three percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a six percent reduction in per capita GHG

emissions from passenger vehicles by 2035. In March 2022, AMBAG formally adopted the 2045 RTP, which meets the requirements of SB 375. California Energy Efficiency Strategic Plan of 2008

In September 2008, the California Public Utilities Commission (CPUC) adopted California's first Long Term Energy Efficiency Strategic Plan, presenting a single roadmap to achieve maximum energy savings across all major groups and sectors in California. The Strategic Plan was subsequently updated in January 2011 to include a lighting chapter. The Strategic Plan sets goals of all new residential construction and all new commercial construction in California to be zero net energy (ZNE) by 2020 and 2030, respectively. In 2018, the California Energy Commission (CEC) voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change will go into effect in January 2020 with the adoption of the 2019 Title 24 Code, described below, and is a step towards the State achieving its goal of all residential new construction being ZNE by 2020. Additionally, the Strategic Plan sets goals of 50 percent of existing commercial building to be retrofitted to ZNE by 2030 and all new State buildings and major renovations to be ZNE by 2025.

California Climate Change Scoping Plan

In 2008, CARB approved the original California Climate Change Scoping Plan, which included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted and implemented since approval of the Scoping Plan.

Senate Bill 97, CEQA Guidelines for Addressing GHG Emissions

CEQA requires public agencies to review the environmental impacts of proposed projects, including General Plans, Specific Plans, and specific kinds of development projects. In February 2010, the California Office of Administrative Law approved the recommended amendments to the State CEQA Guidelines for addressing GHG emissions. The amendments were developed to provide guidance to public agencies regarding the analysis, mitigation, and effects of GHG emissions in draft CEQA documents.

California Climate Change Scoping Plan Update (2013)

In 2013, CARB approved the first update to the California Climate Change Scoping Plan. The 2013 Scoping Plan Update defined CARB climate change priorities for the next five years and set the groundwork to reach post-2020 Statewide GHG emissions reduction goals. The 2013 Scoping Plan Update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.

Senate Bill 1275, Charge Ahead Initiative

In September 2014, SB 1275 was signed into law, establishing a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directing CARB to develop a long-term funding plan to meet this goal. SB 1275 also established the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs and increasing access to and benefits from zero-emissions vehicles for disadvantaged, low-income, and moderate-income communities and consumers.

California Executive Order B-30-15

In 2015, the California governor issued EO B-30-15, which established a Statewide mid-term GHG reduction target of 40 percent below 1990 levels by 2030.

Senate Bill 350, Clean Energy and Pollution Reduction Act of 2015

In October 2015, SB 350 was signed into law, establishing new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codifies Governor Jerry Brown’s aggressive clean energy goals and establishes California’s 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 increases California’s renewable electricity procurement goal from 33 percent by 2020 (legislation originally enacted in 2002) to 50 percent by 2030. Renewable resources include wind, solar, geothermal, wave, and small hydroelectric power. In addition, SB 350 requires the State to double State-wide energy efficiency savings in electricity and natural gas end uses by 2030 from a base year of 2015.

California Senate Bill 32

In 2016, the California legislature signed SB 32 into law, extending AB 32 by requiring further reduction in Statewide GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below).

Assembly Bill 197, State Air Resources Board Greenhouse Gases Regulations

In 2016, the California legislature approved AB 197, a bill linked to SB 32, which increases legislature oversight over CARB and directs CARB to prioritize disadvantaged communities in its climate change regulations, and to evaluate the cost-effectiveness of measures it considers. AB 197 requires the ARB to “protect the State’s most impacted and disadvantaged communities [and] consider the social costs of the emissions of greenhouse gases” when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to the ARB, increasing the Legislature’s role in the ARB’s decisions.

California Climate Change Scoping Plan Update (2017)

In 2017, CARB approved the second update to the California Climate Change Scoping Plan. The 2017 Scoping Plan put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan Update does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with Statewide per-capita goals of six MT of CO₂e by 2030 and two MT of CO₂e by 2050. As stated in the 2017 Scoping Plan Update, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects, because they include all GHG emissions sectors in the State (CARB 2017a).

California Executive Order B-55-18

In 2018, the California governor issued EO B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing Statewide GHG reduction targets established by SB 32.

For more information on the Senate and Assembly Bills, Executive Orders, and Scoping Plans discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

Senate Bill 100, The 100 Percent Clean Energy Act of 2018

In September 2018, Governor Brown signed SB 100, requiring that the State's load serving entities (including energy utilities and community choice energy programs) must procure energy generated 100 percent from Renewables Portfolio Standard for eligible renewable resources by 2045.

California Code of Regulations Title 24 (California Building Code)

Updated every three years through a rigorous stakeholder process, Title 24 of the CCR requires California homes and businesses to meet strong energy efficiency measures, thereby lowering their energy use. Title 24 contains numerous subparts, including Part 1 (Administrative Code), Part 2 (Building Code), Part 3 (Electrical Code), Part 4 (Mechanical Code), Part 5 (Plumbing Code), Part 6 (Energy Code), Part 8 (Historical Building Code), Part 9 (Fire Code), Part 10 (Existing Building Code), Part 11 (Green Building Standards Code), Part 12 (Referenced Standards Code). The California Building Code (CBC) is applicable to all development in California. (Health and Safety Code §§ 17950 and 18938(b).)

The regulations receive input from members of industry, as well as the public, with the goal of "[r]educing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy." (Pub. Res. Code § 25402.) These regulations are carefully scrutinized and analyzed for technological and economic feasibility (Pub. Res. Code § 25402(d)) and cost effectiveness (Pub. Res. Code § 25402(b)(2) and (b)(3)).

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS

CCR Title 24 Part 6 is the Building Energy Efficiency Standards. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Building Energy Efficiency Standards is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and residential homes will be 7 percent more energy efficient. When accounting for the electricity generated by the solar photovoltaic system, residences would use 53 percent less energy compared to homes built to the 2016 standards. The 2019 Building Energy Efficiency Standards, adopted on May 9, 2018, became effective on January 1, 2020. The 2019 Standards move toward cutting energy use in new homes by more than 50 percent and require installation of solar photovoltaic systems for single-family homes and multi-family buildings of three stories and less. The 2019 Standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and

nonresidential ventilation requirements; 4) and nonresidential lighting requirements. Under the 2019 Standards, nonresidential buildings will be 30 percent more energy-efficient compared to the 2016 Standards, and single-family homes will be seven percent more energy-efficient. When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

The California Green Building Standards Code, referred to as CALGreen, was added to CCR Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2016 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;
- 50 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of EV charging stations in newly constructed attached garages for single-family and duplex dwellings; and
- Installation of EV charging stations at least three percent of the parking spaces for all new multi-family developments with 17 or more units.

Similar to the compliance reporting procedure for demonstrating Building Energy Efficiency Standards compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

General Plan Designation and Zoning

The CAP would be implemented throughout the City of Santa Cruz and would occur in all Santa Cruz 2030 General Plan designations and zoning designations. The plan would not alter any existing General Plan land use or zoning designations at this time. Any changes in zoning designations that would occur as a result of this CAP would be subject to CEQA.

Description of the CAP

The Santa Cruz CAP incorporates the many climate protection programs noted above that the City of Santa Cruz has in place, in addition to a variety of measures and actions that focus on a continued effort to reduce GHG emissions. The City has developed the CAP to achieve a number of objectives,

including equitable climate outcomes, a safer future and enhanced quality of life for the community, new economic opportunities through green jobs, enhanced social equity and citizen engagement on the issue of climate change, increased use and accessibility of active and public transportation, and reduced obstacles for building decarbonization. The CAP provides a foundation for future development efforts in the City of Santa Cruz. It is anticipated that environmental documents for future development projects will identify and incorporate applicable GHG reduction measures from the CAP.

In 2022, Santa Cruz is actively engaged in addressing climate change, sustainability, and reductions in GHG emissions. The CAP addresses communitywide GHG emissions and includes an aspirational target to reduce community-wide GHG emissions output to carbon neutrality by 2035. It also includes an interim target to reduce communitywide GHG emissions to 2.51 MT of CO₂e per person (or 181,018 MT of CO₂e in total emissions) by 2030. This corresponds to an approximately 40 percent reduction in per capita and associated total mass emissions below 1990 levels by 2030, meeting the California Senate Bill 32 target for 2030 to reduce total GHG emissions 40 percent below 1990 levels. The Santa Cruz CAP assessed herein is based on community-level inventories developed in 2005 and 2019 and formulates a list of measures and associated actions to achieve the City's sustainability goals.

The 2005 GHG emissions inventory provides an important foundation for the CAP, providing the basis for an emissions back-cast to 1990 to serve as the reference year from which the City's target to reduce per capita emissions 40 percent below 1990 levels by 2030 has been developed. Approximately 5.53 MT of CO₂e per person (355,669 MT of CO₂e total) were emitted in Santa Cruz in 2005. The 2019 inventory also provided the basis for the GHG emissions forecast, against which progress toward the City's 2030 target can be measured. Approximately 4.22 MT of CO₂e per person (274,584 MT of CO₂e total) were emitted in Santa Cruz in 2019. GHG emissions in the 2005 and 2019 inventories were from the residential and commercial energy, transportation, solid waste, and wastewater sectors. The residential and commercial energy sector represents emissions that result from electricity and natural gas used in both private and public sector buildings and facilities. The transportation sector includes emissions from on-road and off-road transportation, gasoline and diesel sales within the City, and natural gas used for transportation purposes. The transportation sector was the largest contributor to Santa Cruz's GHG emissions in 2019, followed by residential and commercial energy.

Table 1 provides the Santa Cruz community GHG emissions in 2019 by sector as well as each sector's percentage of communitywide emissions.

Table 1 City of Santa Cruz 2019 Communitywide GHG Emissions by Sector

Sector	GHG Emissions (MT of CO₂e)	Percentage of GHG Emissions
Residential	42,718	15.55%
Electricity	341	0.12%
Natural Gas	42,377	15.43%
Commercial	23,206	8.45%
Electricity	950	0.34%
Natural Gas	22,256	8.11%
Transportation	189,162	68.89%
On-Road Transportation	179,979	65.55%
Diesel	4,071	1.35%
Gasoline	3,962	1.50%
Natural Gas	1,150	0.42%
Solid Waste	18,976	6.91%
Wastewater	754	0.27%
Total	274,584	100%
Population	65,041	N/A
Per Capita Emissions (MT of CO ₂ e/person)	4.22	N/A
MT of CO ₂ e = metric tons of carbon dioxide equivalent		

As shown in Table 1, the largest sector of GHG emissions is related to transportation (specifically on-road transportation). As part of the CAP and as described above, Santa Cruz is committed to a per capita emissions reduction target of approximately 40 percent below 1990 levels by 2030 and an aspirational target of carbon neutrality (net zero emissions) by 2035. This 2030 GHG emissions goal is selected to be consistent with SB 32 State emissions targets and AMBAG regional passenger vehicle emissions targets. This 2030 GHG emissions goal is also consistent with CEQA Guidelines¹ for a qualified GHG emissions reduction strategy, and to be achievable by City-supported measures and actions identified in the CAP. The CAP includes a business-as-usual (BAU) forecast of GHG emissions through 20xx and an adjusted BAU (ABAU), based on the 2019 inventory, that will enable the City of Santa Cruz to estimate the amount of emissions reductions needed to meet its per capita reduction targets.

The CAP includes measures and actions to make residential, commercial, and municipal buildings more energy efficient and to bolster resiliency through the use of locally produced solar. It recommends implementation of active and public transportation programs to emphasize a transition away from single-passenger occupancy vehicles while advocating for the increased adoption of commercial and passenger electric vehicles. It also offers solutions to reducing organic and inorganic waste and includes actions for collaborating with other communities to support reducing or capturing wastewater process emissions. In addition, the CAP includes measures to increase tree planting for carbon sequestration and increase green stormwater infrastructure on City facilities. Table 2 includes a comprehensive list of the CAP measures and descriptions of respective supporting actions as well as anticipated annual GHG reductions by 2030 and 2035.

¹ [CEQA Guidelines 15183.5\(b\) Plans for Reduction of Greenhouse Gas Emissions](#)

Table 2 City of Santa Cruz CAP Measures and Actions

Measure BE-1	Enforce the City's new construction natural gas prohibition ordinance (SCMC 6.100) and inform the community regarding the available technology and benefits of electrification.	2030: 0.085 2035: 0.100
Action BE-1-1	Enforce the new construction natural gas prohibition ordinance through the development of a comprehensive permitting compliance program that includes routine training for City staff, dedicating staff time for building inspections, charging fees for noncompliance, providing easy-to-understand compliance checklists online and with permit applications and facilitating permitting online.	2030: 0.085 2035: 0.100
Measure BE-2	Electrify 31% of existing residential buildings by 2030 and 53% by 2035.	2030: 0.180 2035: 0.298
Action BE-2-1	Develop, implement, and enforce phased and equitable electrification ordinance(s) for existing residential buildings by the start of 2023. Maximize permit compliance through streamlining the compliance process, improving third-party enforcement, and advanced training for enforcement staff. Steps to be completed to adopt the ordinance(s) are as follows: Step 1: Work with stakeholders in developing an idea for a reach code electrification ordinance(s) Step 2: Complete a cost effectiveness study Step 3: Develop and draft the ordinance(s) and go through the public process, incorporating revisions as necessary Step 4: Go through the formal adoption process Step 5: Apply for approval by the California Energy Commission.	2030: 0.180 2035: 0.298
Action BE-2-2	Identify and partner with local community-based organizations with connections to frontline communities to assist in development of the existing building electrification strategy.	Supportive
Action BE-2-3	By 2024, establish a plan to electrify and improve health and safety of the City's existing affordable housing stock at a neighborhood level by 2035. Provide detailed information on the City website including descriptions of the health and environmental benefits of electrification, links to CCCE and PG&E resources on electrification, up-to-date lists of local contractors that perform electric retrofits, and information about the most cost-competitive residential electrification technologies currently available.	Supportive
Action BE-2-4	Work with PG&E and CCCE to identify opportunities to remove obsolete natural gas infrastructure, to redirect PG&E funding allocated for pipeline maintenance to electrification retrofit projects instead. Work with PG&E to identify funding, as needed, for the removal of the infrastructure. Consider a pilot to remove obsolete natural gas infrastructure from municipal buildings.	Supportive
Action BE-2-5	Work with PG&E and CCCE to deploy community solar and electrify existing buildings in residential neighborhoods. Incentivize all-electric retrofits through rebates, on-bill financing, and other mechanisms.	Supportive
Measure BE-3	Electrify 26% of existing commercial buildings by 2030 and 45% by 2035.	2030: 0.079 2035: 0.133
Action BE-3-1	Adopt, implement, and enforce an electrification ordinance for existing commercial buildings by the beginning of 2024.	2030: 0.079 2035: 0.133

Action BE-3-2	Work with partners to mitigate potential equity impacts of existing commercial building electrification ordinance. Facilitate equitable and inclusive funding opportunities for commercial building electrification.	Supportive
Action BE-3-3	Support commercial battery storage installations and business district scale microgrid opportunities.	Supportive
Action BE-3-4	Establish a building emissions performance standard for commercial buildings over 20,000 square feet.	Supportive
Measure BE-4	Maintain Central Coast Community Energy (CCCE) opt-out rates at or below 4% for residential and 2% for commercial.	Supportive
Action BE-4-1	Support annual analysis of CCCE opt-out rates in the City and encourage opting up to CCCE prime 100% renewable energy option.	Supportive
Action BE-4-2	Increase uptake of 100% renewable energy option from CCCE, incentivizing households in affordable housing units.	Supportive
Action BE-4-3	Promote benefits of opting in to CCCE service, particularly those in frontline neighborhoods and small businesses and vet, woman and minority owned businesses.	Supportive
Measure BE-5	Increase resiliency through equitable energy efficiency and local solar programs.	Supportive
Action BE-5-1	Partner to deliver weatherization, healthy home retrofits, energy efficiency and solar system installs to low income homeowners and rental units.	Supportive
Action BE-5-2	Advocate to reform community solar policies and rates, enabling residential and commercial renters to participate in benefits of local solar.	Supportive
Action BE-5-3	Establish rental building energy performance standards to increase adoption of rebated energy efficiency and electrification measures.	Supportive
Measure BE-6	Provide inclusive engagement, equitable process, and regional coordination to maximize building electrification and other co-benefits.	Supportive
Action BE-6-1	Define equity metrics for new and existing building electrification ordinances' implementation and enforcement based on feedback from frontline communities and successful examples from other jurisdictions, and structure ordinances and permitting compliance program to meet these metrics. Equity metrics should be designed to prevent displacement and lead to end-user costs for low-income populations will not be greater after electrification than before.	Supportive
Action BE-6-2	Partner to develop all-electric rates by income-level and incentivize equitable all-electric retrofits.	Supportive
Action BE-6-3	Advance new and existing building electrification as a priority at all scales.	Supportive
Action BE-6-4	Advocate for state and federal regulatory changes to enable neighborhood level electrification, community solar, natural gas pruning, and rates stabilization policies.	Supportive
Action BE-6-5	Conduct a study to evaluate the need to increase fees to provide outreach, trainings, additional staff for building electrification compliance.	Supportive

Action BE-6-6	Facilitate equitable access to accurate and current information about electrification programs, incentives, and opportunities. Develop induction cooktop loaner programs.	Supportive
Action BE-6-7	Participate in regional workforce development opportunities for building electrification.	Supportive
Action BE-6-8	Work with partners to establish a Regional Energy Network for energy efficiency and electrification building resources, expand education on subsidized rate programs, code compliance training and apprenticeship program.	Supportive
Measure T-1	Implement programs for active transportation (walking and biking) that achieve 23% of bicycle mode share by 2030 and 30% by 2035.	2030: 0.051 2035: 0.069
Action T-1-1	Fund, staff and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update.	2030: 0.051 2035: 0.069
Action T-1-2	Complete all portions of Rail Trail and work with partners to plan active and public transportation to Rail line.	
Action T-1-3	Require secure bike parking near transit and in major activity centers. Require bike parking installation in new commercial developments and existing commercial renovations.	Supportive
Action T-1-4	Re-establish citywide e-bike share with explicit consideration of how to make accessible to frontline groups.	Supportive
Action T-1-5	Build new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure throughout the city, prioritizing frontline neighborhoods.	Supportive
Action T-1-6	Pilot Neighborhood Greenways to slow traffic and improve walking and biking and evaluate piloting time based closures to vehicles primarily in business districts.	Supportive
Action T-1-7	Accelerate housing development and support commercial and industrial development in city limits, concentrating the most intensive growth in transit corridors and central areas of the city to promote walking and biking to nearby jobs, entertainment, goods, services, and public transportation, through the General Plan Housing Element Update to be approved in 2023. Prioritize expansion of affordable housing stock. Partner to incentivize 15- minute neighborhoods, particularly within frontline neighborhood communities, supported by dense housing and buildings, provision of locally sited essential services and amenities, and connected by a network of bike, pedestrian, and transit services.	Supportive
Measure T-2	Implement programs for public transportation that achieve 8% of public transit mode share by 2030 and 12% by 2040.	2030: 0.002 2040: 0.032
Action T-2-1	Support countywide coordination to fund and implement Bus Rapid Transit. Advocate for enhanced and increased public transportation service with improved customer serving amenities (e.g., all door boarding, on demand, online ticketing, Wi-Fi).	2030: 0.002 2035: 0.032
Action T-2-2	Support public transportation prioritizing serving major corridors, destinations, and frontline neighborhoods.	

Action T-2-3	Require more employers to develop education and financial incentives for employees to bike, walk, carpool, or take the bus to work. Require large employers to subsidize alternative modes.	
Action T-2-4	Advocate for METRO to fund and implement a free public transit pilot program for students, foster youth, and unhoused youth in the City.	Supportive
Action T-2-5	Support funding for public transportation fleet electrification.	Supportive
Action T-2-6	Equitably market and publicize public transportation improvements and incentive programs as they are planned and implemented.	Supportive
Action T-2-7	Partner with Santa Cruz County Regional Transportation Commission, Santa Cruz County, and Regional Agencies to expand citywide transportation communications and marketing programs to residents commuting outside of the City for work.	Supportive
Measure T-3	Develop programs and policies to discourage driving single passenger occupancy vehicles.	Supportive
Action T-3-1	Partner with community groups to develop programs, and policies that discourage single-passenger vehicles while addressing equity concerns and tracking through equity metrics.	Supportive
Action T-3-2	Explore implementing a local gasoline and diesel car registration tax with exemption for low-income people.	Supportive
Action T-3-3	Discourage single passenger vehicles in high traffic zones considering a congestion charge program, limiting parking options, bans in high traffic zones or public/multimodal transportation routes, and rideshare user taxes.	Supportive
Action T-3-4	Reduce off-street parking requirements for new housing developments close to frequent transit service, with sensitivity to low-income neighborhoods whose parking is already constrained.	Supportive
Action T-3-5	Consider limiting parking options for single-passenger vehicles in downtown and other commercial areas of the city balanced with needs of sustaining downtown employees, businesses, and tourists.	Supportive
Action T-3-6	Adjust parking rates dependent on demand and supply in all downtown parking locations and evaluate whether revenue may be used to fund active transportation or public transportation projects.	Supportive
Action T-3-7	After implementing ActionT-3-4, eliminate parking minimums citywide and develop parking maximums, while pricing all public parking spaces based on available transportation options, travel demand, and land use.	Supportive
Action T-3-8	Support the City's tourism economy by exploring and implementing neighborhood or zone based parking solutions and use of electric trolleys in high traffic and walkable areas.	Supportive
Action T-3-9	Remove parking to accommodate multimodal improvements, including protected bike lanes and transit improvements, taking into account business impacts.	Supportive
Measure T-4	Increase passenger electric vehicle (EV) adoption to 35% by 2030 and 40% by 2035.	2030: 0.439 2040: 0.449
Action T-4-1	Install at least 1,247 new public EV charging stations prioritizing frontline neighborhood and high usage areas by 2030.	2030: 0.439 2035: 0.449

Action T-4-2	Require new residential multifamily housing and large commercial building owners to install chargers in 20% of parking spaces and ensure electric service capacity is sufficient so that >20% of parking spaces are EV ready.	
Action T-4-3	Advocate for programs and incentives for income tiered residential EV charger installations and EV purchases.	
Action T-4-4	Pursue affordable EV car share to serve affordable housing and multifamily developments in frontline neighborhoods, while also promoting EV car share citywide, for example by requiring car share for certain new projects.	Supportive
Action T-4-5	Partner with CCCE, PG&E, and community groups to increase adoption rates of EVs in frontline neighborhoods by stacking incentives and leveraging on-bill financing for EV chargers.	Supportive
Action T-4-6	Partner to conduct EV and public transportation education events in frontline neighborhoods.	Supportive
Action T-4-7	Engage compensated frontline communities in regional and local vehicle electrification strategy development.	Supportive
Measure T-5	Increase commercial EV adoption to 25% by 2030 and 35% by 2035.	2030: 0.077 2040: 0.050
Action T-5-1	Engage with local employers and business fleet owners in the City to identify opportunities for accelerated fleet electrification, prioritizing small businesses, and veteran, woman or minority-owned businesses. Provide information on the requirements of California's Advanced Clean Truck regulation and available funding sources for fleet replacements (e.g., Low Carbon Fuel Standard).	2030: 0.077 2035: 0.050
Action T-5-2	Conduct a study of business vehicle fleets in the City and identify employers and businesses subject to the Advanced Clean Truck regulation as well as those to target for accelerating zero-emission vehicle adoption. With stakeholder support, use the results from the study to develop and implement a plan for City-supported accelerated fleet electrification in business and municipal fleets.	
Action T-5-3	Prioritize commercial EVs for loading zone access and use other curbside management practices.	
Measure T-6	Electrify or otherwise decarbonize 50% of off-road equipment by 2030 and 75% by 2035.	2030: 0.076 2035: 0.116
Action T-6-1	Explore ways to mitigate equity impacts of electrifying and upgrading off-road equipment and harbor vessels.	Supportive
Action T-6-2	Engage with small business, women, vet or minority owners of off-road equipment fleets and others with highest decarbonization potential to promote equitable fleet electrification through outreach and pursuing grants or other funding.	Supportive
Action T-6-3	Access funding to decarbonize off-road equipment, including investigating state funding to decarbonize off-road equipment as a result of Executive Order N-79-20 and State Climate Funding Package.	Supportive

Action T-6-4	Support transition of local employers to zero-emissions off-road equipment. Provide online resources and a test demonstration site for landscaping industry.	Supportive
Action T-6-5	Develop an ordinance to phase out gas and diesel-powered off-road equipment starting in 2024, partnering to provide income tiered incentives for small businesses. Ordinance language to include allowance for biofuels for equipment for which zero emission alternatives are not available.	2030: 0.076 2035: 0.116
Measure T-7	Advocate for remote work policy & infrastructure.	Supportive
Action T-7-1	Work with the County, the Santa Cruz County Regional Transportation Commission, AMBAG, and the City's larger employers to support remote work programs, while seeking to address remote work equity issues such as internet access.	Supportive
Action T-7-2	Participate in regional advocacy for development of a statewide remote work policy.	Supportive
Measure W-1	Maintain gallons per capita water use for the residential sector at a level that is at least 10% below the state goal of 55 gallons per person per day.	Supportive
Action W-1-1	Continue to provide free water conservation devices and rebates for water conservation and continue targeted outreach to frontline communities.	Supportive
Action W-1-2	Continue to provide rebates or other funding for installing laundry to landscape, rainwater catchment systems, targeting outreach to low and medium incomes homes.	Supportive
Action W-1-3	Expand watershed stewardship school program to include water conversation.	Supportive
Measure W-2	Reduce organic waste by 75% by 2030 and 90% by 2035; and reduce inorganic waste by 35% by 2030 and 40% by 2035.	2030: 0.065 2035: 0.078
Action W-2-1	Partner to develop a regional compost trading program to meet State organic procurement target.	2030: 0.065 2035: 0.078
Action W-2-2	Expand enforcement and implement fee for incorrectly sorted materials with sensitivity to shared collection.	
Action W-2-3	Pursue funding to conduct detailed planning of food waste to energy infrastructure and process to meet State food waste diversion targets.	Supportive
Action W-2-4	Continue to participate in Countywide Solid Waste Task Force consortium to plan and pursue funding for infrastructure beyond State 2025 organic waste diversion targets.	Supportive
Action W-2-5	Conduct waste characterization studies annually to understand the waste stream and plan to increase waste diversion and reduce contamination.	Supportive
Action W-2-6	Provide training resources to businesses and large institutions on organic waste diversion.	Supportive
Action W-2-7	Continue multi-lingual engagement with multi-family property owners/managers and developing waste handling signage for their properties.	Supportive

Action W-2-8	Continue to conduct targeted, multi-lingual, culturally appropriate, and geographically diverse waste diversion educational and technical assistance campaigns.	Supportive
Action W-2-9	Expand the City's Recycling Boot Camp and Master Recycler's Programs.	Supportive
Action W-2-10	Pilot and evaluate emerging technologies to reduce organic waste by restaurants and other major food waste producers.	Supportive
Measure W-3	Set a long-term target to reduce waste generation growth.	Supportive
Action W-3-1	Continue free training and education program accessible to all residents and employees to learn about waste prevention and diversion strategies and effects of overconsumption.	Supportive
Action W-3-2	Work collaboratively and leverage grants to prevent food waste and rescue edible food.	Supportive
Action W-3-3	Enforce implementation of a fee at point of use for single-use food ware by food service providers.	Supportive
Action W-3-4	Conduct a consumption-based emissions inventory and promote a closed-loop circular economy.	Supportive
Action W-3-5	Leverage community activation platform and community partners to encourage lifestyle choices that reduce consumption-based emissions including plant based diets, travel alternatives and local purchasing. Explore policy options to increase adoption plant-based, and plant strong diets.	Supportive
Action W-3-6	Expand edible food recovery program to all restaurants and food generating businesses and incentivize small businesses who otherwise could not participate.	Supportive
Action W-3-7	Evaluate and implement a program for reusables for restaurant to-go containers.	Supportive
Action W-3-8	Explore opportunities to promote a "circular economy" among local manufacturers and industry.	Supportive
Measure W-4	Reduce or capture GHG emissions from wastewater treatment emissions.	Supportive
Action W-4-1	Explore opportunities related to methane capture and conversion to biofuel through the state's Low Carbon Fuel Standard (LCFS) program.	Supportive
Action W-4-2	Collaborate with surrounding cities and the County to advocate and support emissions reduction at wastewater facilities.	Supportive
Measure CS-1	Develop an Urban Forest Master Plan and plant 3,000 new trees by 2030.	Supportive
Action CS-1-1	Prioritize planting trees in and with low income or frontline neighborhoods and other neighborhood groups as per the Street Tree Master Plan.	Supportive
Action CS-1-2	Ensure that the City has the resources and staff to effectively plant and maintain street trees and landscape.	Supportive
Action CS-1-3	Pursue funding to expand forest management to promote carbon sequestration and reduce threat of intense fires.	Supportive

Action CS-1-4	Implement the City’s Street Tree Master Plan 2021 and address barriers to implementation.	Supportive
Action CS-1-5	Increase urban forest restoration outreach opportunities with frontline and other neighborhood groups.	Supportive
Measure CS-2	Explore new carbon sequestration and carbon capture opportunities.	Supportive
Action CS-2-1	Partner to conduct carbon sequestration and carbon capture and storage opportunities in the City and regionally.	Supportive
Action CS-2-2	Pilot and promote carbon sequestering construction materials like low-carbon concrete and mass timber.	Supportive
Action CS-2-3	Work with local building professionals to expand knowledge and adoption of carbon sequestering building materials and techniques and support reduction of embodied carbon.	Supportive
Action CS-2-4	Partner with local lumber companies to promote sustainable and locally harvested lumber for timber construction to reduce emissions from materials transportation and reduce the price premium of emerging timber construction.	Supportive
Measure CS-3	Increase carbon sequestration by applying compost throughout the community.	Supportive
Action CS-3-1	Explore making compost available at no or low cost to community gardeners. Continue to operate the City compost bin rebate program.	Supportive
Action CS-3-2	Engage with community gardeners, agriculture industry, master gardeners and Homeless Garden Project to plan and set goals around compost development and application.	Supportive
Action CS-3-3	Explore collaborating with UCSC to pilot opportunities for regenerative agriculture and permaculture.	Supportive
Action CS-3-4	Adopt regenerative landscaping policies and promote trainings to support commercial and residential land owners to better maintain native and carbon sequestering landscapes.	Supportive
Action CS-3-5	Reforest or afforest areas of the City that are currently mowed in line with other City parks and open space plans.	Supportive
Action CS-3-6	Evaluate policies to strengthen current open space habitat preservation.	Supportive
Measure CE-1	Prioritize opportunities for greatest climate benefit and economic inclusion especially for minority, veteran and women owned businesses in climate related sectors.	Supportive
Action CE-1-1	Address pressing issues regarding local purchasing, local hire, supply chain, and unequal conditions in the labor market.	Supportive
Action CE-1-2	Encourage lifestyle choices that reduce consumption-based emissions including plant-based diets, travel alternatives and local purchasing by leveraging community activation platform and community partners.	Supportive
Measure CE-2	Support equitable access to high-quality training and workforce development programs in climate related sectors.	Supportive
Action CE-2-1	Equitably support entrepreneurship, and increase in quality of jobs and access to local jobs and business development.	Supportive

Action CE-2-2	Support regional collaboration regarding jobs, housing and economic development.	Supportive
Measure M-1	Decarbonize municipally owned buildings by 2030 and remaining municipal facilities by 2045.	Supportive
Action M-1-1	Develop a plan to decarbonize, electrify, and improve indoor air quality in all municipal buildings by 2030 and electrify any remaining facilities by 2045.	Supportive
Action M-1-2	Evaluate the feasibility and cost of phasing out diesel and natural gas generators and put policy in place to decommission and replace diesel generators with solar and battery storage by 2030 as feasible.	Supportive
Action M-1-3	Adopt and implement a municipal building electrification plan for retrofitting all remaining streetlights, facility lighting, and traffic signals to LEDs by 2040.	Supportive
Action M-1-4	Adopt and implement a plan for retrofitting all remaining streetlights, facility lighting, and traffic signals to LEDs by 2040.	Supportive
Action M-1-5	Implement an “electric first” commitment for building projects and other major retrofits of municipal buildings unless otherwise infeasible.	Supportive
Action M-1-6	Fund and hire an energy manager and dedicate staff time for obtaining grant funding for municipal electrification.	Supportive
Measure M-2	Procure carbon free or 100% renewable electricity for municipal operations by 2030.	Supportive
Action M-2-1	Consider opting up to CCCE Prime for 100% renewable energy now.	Supportive
Action M-2-2	Continue to purchase CCCE’s electricity for all municipal accounts.	Supportive
Measure M-3	Increase municipally-owned renewable energy.	Supportive
Action M-3-1	Redevelop Pacific Station as a net zero energy producing transit center with mixed use and affordable housing.	Supportive
Action M-3-2	Conduct a feasibility study to understand opportunities for installing additional solar and battery storage, or other renewable energy generation infrastructure at municipally owned facilities (e.g., generators and renewable energy at critical facilities).	Supportive
Action M-3-3	Identify and implement near term microgrid opportunities that align with resiliency objectives and conduct a microgrid pilot program (e.g., at City Hall for critical loads).	Supportive
Measure M-4	Develop and implement a Municipal Transportation Demand Management (TDM) Plan by the end of 2023.	Supportive
Action M-4-1	Continue to conduct a detailed survey of City staff commute data annually and report findings to employees.	Supportive
Action M-4-2	Investigate and implement opportunities for installing secure bike parking, fix-it stations, and showers at municipal work sites that do not currently have these facilities.	Supportive
Action M-4-3	Expand provision of free public transit passes to all municipal employees as demand necessitates.	Supportive

Action M-4-4	Develop a remote work program plan with milestones that educates and enables eligible municipal employees to work from home for part of their work schedule including alternative work schedules in order to further sustainability and employee retention goals.	Supportive
Action M-4-5	Include alternative modes or incentives for employees to bike, walk, and carpool to work.	Supportive
Action M-4-6	Consider flex-work/co-working satellite offices or access at libraries and in nearby communities like the San Lorenzo Valley or South County to reduce commute times.	Supportive
Action M-4-7	Promote opportunities for housing in affordable housing developments to employees to live close to their City work sites.	Supportive
Measure M-5	Electrify or otherwise decarbonize the municipal fleet by 2035.	Supportive
Action M-5-1	Adopt and implement the City's Fleet Electrification Plan to convert fossil fuel municipal fleet vehicles to electric or otherwise decarbonize the fleet by 2035, evaluating phasing and the potential for regional bulk procurement.	Supportive
Action M-5-2	Plan for and install EV ready infrastructure and additional EV chargers in municipal parking lots for fleet, employee and public use, and pilot curbside installations.	Supportive
Action M-5-3	Procure 100% renewable diesel as a transition fuel until complete fleet electrification in 2035.	Supportive
Action M-5-4	Adopt an electric vehicle first policy, unless infeasible for the use case, for all municipal vehicles by end of 2023.	Supportive
Measure M-6	Electrify or otherwise decarbonize all municipal off-road equipment (landscaping equipment, construction equipment, marine diesel engines) by 2040.	Supportive
Action M-6-1	Complete an inventory of all municipal off-road equipment, specifying which equipment types are possible to electrify based on existing technologies, experience and cost, and adopt an implementation plan to decarbonize by 2040.	Supportive
Action M-6-2	Adopt an emissions-free equipment preference purchasing policy for offroad equipment for all City departments.	Supportive
Action M-6-3	Evaluate and procure biofuels (renewable diesel and biogas) to operate municipally owned off-road equipment as feasible for use cases that cannot be electrified. Re-evaluate decarbonization opportunities regularly to ensure biofuels are not being used for equipment that could otherwise be electrified.	Supportive
Action M-6-4	Dedicate staff time to obtain grant funding for decarbonization of off-road equipment.	Supportive
Measure M-7	Increase municipal procurement of recovered organics waste products.	Supportive
Action M-7-1	Require City agencies to procure and apply compost to the exterior of suitable facilities in accordance with landscape management needs and plans.	Supportive
Action M-7-2	Investigate opportunities for generating and procuring recovered organic waste products.	Supportive

Action M-7-3	Update food waste to energy feasibility studies and design and construct facilities to accommodate food waste.	Supportive
Measure M-8	Promote efficient municipal water consumption.	Supportive
Action M-8-1	Evaluate replacement of existing municipal watering/irrigation infrastructure and schedules as water reduction strategies.	Supportive
Action M-8-2	Continue to implement landscaping that utilizes drought-tolerant landscaping techniques for parks, medians, and fields.	Supportive
Action M-8-3	Evaluate and increase green stormwater infrastructure on City facilities.	Supportive
Action M-8-4	Identify funding to dedicate staff time to obtain grant funding for implementing efficient municipal water consumption.	Supportive
Measure M-9	Support climate action planning.	Supportive
Action M-9-1	Update the Climate Action Plan every 5 years, report annually and integrate climate action into budget decision making process.	Supportive
Action M-9-2	Explore adding life cycle emissions into the decision-making process as data becomes available.	Supportive
Action M-9-3	Implement a fossil fuel divestment policy and provide update to City Council on status of divestment from fossil fuel banking.	Supportive
Action M-9-4	Evaluate plant-strong and plant-based diets strategies, procurement and policies.	Supportive
Action M-9-5	Explore inclusion of plant-strong and plant-based diets and menu choices as a measure in the City's Green Business Program.	Supportive
Action M-9-6	Consider staffing, structure and integration of Climate Action Program throughout organization, including consideration of public advisory formats, and modify as needed to meet increasing demands on integration, coordination, reporting and engagement.	Supportive
Action M-9-7	Develop a green event checklist/guide and consider conditions of use for special event permits that support climate action.	Supportive
Action M-9-8	Integrate the Climate Action Plan into the City's upcoming Master Investment Strategy/Financial Plan Development, Master Fee Evaluation and Cost Evaluation Plan and its change management process.	Supportive
Action M-9-9	Update and enforce the City's environmentally preferable purchasing policy to include electric first vehicles and building commitments, as well as plant based/strong diet recommendations.	Supportive
Action M-9-10	Monitor supply chain and end of life handling of renewable energy and other climate supportive products and technologies to avoid slave labor, environmental degradation from extraction and/or disposal in frontline communities, and advocate for the elimination of these processes globally.	Supportive

Note: MT of CO₂e = metric tons of carbon dioxide equivalent
Source: Compiled by Rincon based on information contained in the Santa Cruz Draft CAP.

The measures included in the CAP (shown above in Table 2), combined with Statewide legislation, will enable Santa Cruz to meet its per capita GHG emissions reduction target of 40 percent below 1990 levels by 2030.

Table 3 shows the contribution of the Statewide initiatives in conjunction with the CAP measures to reduce Santa Cruz projected total emissions in 2030. Table 4 shows the 2030 and 2035 GHG emissions and targets for Santa Cruz, including the expected emissions once the measures and actions listed in Table 2 are implemented.

Table 3 City of Santa Cruz 2030 GHG Reductions from 2030 BAU levels

State Initiative	Sector	2030 Reduction in per Capita Emissions (MT of CO ₂ e/person)	2030 Reduction in Total Emissions (MT of CO ₂ e)
Pavley Regulation and Advanced Clean Cars Program	On-road Transportation	0.61	43,799
Renewable Portfolio Standard	All electricity	0	2.61
Title 24	Residential Energy	0	2.43
A. Total State Initiative Emissions Reductions		0.61	43,804.04
B. Total CAP Emissions Reductions		2.35	86,713
C. Total Expected Emissions Reductions (A+B)		2.96	130,517
D. Santa Cruz Emissions Reduction Requirement		2.74	86,713
E. Meets/exceeds State Goals? (C > D)		Yes	Yes

MT of CO₂e = metric tons of carbon dioxide equivalent

Table 4 City of Santa Cruz GHG Emissions Projections and Targets

Description	Emissions (MT of CO ₂ e/person)	Emissions (MT of CO ₂ e Total)
1990 Emissions	6.08	302,319
2030 BAU Emissions	4.17	301,102
2030 Target Emissions	2.51	181,391
2030 Expected Emissions with Implementation of CAP Measures and Actions	2.35	170,002
2035 BAU Emissions	4.12	310,034
2035 Target Emissions	Carbon Neutral	Carbon Neutral
2035 Expected Emissions with Implementation of CAP Measures and Actions	1.86	139,949

MT of CO₂e = metric tons of carbon dioxide equivalent

Implementation of the CAP measures and actions listed in Table 2 could result in physical changes to the environment that could potentially have an impact on the environment. However, the analysis provided within this document ultimately deems such potential impacts to be less than significant. While individual projects resulting from the measures described above have not been identified for the purposes of this document, the types of actions that could result from realization of the CAP measures are taken into account in considering potential environmental impacts that could occur through implementation of the CAP. For example, projects or actions requiring ministerial approval, such as installation of electric vehicle charging stations and supporting infrastructure, as well as new bicycle or pedestrian facilities, would introduce physical changes related to the temporary presence and operation of construction vehicles and equipment during installation of required facilities and the long-term presence of new facilities such as bike and pedestrian facilities, solar arrays, and

electric vehicle charging stations, which could alter pedestrian and vehicular traffic patterns. Future plans or projects requiring discretionary approval would be subject to environmental review under CEQA, and individual impact analyses will identify required plan- or project-specific mitigation measures where applicable.

Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Santa Cruz CAP, the cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030. AMBAG's 2018 Regional Growth Forecast projects Santa Cruz would have 75,571 residents, 46,153 jobs, and 28,634 housing units in the year 2030 (AMBAG 2018b). These projections are slightly higher than those provided in the Santa Cruz 2030 General Plan and the Santa Cruz CAP for 2030, but are utilized to provide a conservative analysis.

Required Approvals

City of Santa Cruz

Required approvals include:

- Adoption of the CAP by City Council, and
- Certification of the CAP Initial Study-Negative Declaration

Although individual plans or projects may be implemented later under the umbrella of the CAP, each individual plan or project would be subject to separate environmental review under CEQA.

Other Public Agencies

The City of Santa Cruz has sole approval authority over the CAP. There are no other public agencies whose approval is required.

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Environmental Factors Potentially Affected

This CAP would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

Determination

Based on this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “less than significant with mitigation incorporated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project have a substantial adverse effect on a scenic vista?*
- b. *Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

The Santa Cruz General Plan and the General Plan Environmental Impact Report (EIR) generally identify scenic resources within and nearby Santa Cruz as those that are oriented toward Monterey Bay and the Pacific Ocean to the south and west; the City’s Greenbelt, which includes roughly 1,500 acres of woodlands and coastal prairie to the west, north, and east; and the Santa Cruz Mountains that form the City’s northern boundary. Important natural features that provide scenic views in the City include Pogonip, DeLaveaga Park, Arana Gulch, Neary Lagoon, Younger Lagoon, Antonelli Pond, Arroyo Seco Canyon, the Moore Creek Preserve, and the Jessie Street Marsh (City of Santa Cruz 2012). Scenic vistas are often available from publicly accessible roadways including Highway 1, which runs east-west through the northern and central portion of the City before following the coast north to San Francisco, and SR-9, which follows the San Lorenzo River from Highway 1 north through the Santa Cruz Mountains to Boulder Creek and San Jose. Both routes are eligible for

designation as a State scenic highway. SR-17, which runs parallel to SR-9 just outside of the Santa Cruz City boundary, is also eligible for designation as a State scenic highway (Caltrans 2022). Although eligible, these roadways have not been officially designated by Caltrans as a State scenic highway.

As a policy document, the CAP would not result in impacts related to scenic vistas and scenic highways. However, implementation of some CAP strategies may promote infrastructure development and other physical changes through policies and programs. CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods. CAP Action BE-3-3 supports commercial battery storage installations and business district scale microgrid opportunities. CAP Action-BE 5-1 vows to deliver weatherization, healthy home retrofits, and solar system installs to low-income homeowners and rental units. Additionally, CAP Action T-1-1 will fund, staff, and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, while Actions T-1-2, T-1-3, and T-1-5 describe completing all portions of Rail Trail, planning active and public transportation to the Rail line, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure. Action T-4-1 also promotes the installation of at least 1,247 new public EV charging stations. CAP projects would generally be limited to the existing developed areas of the City and would be small-scale in nature. Implementing the Active Transportation Plan Update and completing all portions of Rail Trail could have a positive effect on scenic vistas by adding new vantage points within existing natural landscapes. Furthermore, CAP Measure CS-1 would result in the planting of additional trees within the City's landscape, which would also have a positive effect on scenic vistas.

The CAP would promote infrastructure development and redevelopment that is complimentary to existing development and land uses. Though the implementation of the CAP may result in future development, CAP-related projects and actions, including those identified above, would already be required to adhere to City development zoning regulations and policies, including Santa Cruz Municipal Code (SCMC), Santa Cruz 2030 General Plan and Local Coastal Program, and other neighborhood area plans. Chapter 24.08 of the SCMC, Land Use Permits and Findings, enforces the requirement for a majority of development within the City to obtain a design permit, which is meant to ensure that new development includes high-quality architecture and aesthetic conformity; Chapter 24.12 of the SCMC, Community Design, sets for the general requirements applicable to development of all lands within the City and outlines regulations that enforce the protection of aesthetic amenities (City of Santa Cruz 2021b). General Plan Community Development Policy 1.2 ensures that the scale, bulk, and setbacks of new development preserve important public scenic views and vistas (City of Santa Cruz 2012). Local Coastal Program Policy 1.4 enforces the utilization of the environmental review process and maintenance of the Zoning Ordinance to ensure protection of scenic views, while Policy 2.1 requires design review to regulate visual quality along coastal resources (City of Santa Cruz 1992). Additionally, the City maintains multiple individual area plans that provide design guidelines for development within specific parts of Santa Cruz. Compliance with the SCMC, Santa Cruz 2030 General Plan, Local Coastal Program, and individual area plans would ensure that potential future infrastructure development and redevelopment related to the CAP would be carefully integrated with the existing character of the Santa Cruz community, minimizing potential aesthetic impacts. As such, the CAP would not result in adverse impacts related to scenic vistas or State scenic highways within the City. Therefore, the CAP would result in ***less-than-significant impacts*** related to scenic vistas and scenic highways.

- c. *Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The City of Santa Cruz is an urbanized area. The following applicable visual character/quality policies and actions are outlined in the City's General Plan:

- **Policy HA4.1:** Visually reflect the city's culture, history, identity, and the creativity of its residents, in the built environment.
- **Policy CD1.1:** Preserve natural features that visually define areas within the city.
- **Policy CD1.4:** Ensure that development adjacent to open space lands maintains visual and physical connections to that open space.
 - **Action CD1.4.2:** Consider visual access to nearby natural areas as part of developmental review
- **Policy CD3.1:** Develop and maintain physical and visual linkages between key areas in the City.
- **Policy CD3.5:** Require superior quality design for buildings at visually significant locations throughout the city, such as gateways to Santa Cruz and intersections of major corridors.
 - **Action CD4.1.5:** Require superior quality design for buildings at visually significant locations throughout the city, such as gateways to Santa Cruz and intersections of major corridors.
- **Policy CD4.2:** Ensure that new development and right-of-way improvements enhance the visual quality of streetscapes.
 - **Action ED1.8.2:** Improve the visual appearance of visitor routes and entrances to the city.
 - **Action ED1.9.1:** Promote and develop clean, visually inviting, and safe shopping environments.

The CAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment through policies and programs. Implementation of some CAP measures related to transportation, renewable energy, and GHG sequestration may result in physical changes that could impact scenic resources. For example, CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods. CAP Action BE-3-3 supports commercial battery storage installations and business district scale microgrid opportunities. CAP Action BE-5-1 vows to deliver weatherization, healthy home retrofits, and solar system installs to low-income homeowners and rental units. Additionally, CAP Action T-1-1 will fund staff and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update while Actions T-1-2, T-1-3, and T-1-5 describe completing all portions of Rail Trail, planning active and public transportation to the Rail line, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure. Action T-4-1 also promotes the installation of at least 1,247 new public EV charging stations.

Implementation of solar panels, battery storage, and EV charging stations and introduction of active transportation and public transit infrastructure may slightly change the scenic character of the City.

However, future CAP-related projects would be designed and located to be complimentary to existing land uses and would be required to adhere to City zoning and development regulations that aim to preserve the character of the City and minimize environmental impacts. In addition, CAP projects and actions would be reviewed for consistency with the General Plan policies described above and other applicable regulatory land use actions prior to approval. Therefore, the CAP would not conflict with applicable zoning and other regulations governing scenic quality and would result in a **less than significant impact**.

d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

The CAP would not involve land use or zoning changes. Rather, the CAP would promote sustainable infrastructure development and redevelopment that is complimentary to existing development and land uses. As a policy document, the CAP would not directly result in impacts related to light and glare. However, implementation of CAP actions BE-2-4, BE-3-3, BE-5-1, T-1-1, T-1-2, T-1-3, T-1-5, and T-1-7 may promote new active transportation and public transit infrastructure, solar panels, and EV charging stations throughout the City, as discussed in *criteria a, b, and c*, above. Solar panels have the potential to result in new sources of glare within the City if not thoughtfully designed and located. The design and location of proposed solar infrastructure would be complimentary to existing development in the City, such as the addition of small-scale rooftop solar panels, in order to reduce potential glare impacts. Furthermore, CAP projects and actions would be reviewed for consistency with the SCMC Chapter 24.08, which establishes exterior lighting standards (City of Santa Cruz 2021b). In addition, CAP projects or actions would be reviewed for consistency with the General Plan, Local Coastal Plan, and other applicable regulatory land use actions prior to approval. Compliance with the described regulations would minimize environmental impacts related to light and glare by limiting the use of highly reflective materials and requiring the shielding of exterior lighting. Thus, the CAP would result in a **less-than-significant impact** related to light and glare.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Cumulative impacts related to scenic resources, visual character, and increased light and glare would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic impacts with adherence to Santa Cruz General Plan and Local Coastal Program policies and the Municipal Code. Because of the developed nature of Santa Cruz, future infrastructure projects under the CAP, in combination with other cumulative projects anticipated in Santa Cruz through 2030, would not adversely impact the visual character of the Santa Cruz community. In addition, future development in the City would be required to obtain a Design Permit, as applicable, in accordance with Chapter 24.08 of the SCMC and would be reviewed against applicable Santa Cruz General Plan policies and the City's design standards for design quality and compatibility with adjacent land uses. Therefore, implementation of the CAP would result in a **less-than-significant cumulative impact** related to aesthetics.

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- e1. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

The City of Santa Cruz is characterized primarily by urban and suburban development along with parks and natural areas; however, the City does contain some areas of exclusive agricultural use. The largest agricultural land use within the City is associated with Moore Creek Upland Open Space, which is located on the western edge of the City. An additional agricultural parcel is located in the southwestern area of the City and is associated with UCSC (City of Santa Cruz 2012).

According to the Farmland Mapping and Monitoring Program, City is almost entirely classified as urban and built-up land, with one area mapped as grazing land on the eastern edge of the City. There are four areas mapped as Farmland of Statewide Importance and seven areas mapped as Prime Farmland located west of the City (California Department of Conservation [DOC] 2016). There are no Williamson Act contracts within the City (DOC 2017).

The majority of CAP measures focus on electrifying buildings, improving active transportation, developing zero emission vehicle and public transit infrastructure, reducing waste generation, and reducing wastewater process emissions. These measures would not involve projects or policies that would result in impacts related to conversion or loss of farmland. Therefore, the CAP would result in **no impact** related to degradation of agricultural resources or conversion of agricultural land to non-agriculture uses, nor would there be a conflict with existing zoning or general plan land use designations.

- c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
 - d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*
- e2. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of forest land to non-forest use?*

Santa Cruz contains several parks and natural areas. Specifically, the City's Greenbelt contains approximately 1,500 acres of woodlands and coastal prairie that border the City to the west, north, and east (City of Santa Cruz 2012). Santa Cruz does not contain areas designated for forest land or Timberland Production. SCMC Chapter 13.30, Trees, establishes policies, regulations, and standards to ensure tree protection within the City (City of Santa Cruz 2021b). In addition, the Santa Cruz 2030 General Plan contains a number of goals, policies, and actions, such as Policy NRC5.1, protect and manage tree resources in the urban environment, with emphasis on significant and heritage trees, that illustrate the City's commitment to managing and preserving Santa Cruz's urban forest.

The CAP does not include actions that would result in the loss of forest land or the conversion of forest land to non-forest use, nor would it conflict with or cause the rezoning of forest, timber land, or Timberland Production areas. Rather, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030, and CAP Action CS-3-5 would potentially result in the reforestation or afforestation of areas that are currently mowed. Potential future infrastructure development and redevelopment related to the CAP would comply with the regulations and policies of the SCMC and the Santa Cruz 2030 General Plan, ensuring the City' urban forest would be protected. Therefore, the CAP would result in **no impact** related to degradation of forestry resources or conversion of forest land to non-forest uses, nor would there be a conflict with existing zoning or Santa Cruz 2030 General Plan land use designations.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). As discussed above, the CAP would not include any measures or actions that would significantly impact agricultural or forest resources. In addition, the CAP would not involve land use or zoning changes that could result in cumulative impacts

related to conversion or loss of farmland or forest land. Therefore, implementation of the CAP would result in ***no cumulative impact*** related to agricultural and forestry resources.

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3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The federal Clean Air Act (CAA) governs air quality in the United States and is administered by the United States Environmental Protection Agency (U.S. EPA) at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by CARB at the State level. At the regional and local levels, local air districts typically administer the federal and California CAA. As part of implementing the federal and California CAA, the U.S. EPA and CARB have established ambient air quality standards for major pollutants at thresholds intended to protect public health. Santa Cruz is located within the North Central Coast Air Basin (NCCAB), which is comprised of Monterey, Santa Cruz, and San Benito Counties. The NCCAB is under the jurisdiction of the Monterey Bay Air Resources District (MBARD). As the local air quality management agency, MBARD is required to monitor air pollutant levels to ensure that State and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the NCCAB is classified as being in “attainment” or “nonattainment.” Under State law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment. MBARD is in attainment for all Federal standards; however, MBARD is in non-attainment for State ozone and PM_{2.5} (particulate matter up to 2.5 microns in size) standards (MBARD 2017). The sources, health effects, and typical controls associated with criteria pollutants are described in Appendix A.

The Federal CAA Amendments mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of AQMPs and adopted rules and regulations by each local Air Pollution Control District and Air Quality Management District, which are submitted for approval to CARB and the U.S. EPA (CARB 2017b). The goal of an AQMP is to

reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The Monterey Bay Air Resources District Air Quality Management Plan (AQMP) was adopted by the District Board of Directors in March 2017 and provides a plan to improve North Central Coast air quality and to protect public health as well as the climate. The legal impetus for the 2017 AQMP is to update the 2012 AQMP, in compliance with State air quality planning requirements as codified in the California Health and Safety Code §40910 et seq. Although steady progress has been made toward meeting State ozone standards in the North Central Coast and the District in attainment for the one-hour standard, the region continues to be designated as non-attainment for the eight-hour State ozone standards, as noted previously (MBARD 2017).

The CAP would not involve land use or zoning changes but would rather promote sustainable infrastructure development and redevelopment. CAP measures and actions focus on decarbonization, implementation of local renewable energy infrastructure, improvement to active transportation, implementation of zero emission vehicle and public transit infrastructure, and reduction of waste and wastewater emissions. Implementation of CAP actions, such as those aimed at reducing vehicle miles traveled (VMT), electrifying vehicles, and reducing natural gas use through building electrification, would have co-benefits to air quality within the NCCAB, would help MBARD meet applicable air quality goals, and would generally reduce sensitive receptor exposure to pollutant concentrations. Although the purpose and intended effect of the CAP is to reduce GHG emissions generated in Santa Cruz to help reduce the effects of climate change, many of its actions would also reduce criteria pollutant (i.e., air quality) emissions. For example, CAP actions BE-1-1, BE-2-1, BE-2-4, BE-3-1, BE-6-2, and BE-6-3 involve electrification and support a reduction in natural gas usage, while CAP actions BE-3-3, BE-5-1, and BE-5-2 focus on implementation, accessibility, and storage of local solar infrastructure. In addition, CAP Measures T-1 and T-2 seek to reduce VMT in the City by improving active transportation and public transit facilities, while Measures T-4, T-5, and T-6 would encourage the adoption of EVs and low-emissions off-road vehicles and equipment by enhancing EV infrastructure, replacing the municipal fleet of off-road equipment with low- or zero-emissions equipment, and supporting the transition of local employers to zero-emissions off-road equipment. These energy- and transportation-related strategies would reduce air quality emissions as well as GHG emissions. Therefore, the CAP is consistent with the State Implementation Plan and the 2017 AQMP. The CAP would have **no impact** related to a conflict with or obstruction of the applicable air quality plan.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

The CAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment. As a policy document, the CAP would not result in impacts related to criteria pollutants. However, implementation of the following CAP measures may promote construction activities that would temporarily generate criteria pollutants during the construction phase.

CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods. CAP Action BE-3-3 supports commercial battery storage installations and business district scale microgrid opportunities. CAP Action-BE 5-1 vows to deliver weatherization,

healthy home retrofits, and solar system installs to low-income homeowners and rental units. Additionally, CAP Action T-1-1 will fund, staff, and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, while Actions T-1-2, T-1-3, and T-1-5 describe completing all portions of Rail Trail, planning active and public transportation to the Rail line, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure. Action T-4-1 also promotes the installation of at least 1,247 new public EV charging stations.

Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases (ROG) that would be released during the drying phase upon application of architectural coatings. However, implementation of proposed measures would not include large-scale construction within Santa Cruz and would involve temporary and short-term criteria pollutant emissions. As such, project construction under implementation of the CAP would be expected to result in low-level criteria pollutant emissions and negligible impacts to air quality. CAP projects or actions would also be reviewed for consistency with MBARD air quality regulations and other applicable local, State, and federal regulations once project details and locations are known. Thus, the construction required for implementation of the CAP would result in a *less-than-significant* impact related to net increase of criteria pollutants.

With respect to operational emissions, many CAP measures and actions would have the secondary benefit of reducing criteria pollutant emissions, such as CAP measures aiming to increase building energy efficiency, promote electric vehicles, reduce on-road gasoline fuel use, and reduce VMT. Implementation of CAP measures would be beneficial by helping Santa Cruz meet applicable air quality plan goals. In addition, future CAP projects would be required to comply with local, regional, and State air quality regulations. Therefore, the CAP would result in a ***less-than-significant impact*** related to criteria pollutant emissions.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Implementation of the CAP measures and actions described in *criterion b.*, above, promote infrastructure development and redevelopment that may result in temporary construction activities. Construction-related air quality impacts are generally associated with fugitive dust (PM₁₀ and PM_{2.5}) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to ROG that would be released during the drying phase upon application of architectural coatings. However, implementation of proposed CAP measures would not include large-scale construction, and construction-related emissions would be temporary. As such, implementation of the CAP would result in low-level toxic air contaminant emissions associated with construction.

While the CAP could result in construction-related impacts related to toxic air contaminants and exposure to sensitive receptors, CAP projects or actions would be reviewed for consistency with MBARD air quality regulations and other applicable local, State, and federal regulations once project details and locations are known to ensure compliance with such regulations. Thus, the construction associated with implementation of the CAP would not result in substantial emissions of toxic air contaminants and exposure to sensitive receptors. No operational toxic air contaminant emissions are anticipated with implementation of the CAP measures and actions. Therefore, the CAP would have a ***less-than-significant impact*** related to exposure of sensitive receptors to toxic air contaminants.

- d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The CARB 2005 *Air Quality Land Use Handbook: A Community Health Perspective* identifies land uses associated with odor complaints which include: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, auto body shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations. CAP Measure W-2 promotes the reduction of organic waste by 85% by 2030 and CAP Measure W-3 sets a long-term target to reduce the overall growth of waste generation. As such, the CAP would result in reduced odors related to waste processing. Therefore, the CAP would not facilitate development that could create adverse odors, and there would be **no impact** related to odors exposure.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Construction of projects associated with implementation of the CAP, in combination with other cumulative projects anticipated under General Plan buildout, could exceed applicable MBARD thresholds or be inconsistent with the 2017 AQMP. However, implementation of the CAP would have a less-than-significant contribution related to potential cumulative air quality impacts within the air basin and on sensitive receptors within the City of Santa Cruz, given that the operation of projects implemented under the CAP would result in Citywide reduction of GHG emissions, energy use, single-occupancy vehicle travel, and waste generation. As such, implementation of the CAP would not result in adverse impacts related to contribution of criteria pollutants to the air basin and exposure of sensitive receptors to toxic air contaminants. Therefore, implementation of the CAP would result in a less-than-significant cumulative impact related to air quality.

4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?*

Santa Cruz is a primarily urbanized community with neighborhood parks, community parks, and recreational and open spaces incorporated throughout the City. The City also features a “Greenbelt,” which includes roughly 1,500 acres of woodlands and coastal prairie. SCMC Title 13, SCMC Chapter 24.14, the Santa Cruz 2030 General Plan, and the Local Coastal Plan incorporate regulations, goals, and policies to protect biological resources, such as plants, trees, wildlife habitats, vegetation communities, wetlands and rivers, coastal resources, and rare and endangered species in the City (City of Santa Cruz 1992; City of Santa Cruz 2012; City of Santa Cruz 2021b). The western portions of Santa Cruz, in undeveloped areas associated with Moore Creek Preserve, Wilder Ranch State Park, and Natural Bridges State Marine Reserve, contain critical habitat for the California red-legged frog (*Rana draytonii*); northern portions of Santa Cruz, within Pogonip and near Carbonera Creek, contain critical habitat for robust spineflower (*Chorizanthe robusta* var. *robusta*); other portions of Santa Cruz, including areas within DeLaveaga Park, Schwann Lake Park, and Woods Lagoon, contain critical habitat for Santa Cruz tarplant (*Holocarpha macradenia*) (USFWS 2022).

The CAP would not involve land use or zoning changes and would instead promote sustainable infrastructure development and redevelopment. The CAP strategies and actions would not conflict with the SCMC or objectives and policies of the Santa Cruz General Plan or Local Coastal Program related to wildlife and vegetative communities, but would rather be consistent with and promote those policies. CAP measures and actions would generally apply to the urbanized areas of the City, with little application to parks, open spaces area, or the undeveloped portions of the City where sensitive habitat and related species may be present. As such, the CAP would not have a substantial adverse effect on candidate, threatened, or endangered wildlife species either directly through individual take or indirectly through species habitat modification.

As a policy document, the CAP would not directly result in impacts related to wildlife species of special status. However, implementation of some CAP actions may promote infrastructure development within the urbanized portions of the City and could result in impacts to species through construction activities. CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods. CAP Action BE-3-3 supports commercial battery storage installations and business district scale microgrid opportunities. CAP Action-BE 5-1 vows to deliver weatherization, healthy home retrofits, and solar system installs to low-income homeowners and rental units. Additionally, CAP Action T-1-1 will fund, staff, and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, while Actions T-1-2, T-1-3, and T-1-5 describe completing all portions of Rail Trail, planning active and light transportation to the Rail line, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure. Action T-4-1 also promotes the installation of at least 1,247 new public EV charging stations. These actions have the potential to disturb nesting habitat for birds and raptors protected under Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGC) and under the Migratory Bird Treaty Act (MBTA). However, construction activities for future CAP projects would be required to comply with the provisions of

the MBTA and CFGC Sections 3503, 3503.5, and 3513 in order to avoid impacts to protected birds and would be reviewed for consistency with City, State, and federal policies related to protected species. In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030, while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed. As such, the CAP would not have a substantial adverse effect on special-status wildlife species. Rather, the planting of trees and reforestation of mowed areas could provide additional habitat for special-status wildlife species within the City. Therefore, the CAP would result in a **less-than-significant impact** related to special-status wildlife species.

- b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*
- c. *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

The CAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City. According to the Santa Cruz 2030 General Plan, there are a number of riparian corridors associated with the San Lorenzo River, Branciforte Creek, Carbonera Creek, Arana Gulch Creek, Pasatiempo Creek, and Moore Creek, among others. Other special habitat resources in Santa Cruz include wetlands and lagoons such as Neary Lagoon, Schwan Lagoon, and Woods Lagoon. The Santa Cruz 2030 General Plan contains Goal NRC1, protected, enhanced, and sustainably managed creek systems, riparian environments, and wetlands, and Goal NRC3, conservation and stewardship of resources (City of Santa Cruz 2012).

The CAP measures and actions would generally apply to the urbanized areas of the City, with little application to parks, open spaces area, or other locations where riparian and wetland habitat is located. Future CAP-related projects would be required to adhere to City development regulations and Santa Cruz 2030 General Plan policies, including Chapter 24.12, Environmental Resource Management, and Chapter 13.30, Trees of the SCMC. In addition, the location and details of future CAP projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. As such, the CAP would not have a substantial adverse effect on riparian habitat or sensitive natural community, such as wetlands. Therefore, the CAP would have a **less-than-significant impact** related to riparian habitat, federally protected wetlands, or other sensitive natural communities.

- d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

The CAP would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized portions of the City. As a policy document, the CAP would not result in direct impacts related to interference with species movement or use of wildlife nursery sites. However, implementation of CAP Action T-1-1 and T-1-2, which promotes the implementation of the Active Transportation Plan Update and the completion of all portions of the Rail Trail, could potentially result in temporary disturbance to habitat areas. Future CAP projects would be required to adhere to City development regulations and Santa Cruz 2030 General Plan policies, including Chapter 24.12, Environmental Resource Management, and

Chapter 13.30, Trees of the SCMC, and would be reviewed for consistency with applicable local, regional, and State regulations to retain urban forestry and open space and minimize environmental impacts. Furthermore, the CAP measures and actions would generally apply to the urbanized areas of Santa Cruz with little application to parks, open spaces area, or other locations where wildlife corridors or native wildlife nursery sites may be present. Therefore, the CAP would result in a **less-than-significant impact** related to interference with species movement or wildlife nursery use.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Santa Cruz is a primarily urbanized community with neighborhood parks, community parks, and recreational spaces throughout the City. The City also features a “Greenbelt,” which includes roughly 1,500 acres of woodlands and coastal prairie. SCMC Title 13, SCMC Chapter 24.14, the Santa Cruz 2030 General Plan, and the Local Coastal Plan incorporate regulations, goals, and policies to protect biological resources, such as plants, trees, wildlife habitats, vegetation communities, wetlands and rivers, coastal resources, and rare and endangered species in the City (City of Santa Cruz 1992; City of Santa Cruz 2012; City of Santa Cruz 2021b).

The CAP would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment within the urbanized portion of the City. The purpose and intended effect of the CAP is to reduce GHG emissions generated in the City to help reduce the effects of climate change. Implementation of proposed CAP measures and actions would be beneficial by helping Santa Cruz meet applicable local policies and ordinances. In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030, while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed. As such, the CAP would not conflict with or obstruct implementation of the applicable policies for preserving biological resources and would not affect the City’s ability to attain goals and policies that protect biological resources. Therefore, the CAP would result in **no impact** related to consistency with local biological resources protection policies.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

The City of Santa Cruz has developed two existing Habitat Conservation Plans: City of Santa Cruz Operations and Maintenance Habitat Conservation Plan and Graham Hill Water Treatment Plant Low-Effect Habitat Conservation Plan. The Operations and Maintenance Habitat Conservation Plan was developed for improvements or projects within the City that have the potential to take federally listed species and other non-listed special-status species. Graham Hill Water Treatment Plant Low-Effect Habitat Conservation Plan was developed for the operations, maintenance, and construction activities associated with the GHWTP (City of Santa Cruz 2022).

The SCMC Title 13, SCMC Chapter 24.14, the Santa Cruz 2030 General Plan, and the Local Coastal Plan incorporate regulations, goals, and policies aimed to protect biological resources, such as plants, trees, wildlife habitats, vegetation communities, wetlands and rivers, coastal resources, and rare and endangered species in the City (City of Santa Cruz 1992; City of Santa Cruz 2012; City of Santa Cruz 2021b). The CAP would not facilitate specific development projects, nor would it add or enable new development that would conflict with the City of Santa Cruz Operations and Maintenance Habitat Conservation Plan, SCMC, Santa Cruz 2030 General Plan, or Local Coastal Program. Rather, the CAP prioritizes the preservation of greenspace and trees and improvements to

buildings and the transportation system in order to reduce GHG emissions and related impacts to the environment. In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030, while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed. Therefore, the CAP would have **no impact** related to consistency with an adopted habitat or natural community conservation plan.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Implementation of CAP projects, in combination with other cumulative projects anticipated under General Plan buildout, could result in impacts to biological resources during infrastructure and building construction. However, as described in *criterion a* through *f*, above, infrastructure development or redevelopment resulting from implementation of the CAP would be required to comply with applicable Santa Cruz 2030 General Plan and Local Coastal Program goals and policies as well as State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. In addition, the CAP would not result in new building construction that replaces habitat but rather would result in the planting of trees and reforestation of currently mowed areas. Therefore, implementation of the CAP would result in a **less-than-significant cumulative impact** related to biological resources.

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5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

The Santa Cruz General Plan EIR identifies two designated local historic districts (Mission Hill and Downtown Neighborhood) and one National Register district (Cowell Limes Work District) along with 15 properties listed on the National Register of Historic Places and one additional structure listed on the California Register of Historic Places (City of Santa Cruz 2011). The CAP would not involve land use or zoning changes but would promote infrastructure development and redevelopment that would be complimentary to existing development. Projects resulting from implementation of the CAP would be required to comply with Santa Cruz 2030 General Plan goals, policies, and programs related to the preservation of historic resources, including Goal HA1, which strives to protect and preserve cultural resources. CAP-related projects would be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and in addition to compliance with the Santa Cruz 2030 General Plan to avoid adverse impacts related to historic resources. Therefore, the CAP would result in a **less-than-significant impact** related to historical resources.

b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

According to the Santa Cruz 2030 General Plan, the attractive climate, natural resources, and topography of the Santa Cruz area provided an attractive environment for the prehistoric people who lived here, and for the Mission and pueblo. As a result, Santa Cruz has many archaeological and prehistoric archaeological sites. The Santa Cruz 2030 General Plan, Figure 2 (“Areas of Historical Archaeological Sensitivity”), identifies areas with archaeological sensitivity. A few highly sensitive areas are scattered throughout the central portion of the City, but the majority of highly sensitive archaeological areas are concentrated in the northern portion of the City within Pogonip. There is a possibility for archaeological sites not previously recorded to be present in areas where CAP projects could occur. In particular, CAP Actions BE-3-3, T-1-1, T-1-2, T-1-3, T-1-5, and T-4-1 would result in

small-scale construction that may expose previously undiscovered archaeological resources during ground disturbing activities. In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030 while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed, both of which would result in ground disturbing activities. The CAP projects and tree planting would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAP-related projects would be reviewed for consistency with applicable local, regional, and State archeological regulations prior to final siting and construction, and would be required to implement Best Management Practices (BMPs) in accordance with the Santa Cruz 2030 General Plan and its associated policies and programs. These policies include a standard requirement that preparation of archaeological investigation be undertaken on sites proposed for development within areas identified as “Highly Sensitive” or “Sensitive” on the “Areas of Historical Archaeological Sensitivity” map, as well as the requirement to notify applicants within paleontologically sensitive areas of the potential for encountering archaeological resources during construction. In the event of encountering paleontological resources during construction, construction would be halted and resources examined. If the find is significant, the City requires the treatment of the find in accordance with the recommendations of the evaluating paleontologist. Treatment may include, but is not limited to, specimen recovery and curation or thorough documentation (City of Santa Cruz 2012). As such, archeological resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAP would result in a ***less-than-significant impact*** related to archaeological resources.

c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

There is a possibility of encountering unknown buried human remains throughout the City where CAP-related projects could occur. In particular, CAP Actions BE-3-3, T-1-1, T-1-2, T-1-3, T-1-5, and T-4-1 would result in small-scale construction that may expose unknown human burial sites ground disturbing activities. In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030 while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed, both of which would result in ground disturbing activities. CAP projects and actions would be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and human remains to avoid impacts related to unknown human interments. In addition, CAP projects would be required to comply with State coroner requirements related to burial findings, including assessment and mitigation incorporation once project details and locations are known. Therefore, the CAP would result in a ***less-than-significant impact*** related to human remains.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Implementation of CAP-related projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, would include infrastructure that could have an impact on cultural resources during construction. Impacts to historic and archaeological resources are generally site-specific. Additionally, there is a possibility of encountering buried archaeological deposits and human remains throughout the City. Accordingly, potential impacts associated with cumulative developments would be addressed on a case-by-case basis. In addition, future projects in the City,

including those associated with implementation of the CAP, would be required to comply with the Santa Cruz 2030 General Plan policies and programs that require the identification and protection of sites and structures of architectural, historical, archaeological, and cultural significance in order to avoid impacts related to cultural resources. Therefore, implementation of the CAP would result in a ***less-than-significant cumulative impact*** related to cultural resources.

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6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

California is one of the lowest per-capita energy users in the United States, ranked 50th in the nation only behind Rhode Island, due to its energy efficiency programs and mild climate (United States Energy Information Administration [USEIA] 2022a). California consumed 279,510 gigawatt-hours (GWh) of electricity and 2,074,302 million cubic feet of natural gas in 2020 (CEC 2020a; USEIA 2022b). The single largest end-use sector for energy consumption in California is transportation (39.3 percent), followed by industry (23.2 percent), commercial (18.8 percent), and residential (18.7 percent) (USEIA 2022a). Adopted in 2018, SB 100 accelerated the State’s Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

The City of Santa Cruz has demonstrated its commitment to energy efficiency and renewable energy through many efforts, as described in the Existing Sustainability Setting section. The City has adopted the California Green Building Standards Code, per SCMC Chapter 18.04, that requires efficiency measures to reduce energy use, and provide energy reduction benefits (City of Santa Cruz 2021b). The City has also completed a communitywide GHG emissions inventory for 2019, which is summarized in Table 1.

As shown in Table 1, on-road transportation was responsible for the highest emissions of GHGs within the Santa Cruz community in 2019. According to the CEC, Santa Cruz County consumed approximately 1,180 GWh of electricity and 51.9 million therms of natural gas in 2020 (CEEC 2020a; CEC2020b).

The CAP is a policy document containing climate action measures to reduce Citywide GHG emissions. The CAP would encourage energy efficiency in existing residential, commercial, and municipal building stock through new policies and educational campaigns as well as new requirements for proposed new buildings. The CAP incentivizes increased renewable energy production within the City. The CAP also attempts to reduce transportation-related energy

consumption by increasing active transportation and public transit use and reducing VMT. CAP Measures BE-1, BE-2, and BE-3 seek to decrease natural gas consumption in new and existing buildings by enforcing an electrification ordinance for new development and electrifying existing commercial and residential buildings, while CAP Measure BE-5 encourages equitable energy efficiency and investment in local solar programs. CAP Measures T-1 through T-5 would provide improvements to the active transportation, public transit and EV infrastructure of the City while discouraging single-passenger occupancy vehicles and decarbonizing off-road equipment. CAP Measure W-1 relates to maintaining low per capita water usage while Measure W-2 related to reducing organic and inorganic waste production. Finally, CAP Measure W-4 aims to reduce or capture emissions from wastewater processes.

Removal of existing natural gas infrastructure and implementation of both solar and transportation infrastructure would require small-scale construction. However, energy use for the construction of such projects would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency (USEPA) Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements such as 2019 California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11), future infrastructure projects would comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct CAP-related projects. Upon completion of construction for any CAP-related infrastructure development and redevelopment, non-renewable energy use would be reduced by increasing renewable energy production and storage and reducing VMT within the City.

The purpose and intended effect of the CAP is to reduce GHG emissions generated in the City to minimize the effects of climate change, including those emissions generated by energy demand and supply. The CAP would not result in the use of non-renewable resources in a wasteful or inefficient manner; rather, it would assist in reducing use of non-renewable energy resources and increasing the production of local renewable energy. Therefore, the CAP would result in ***no impact*** related to the wasteful, inefficient, or unnecessary consumption of energy.

b. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Relevant plans and policies that aim to increase energy efficiency and the production of renewable energy include SB 100, the 2019 California Green Building Standards Code (CALGreen or Title 24 Part 11), and the 2019 California Building Energy Efficiency Standards (Title 24 Part 6). SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program and requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. CALGreen (Title 24 Part 11) institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. In addition, the California Building Energy Efficiency Standards (Title 24 Part 6) establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. CCR Title 24 (Parts 6 and 11) is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become

available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC.

Santa Cruz is part of the Central Coast Community Energy (CCCE) community choice aggregate, which provides electricity primarily from clean, renewable sources. Santa Cruz would continue to reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by CCCE continues to increase to comply with State requirements through SB 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. The CAP includes strategies and actions to reduce electricity use and increase production of renewable energy and would therefore align with the overall intent of SB 100.

In addition, the City of Santa Cruz has adopted CALGreen (Title 24 Part 11) and the California Building Energy Efficiency Standards (Title 24 Part 6) pursuant to SCMC Chapter 18.04 and Chapter 24.15 (City of Santa Cruz 2021b). Therefore, construction and operation associated with infrastructure projects stemming from the CAP would be designed to comply with the energy source standards of the CALGreen and the California Building Energy Efficiency Standards. Future projects resulting from implementation of the CAP would be required to demonstrate compliance with the CALGreen and the California Building Energy Efficiency Standards by implementing sustainability and energy efficiency measures such as high-efficiency lighting and HVAC systems, low-flow water fixtures, dual-paned windows, and water efficient landscaping and irrigation systems. Compliance with these regulations would minimize potential conflicts with adopted energy conservation plans.

As discussed under *criterion a*, above, CAP Measures BE-1, BE-2, and BE-3 seek to decrease natural gas consumption in new and existing buildings by enforcing an electrification ordinance for new development and electrifying existing commercial and residential buildings, while CAP Measure BE-5 encourages equitable energy efficiency and investment in local solar programs. These measures are consistent with the goals and policies established by SB 100, CALGreen, and the California Building Energy Efficiency Standards. Thus, the CAP would **not** conflict with adopted renewable energy or energy conservation plans and there would be **no impact**.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Implementation of the CAP would result in reducing use of non-renewable energy resources across the community, in particular with remodeled buildings, new construction, and municipal buildings. Implementation of the CAP would also increase the production of renewable energy within the City. Additionally, the CAP includes measures to increase the use of active transportation and public transit and reduce VMT within the City, which would reduce transportation fuel use. As the City's population grows and development intensifies in the future, as anticipated under 2030 General Plan buildout, measures contained within the CAP would ensure that new development is constructed in accordance with strict energy efficiency standards and that the City sources its energy from renewable sources. As the CAP would result in decreased non-renewable energy use within the City and would align with existing plans and policies related to renewable energy and energy efficiency, implementation of the CAP would result in **no cumulative impact** related to energy.

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
1. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
 2. *Strong seismic ground shaking?*
 3. *Seismic-related ground failure, including liquefaction?*
 4. *Landslides?*

According to the Santa Cruz 2030 General Plan, the City is located in an area of high seismic risk due to the close proximity of at least six major seismic faults and fault systems, including the San Andreas, Zayante, Ben Lomond, San Gregorio, Butano, and the Monterey Bay Fault Zones. The closest Alquist-Priolo Earthquake Fault is the San Andreas Fault, located approximately 12 miles east of the City (California Geologic Survey [CGS] 2018). However, there are no formally recognized faults in Santa Cruz. In addition, the City has low potential for landslides, except for the slopes near Moore Creek (City of Santa Cruz 2012).

In 2018, the City of Santa Cruz City Council adopted a Local Hazard Mitigation Plan (LHMP) Five Year Update (2018-2023) to identify and assess hazards and reduce risks prior to a disaster event. According to the LHMP, past experience has identified the City as being vulnerable to earthquake. The most active earthquake threat to the City is the San Andreas Fault zone, which is capable of a maximum credible earthquake equal to a magnitude of 8.3. Additionally, the nearby Hayward, Calaveras and San Gregorio faults are all capable of generating earthquakes greater than a magnitude of 7.4 (City of Santa Cruz 2018). As identified in the LHMP, the U.S. Geological Survey has determined that there is a 62 percent probability of at least one magnitude 6.7 or greater earthquake, capable of causing widespread damage, striking the San Francisco Bay region, including Santa Cruz, before 2032. During a previous earthquake event (the Loma Prieta earthquake of 1989), extensive liquefaction occurred along the shoreline of the Monterey Bay. Most of the City of Santa Cruz downtown area along the San Lorenzo River is in a liquefaction area (City of Santa Cruz 2018).

The CAP is a policy document containing climate actions and supporting measures to reduce GHG emissions, and is consistent with the Santa Cruz 2030 General Plan, Local Coastal Program, SCMC, LHMP, and other regional regulations. CAP Measures BE-3 may result in new or expanded facilities for the purposes of battery energy storage. However, the CAP does not propose habitable development that could result in exposure of people to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides. Therefore, the CAP would result in **no impact** related to seismic- and landslide-related hazards.

- b. *Would the project result in substantial soil erosion or the loss of topsoil?*

The CAP would not involve land use or zoning changes but would promote sustainable infrastructure development and redevelopment. As a policy document, the CAP would not directly require ground-disturbing activities. However, implementation of several CAP measures may result in construction activities that could cause soil erosion or the loss of topsoil during construction. For example, CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods. CAP Action BE-3-3 supports commercial battery storage installations and business district scale microgrid opportunities. CAP Action-BE 5-1 vows to deliver

weatherization, healthy home retrofits, and solar system installs to low-income homeowners and rental units. Additionally, CAP Action T-1-1 will fund, staff, and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, while Actions T-1-2, T-1-3, and T-1-5 describe completing all portions of Rail Trail, planning active and public transportation to the Rail line, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure. Action T-4-1 also promotes the installation of at least 1,247 new public EV charging stations.

The CAP could result in construction-related soil erosion and topsoil loss impacts associated with implementation of CAP Measures and Actions. However, CAP projects and actions would be reviewed for consistency with Santa Cruz General Plan policies and other local and State geology and soils regulations prior to final siting and construction. Soil erosion caused by strong wind and/or earth-moving operations during construction would be minimized through compliance with MBARD Rule 400, Visible Emissions, which prohibits visible particulate matter from crossing property lines. Standard practices to control fugitive dust emissions include watering of active grading sites, covering soil stockpiles with plastic sheeting, and covering soils in haul trucks with secured tarps. In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030 while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed, both of which would reduce erosion of topsoil.

The potential for CAP-related project construction activities involving soil disturbance to result in increased erosion and sediment transport by stormwater to surface waters would be minimized because future projects would be required to comply with SCMC Chapter 18.45, Excavation and Grading Regulation, and/or a National Pollutant Discharge Elimination System (NPDES) Construction General Permit, issued by the Central Coast Regional Control Board (CCRWQB), for projects disturbing more than one acre (City of Santa Cruz 2021b). These regulations require best management practices (BMPs) to reduce erosion and topsoil loss from stormwater runoff. Compliance with the SCMC and/or a Construction General Permit would ensure that BMPs are implemented during construction and minimize substantial soil erosion or the loss of topsoil. Therefore, the CAP would result in a ***less-than-significant impact*** related to soil erosion and loss of topsoil.

- c. *Would the project be located on a geologic unit or soil that is unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*
- d. *Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code, creating substantial risks to life or property?*

According to the City of Santa Cruz LHMP, the City's downtown area along the San Lorenzo River is in a liquefaction area. Most of Santa Cruz is characterized by low to no potential for landslides, other than the slopes near Moore Creek. Additionally, the City does not experience risks related to expansive soils, and the risk of subsidence is generally low throughout the City (City of Santa Cruz 2018). The Santa Cruz 2030 General Plan, SCMC, and CBC contain regulations for structural design and soil hazards in order to mitigate potential impacts related to unstable soils.

The CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan. Some of the proposed policies in the CAP would support small-scale construction projects, such as battery storage installation and EV charging stations. However, CAP projects and

actions would be reviewed for consistency with local and State geotechnical regulations prior to final siting and construction. New structures would be required to comply with SCMC Chapter 18.04, Building Code, which adopts the latest CBC, including measures to address unstable soil conditions (City of Santa Cruz 2012). Therefore, the CAP would result in a **less-than-significant impact** related to risks associated with location on unstable geologic unit or soil or on expansive soils.

e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The CAP would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems. Therefore, **no impact** would occur related to soil capability support of alternative wastewater disposal systems.

f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The CAP would not involve land use or zoning changes that would encourage new development but would instead promote infrastructure development and redevelopment. As a policy document, the CAP would not directly result in impacts related to paleontological resources or unique geologic features. CAP actions that would involve construction activities, such as the policies related to building energy-efficiency, renewable energy retrofits, active transportation and public transit infrastructure, and EV charging infrastructure, would primarily involve work within previously developed and disturbed areas where the likelihood of encountering intact and previously undiscovered paleontological resources would be minimal. Nonetheless, there is a possibility that these small-scale construction projects may expose paleontological resources during ground disturbing activities, including tree planting. To reduce such risks, CAP-related projects would be reviewed for consistency with State geotechnical and paleontological regulations prior to final siting and construction. CAP projects would also be subject to the policies of the Santa Cruz 2030 General Plan, such as HA1.2, which conditions project approvals such that work be halted and resources examined in the event of encountering paleontological resources during construction (City of Santa Cruz 2012). In addition, CAP-related projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. Therefore, the CAP would result in a **less-than-significant impact** related to paleontological resources and unique geologic features.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). CAP-related projects, in combination with other cumulative projects anticipated under 2030 General Plan buildout, could expose additional people and property to the seismic and geologic hazards that are present in the region. The magnitude of geologic hazards for individual projects, including those associated with implementation of the CAP, would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Specific geologic hazards associated with individual project sites would be limited to those sites without affecting other areas. Similarly, potential impacts to paleontological resources associated with each individual site would be limited to that site without affecting other areas, and impacts related to these resources would be minimized on a case-by-case basis. Compliance with existing regulations, including SCMC and CBC requirements, City-issued permit requirements, the Santa Cruz General Plan, and construction general permit requirements, would

minimize potential cumulative seismic and geologic impacts. Seismic and geologic hazards would be addressed on a case-by-case basis and would not result in cumulative impacts. Therefore, implementation of the CAP would result in a ***less-than-significant cumulative impact*** related to geology and soils.

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8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The greenhouse effect is a natural occurrence that helps regulate the temperature of the Earth. The majority of radiation from the Sun hits Earth’s surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. This process is essential to support life on Earth, because it warms the planet by approximately 60°F. Emissions from human activities since the beginning of the industrial revolution (approximately 270 years ago) have been adding to the natural greenhouse effect by resulting in increased gases in the atmosphere that trap heat and contribute to an average increase in Earth’s temperature. Global warming is the observed increase in the average temperature of the Earth’s surface, and climate change is the resultant change in wind patterns, precipitation, and storms over an extended period.

GHGs produced by human activities include CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorinated compound (PFC), and sulfur hexafluoride (SF₆) (see Appendix B for more details related to these GHG gases).² Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that has been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO₂, CH₄, and N₂O in the atmosphere have increased by over 36 percent, 148 percent, and 18 percent respectively, primarily due to human activity. Emissions of GHGs affect the atmosphere directly by changing its chemical composition.

Changes to the land surface also indirectly affect the atmosphere by changing the way in which Earth absorbs gases from the atmosphere. Potential impacts in California due to climate change include sea level rise, more extreme-heat days and high-ozone days, larger and more frequent

² The proposed CAP only considers emissions of CO₂, CH₄, and N₂O, because these are the GHGs most relevant to local government policymaking. These gases comprise a large majority of GHG emissions at the community level. The remaining gases (HFCs, PFC, and SF₆) are emitted primarily in private sector manufacturing and electricity transmission and are the subject of regulation at the State level. Therefore, these gases were omitted from the proposed CAP.

forest fires, and more drought years.³ Although GHG emissions do not typically cause direct health impacts at a local level, GHG emissions can result in indirect health impacts by contributing to climate change, which can have public health implications. The primary public health impacts of climate change include the following:

- Increased incidences of hospitalization and deaths due to increased incidences of extreme heat events;
- Increased incidences of health impacts related to ground-level ozone pollution due to increased average temperatures that facilitate ozone formation;
- Increased incidences of respiratory illnesses from wildfire smoke due to increased incidences of wildfires;
- Increased vector-borne diseases due to the growing extent of warm climates; and
- Increased stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.⁴

The City of Santa Cruz has completed a communitywide GHG emissions inventory for 2019, which is summarized in Table 1. The transportation sector was the largest contributor to Santa Cruz’s GHG emissions. Table 4 summarizes the communitywide GHG emissions forecast under three scenarios for the year 2030 and year 2035: 1) business-as-usual projections, 2) target emissions, and 3) expected emissions with implementation of Statewide Initiatives and CAP Measures and Actions. As shown therein, under the business-as-usual scenario, communitywide GHG emissions are forecasted to increase to approximately 301,102 MT of CO₂e (4.17 MT of CO₂e per capita) by the year 2030, based on anticipated economic and population growth. However, with implementation of State laws and programs, communitywide GHG emissions would decline to approximately 256,715 MT of CO₂e (3.55 MT of CO₂e per capita) by 2030. Furthermore, implementation of the CAP alongside State laws and programs would reduce communitywide GHG emissions to approximately 170,002 MT of CO₂e (2.35 MT of CO₂e per capita) by 2030.

The measures included in the CAP combined with State-wide legislation and initiatives and Countywide transportation programs will enable the City of Santa Cruz to meet its per capita emissions and associated total mass emissions reduction target of 40 percent below 1990 levels by 2030. Because SB 32 is considered an interim target toward meeting the 2045 State goal of carbon neutrality, implementation of the CAP would be considered substantial progress toward meeting the State’s long-term 2045 goal. Avoiding interference with and making substantial progress toward these long-term State targets are important, because these targets have been set at levels that achieve California’s fair share of international emissions reduction targets that will stabilize global climate change effects and help avoid the associated adverse environmental consequences.

The CAP includes a list of 31 measures, each with individual actions, intended to reduce communitywide GHG emissions. Implementation of the CAP would result in the reduction of communitywide operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure such as electric vehicle charging stations, bicycle paths, and public transit facilities. Additionally, the CAP would serve as a pathway to reduce GHG emissions and

³ California Air Resources Board (CARB) and California Environmental Protection Agency (CalEPA). 2009. Environmental Health and Equity Impacts from Climate Change and Mitigation Policies in California: A Review of the Literature. Available: <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.386.4605&rep=rep1&type=pdf>>. Accessed May 18, 2021.

⁴ California Natural Resources Energy. 2018. California’s Fourth Climate Change Assessment Statewide Summary Report. Available: <<http://www.climateassessment.ca.gov/state/>>. Accessed July 24, 2020.

introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, reduction vehicle miles traveled (and thus air pollution), reduction solid waste generation, and increase in carbon sequestration due to tree planting and reforestation. Therefore, the CAP would result in a **less-than-significant impact** related to generation of GHG emissions.

b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The CARB 2017 Climate Change Scoping Plan outlines a pathway to achieving the 2030 reduction targets set under SB 32, which are considered interim targets toward meeting the long-term 2045 carbon neutrality goal established by EO B-55-18. The CAP is a policy-level document that sets strategies to reduce GHG emissions within the City in an effort to also comply with State regulations. As discussed under *criteria a*, above, the CAP includes measures to assist in reducing City GHG emissions from forecasted business-as-usual levels to approximately 170,002 MT of CO₂e (2.35 MT of CO₂e per capita) by 2030. The purpose of the CAP is to meet Santa Cruz's proportionate fair share of the Statewide GHG emissions reduction target set by SB 32 and work toward the State's longer-term target of carbon neutrality identified in Executive Order B-55-18. The CAP would not conflict with any applicable GHG reduction plans, including the CARB 2017 Climate Change Scoping Plan. The CAP identifies how the City would achieve consistency with the Statewide GHG emissions limit.

The CAP would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include reduction in building energy consumption, vehicle miles traveled (and thus air pollution), and solid waste generation. Therefore, the CAP would result in a **less-than-significant impact** related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Analyses of GHG emissions and climate change are cumulative in nature, as they affect the accumulation of GHG emissions in the atmosphere. Cumulative projects anticipated under 2030 General Plan buildout that exceed the thresholds discussed above would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The CAP creates a GHG emissions reduction strategy (consistent with Section 15183.5 of the CEQA Guidelines) for the City of Santa Cruz. The CAP also includes a series of measures and actions that are intended to reduce GHG emissions by approximately 40 percent below 1990 levels by 2030, which provides substantial progress toward the City meeting State goals. As such, the CAP would result in the reduction of GHG emissions rather than generating GHG emissions. Some GHG emissions would occur during construction of CAP-specific infrastructure projects; however, these emissions would be temporary and minor in nature. Therefore, implementation of the CAP would result in a **less-than-significant cumulative impact** related to GHG emissions.

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9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

- b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The CAP is a policy document containing strategies and actions to reduce GHG emissions. The CAP does not involve identified site-specific development and, for the most part, it would not facilitate new development that would involve the routine use of hazardous materials. Implementation of some CAP actions, such as energy efficiency retrofits, installation of EV charging stations, and implementation of active transportation projects, would require construction activities. Construction would involve the temporary use of hazardous materials such as vehicle fuels and fluids that could be released should an accidental leak or spill occur. However, these types of materials are not considered acutely hazardous, and storage, handling, and disposal of these materials as related to CAP actions, shall comply with any applicable regulations from the California Department of Toxic Substances Control, U.S. EPA, and Occupational Safety & Health Administration. In addition, standard construction BMPs for the use and handling of such materials would avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of projects would comply with all local, State, and federal regulations regarding the handling of potentially hazardous materials, including Title 49 of the Code of Federal Regulations and Title 22, Division 4.5 of the CCR. Risk of spills would cease after construction is completed. Therefore, construction activities related to CAP actions would not be anticipated to create upset and accident conditions involving the release of hazardous materials, and operation of the majority of CAP actions would not involve the routine transport, use, or disposal of hazardous materials during operation.

However, CAP Actions BE-2-4, BE-2-5, BE-3-3, and BE-5-1 emphasize increasing local renewable energy production and battery energy storage within the City by encouraging the deployment of local solar and construction of commercial battery storage. Hazardous materials used in battery energy storage systems would generally consist of the lithium-ion batteries. Lithium-ion technology is a common battery storage medium and is considered one of the safest and most efficient methods of energy storage on the market. During normal operation, lithium-ion batteries do not represent a risk to off-site receptors, and safety standards applicable to energy storage facilities and safety certification tests established by independent bodies, such as Underwriters Laboratories, National Fire Protection Association, and International Electrotechnical Commission would prevent any reasonable possibility of a substantial adverse effect on the environment related to the lithium-ion batteries. However, in the unlikely event of a fire, there is a risk of the accidental release of hazardous materials associated with battery energy storage systems. Any future proposed battery energy storage facilities would, therefore, be carefully reviewed for appropriate locations, safety measures, and consistency with the Santa Cruz 2030 General Plan, SCMC, and applicable local, State, and federal regulations. Therefore, the CAP would result in a ***less-than-significant impact*** related to creating a significant hazard through the routine transport, use, or disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the release of hazardous materials.

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The CAP is a policy document containing strategies to reduce GHG emissions. The CAP does not include site-specific proposals and development, nor would it emit or handle hazardous materials. Implementing some CAP actions may require future development or improvements, such as active transportation infrastructure, EV charging stations, and building improvements related to energy efficiency. However, CAP-related projects would be reviewed to ensure the appropriate location of projects in relation to existing development in the City and would be reviewed for consistency with the Santa Cruz General Plan, SCMC, and applicable local, State, and federal regulations. Therefore, the CAP would result in a **less-than-significant impact** related to handling of hazardous materials in proximity to schools.

- d. *Would the project be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The CAP is a policy document containing measures and supporting actions to reduce GHG emissions. The proposed CAP does not include site-specific proposals and development, but CAP actions could result in projects that could be located on listed hazardous materials sites. However, CAP-related projects would be reviewed for consistency with the Santa Cruz 2030 General Plan, SCMC, and would be required to comply with applicable local, State, and federal regulations related to hazardous materials sites. Therefore, the CAP would result in a **less-than-significant impact** related to location on a listed hazardous materials site.

- e. *For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The City of Santa Cruz does not contain any airports. The nearest airport to Santa Cruz is the Watsonville Municipal Airport, which is located approximately 12 miles southeast of the City. Furthermore, the CAP is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related hazards. Therefore, the CAP would result in **no impact** related to risks associated with location proximate to a public airport.

- f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The CAP is a policy document intended to reduce GHG emissions. The CAP does not involve site-specific development, nor would it facilitate new development that would interfere with adopted emergency plans. Implementation of some CAP actions, such as CAP Action T-1-1 which would implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, could involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to coordinate with the City to ensure appropriate construction staging and adequate vehicular and pedestrian access on adjacent roadways, pursuant to SCMC Chapter 15.34, Encroachment Permit (City of Santa Cruz 2012). Therefore, the CAP would

result in a ***less-than-significant impact*** related to impairment or interference with implementation of an emergency response or evacuation plan.

- g. *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

According to the LHMP and Santa Cruz 2030 General Plan, wildfire poses a very high risk to the outer portions of Santa Cruz due to the thousands of acres of undeveloped hillsides surrounding the City to the west, north, and east (City of Santa Cruz 2012). The central, urbanized portions of the City are at lower risk of wildfire (City of Santa Cruz 2018). The CAP does not propose specific development, nor does it propose new residential or commercial land uses that could be subject to wildland fire. Furthermore, CAP Action CS-1-3 would require the City to pursue funding to expand forest management that would reduce threat of intense fires. Therefore, the CAP would result in ***no impact*** related to risks associated with exposure to wildland fires.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Hazards and hazardous materials impacts are typically site-specific in nature. CAP-related projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, are not anticipated to contribute to cumulative hazards and hazardous materials impacts with adherence to applicable Santa Cruz General Plan policies and applicable State and federal regulatory requirements. Therefore, implementation of the CAP would result in a ***less-than-significant cumulative impact*** related to hazards and hazardous materials.

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

The CAP is a policy document containing measures and actions intended to reduce GHG emissions in the City. CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods. CAP Action BE-3-3 supports commercial battery storage installations and business district scale microgrid opportunities. CAP Action-BE 5-1 vows to deliver weatherization, healthy home retrofits, and solar system installs to low-income homeowners and rental units. Additionally, CAP Action T-1-1 will fund, staff, and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, while Actions T-1-2, T-1-3, and T-1-5 describe completing all portions of Rail Trail, planning active and public transportation on the Rail Trail, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure. Action T-4-1 also promotes the installation of at least 1,247 new public EV charging stations. These actions may result in small scale construction activities in the future that could result in water quality impacts due to soil erosion and ground disturbance, as discussed under Section 7, *Geology and Soils*, and *criterion c*, below. In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030 while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed, both of which would result in ground disturbing activities.

However, CAP-related projects would be reviewed for consistency with local and State regulations, including the National Pollutant Discharge Elimination System (NPDES) permitting program which requires implementation of Stormwater Pollution Prevention Plans (SWPPPs) and SCMC Chapter 18.45, Excavation and Grading Regulation (City of Santa Cruz 2021b). These regulations require BMPs to reduce water quality impacts from construction activities. Compliance with the SCMC and/or the NPDES permitting program would ensure that BMPs are implemented during construction to minimize potential impacts to surface and groundwater quality. As such, the CAP's related infrastructure projects would not result in new or different wastewater discharge that would violate water quality standards, waste discharge requirements, or otherwise degrade surface or groundwater quality. Therefore, the CAP would result in ***less-than-significant impacts*** related to surface or groundwater water quality in Santa Cruz.

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan. Implementation of the CAP actions related to infrastructure development and redevelopment, such as electrifying existing buildings, improving active transportation and public transit facilities, and implementing EV charging stations within the City, would not decrease groundwater supplies or substantially interfere with groundwater recharge. Therefore, the CAP would result in ***no impact*** related to impedance of sustainable groundwater management.

- c. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
- (i) *Result in substantial erosion or siltation on- or off-site?*
 - (ii) *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
 - (iii) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
 - (iv) *Impede or redirect flood flows?*

Implementation of several CAP measures and action may promote infrastructure development and small-scale construction activities within the City. For example, CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods. CAP Action BE-3-3 supports commercial battery storage installations and business district scale microgrid opportunities. CAP Action-BE 5-1 vows to deliver weatherization, healthy home retrofits, and solar system installs to low-income homeowners and rental units. Additionally, CAP Action T-1-1 will fund, staff, and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, while Actions T-1-2, T-1-3, and T-1-5 describe completing all portions of Rail Trail, planning active and public transportation to the Rail line, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure. Action T-4-1 also promotes the installation of at least 1,247 new public EV charging stations.

Providing new active and public transportation infrastructure and battery storage facilities may slightly change the City's existing drainage pattern and amount of impervious surface. Construction of CAP-related projects could also result in erosion, as discussed in Section 7, *Geology and Soils*. However, impacts to drainage and water quality during construction would be minimized through the implementation of BMPs as required by the SCMC and NPDES Construction General Permit program. CAP projects would be implemented in accordance with the Santa Cruz 2030 General Plan, which includes goals and policies for the protection and preservation of creeks, streams, and groundwater within the City. (City of Santa Cruz 2012). In addition, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030 while CAP Action CS-3-5 would result in the reforestation or afforestation of areas that are currently mowed, both of which would reduce the potential for erosion. Therefore, the CAP would result in a ***less-than-significant impact*** related to the alteration of existing drainage patterns.

- d. *Would the project result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

The City is not located within a designated seiche zone. However, portions of the City, such as the downtown and the beach areas including the core commercial centers, are within a designated tsunami zone (City of Santa Cruz 2018). Additionally, portions of the City are within the 100- and 500-year flood zones as defined by Federal Emergency Management Agency (FEMA) (FEMA 2021). However, an existing flood control levee on the San Lorenzo River is designed to hold a 100-year storm. The City is also downstream of the Newell Creek Dam; however, risk of dam failure is unlikely, as it is monitored monthly for seepage, saturation, and visual inspections in accordance

with California Division of Safety of Dams requirements (City of Santa Cruz 2012). Additionally, the dam is continuously monitored for earthquakes and annually monitored for settling. Overall, some areas of the City are at risk of inundation. As described in *criterion c*, above, CAP projects would not impede or redirect flood flows, and as discussed in Section 9, *Hazards and Hazardous Materials*, CAP projects would generally not involve the regular use or storage of hazardous materials with the exception of battery energy storage facilities that include the storage of lithium ion batteries. Future CAP-related projects, such as battery storage facilities, would be reviewed for compliance with the applicable local and State regulations related to flooding and hazardous materials use. Furthermore, any projects associated with implementation of the CAP located in flood-prone areas must comply with SCMC Chapter 24.12, Environmental Management, Part 4, Floodplain Management, which provides standards and requirements for construction within floodplain areas (City of Santa Cruz 2021b). Therefore, the CAP would result in a ***less-than-significant impact*** related to flooding and inundation resulting in release of pollutants.

- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The CAP measures and actions would not include activities that would result in the direct extraction of groundwater. The CAP would not interfere with or obstruct implementation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Therefore, the CAP would result in ***no impact*** related to consistency with a water quality control plan or sustainable groundwater management plan.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Projects related to implementation of the CAP, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable General Plan policies, SCMC requirements and applicable local, State, and federal regulations. Implementation of the CAP would not contribute to an increase in growth and development in Santa Cruz but could result in infrastructure development projects, including renewable energy facilities and alternative transportation thoroughfares. As such, implementation of the CAP and other cumulative projects could have incremental impacts related to hydrology and water quality, with potential minor alterations to existing drainage patterns in the City. Overall, implementation of the CAP would result in a ***less-than-significant cumulative impact*** related to hydrology and water quality.

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. Would the project physically divide an established community?

The CAP is a policy document containing measures that are consistent with the Santa Cruz 2030 General Plan and does not include actions or specific development projects that would divide an established community. CAP Measure T-1 would implement programs for active transportation by funding and staffing the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, by completing all portions of Rail Trail, and by ensuring secure bike parking near transit and in major activity centers. Such actions would help to increase connectivity within the Santa Cruz community. Therefore, the CAP would result in **no impact** related to division of an established community.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The CAP is a policy document containing measures that are consistent with the Santa Cruz 2030 General Plan and that are designed to reduce adverse environmental impacts associated with climate change. Nonetheless, implementing the CAP would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. For example, CAP Measures BE-1, BE-2 and BE-3 include adoption and enforcement of building ordinances to require building electrification for new and existing developments, while Measure BE-5 would implement local solar programs to reform community solar policies and consider rental building energy performance standards. CAP Measure T-1 would implement programs for active transportation, CAP Measure T-2 would implement programs for public transportation, and CAP Measure T-3 would develop programs and policies to discourage driving single passenger occupancy vehicles. In addition, CAP Action W-1-6 would consider an ordinance for installation of greywater for irrigation at new residential construction while CAP Action W-2-1 would explore and potentially develop a regional compost trading program. In order to implement these measures, the City Municipal Code, General Plan, and other applicable documents may need to be amended to reflect new or modified requirements. However, where modifications of existing policies are needed, such as updates to policies related to energy, solid waste, transit, and active transportation, the CAP measures would result in greater avoidance or reduction of environmental

effects. Therefore, the CAP would result in ***no impact*** related to consistency with current land use plans or policies.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). The CAP is a policy document containing strategies that are consistent with the Santa Cruz 2030 General Plan. Nonetheless, implementing the CAP-related projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, would require some modification of existing land use policies, including developing and implementing new programs, and projects, or modifying existing ones. The proposed changes are consistent with the intent of the goals and policies established within the Santa Cruz 2030 General Plan, Local Coastal Program, and Municipal Code and would not cumulatively contribute to population growth or the loss of housing. Cumulative projects, including the CAP-related projects, would be required to adhere to City development regulations and existing Santa Cruz 2030 General Plan policies to retain land use character and minimize environmental impacts. Future projects implemented as a result of the CAP would be reviewed for consistency with the Santa Cruz 2030 General Plan and other applicable regulatory land use actions prior to approval. Therefore, implementation of the CAP would result in a ***less-than-significant cumulative impact*** related to land use.

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

The Santa Cruz 2030 General Plan EIR does not identify any mineral resources or mineral resource recovery sites within the City. However, the EIR does identify a designated aggregate location, an approximately 360-acre sand quarry adjacent to and surrounded by Wilder Ranch State Park west of the City within the General Plan’s planning area (City of Santa Cruz 2011). The Santa Cruz 2030 General Plan includes Policy NRC3.4 that requires the conservation of agricultural and known mineral resources in the General Plan’s planning area (City of Santa Cruz 2012). The CAP would not conflict with this policy or otherwise impact operations in the quarry area. Furthermore, the CAP would not facilitate additional urban growth or infrastructure development projects within the City that could result in the loss of availability of known mineral resources. Therefore, the CAP would result in **no impact** related to mineral resource.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Identified mineral resources within the General Plan planning area are limited to the sand quarry located in the west of the City. The CAP would not conflict with or alter this land use. CAP-related projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, are not anticipated to contribute to cumulative impacts to mineral resources with adherence to the Santa Cruz 2030 General Plan policies related to conservation of such resources. Therefore, implementation of the CAP would result in **no cumulative impact** related to mineral resources.

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Noise is unwanted sound that disturbs human activity. Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). Because of the way the human ear works, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources (such as construction equipment). Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance, while noise from a point source typically attenuates at about 6 dBA per doubling of distance. Noise levels may also be reduced by the introduction of intervening structures. For example, a single row of buildings between the receptor

and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm that breaks the line-of-sight reduces noise levels by 5 to 10 dBA.

The Santa Cruz 2030 General Plan EIR identifies roadway traffic as the dominant source of noise within the City. In addition, railroad operations, industrial operations, and the Boardwalk also contribute to the noise environment of the City, but in a more localized and limited manner related to locations and times of the day or year (City of Santa Cruz 2011). The Santa Cruz 2030 General Plan aims to ensure appropriate noise levels considered compatible for community noise environments (City of Santa Cruz 2012). The City’s General Plan includes goals, policies, and actions that establish an interior noise level of 45 dBA for all residential uses, consistent with State noise insulation standards (CCR Title 24 Part 11). The General Plan policies also target an exterior noise level target of 65 dBA for activity areas associated with new multi-family development. However, the General Plan does not disclose its own standards for normally acceptable community noise exposure for various land uses. Instead, the General Plan references standards as recommended by the State of California (City of Santa Cruz 2011). Such standards are shown in Table 5. In addition, SCMC Chapter 9.36, Noise, establishes noise regulations including curfews, unreasonably disturbing noises, public health and safety, and enforcement (City of Santa Cruz 2021b).

Table 5 State of California Recommended Normally Acceptable Noise Levels

Land Use	Exterior Noise Exposure (L_{dn} , dBA)
Residential (Low Density, Single Family, Duplex, Mobile Homes)	60
Residential (Multi-Family)	65
Transient Lodging (Hotels and Motels)	65
Schools, Libraries, Churches, Hospitals, Nursing Homes	70
Auditoriums, Concert Halls, Amphitheaters	70
Sports Arenas, Outdoor Spectator Sports	75
Playgrounds, Neighborhood Parks	70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75
Office Buildings, Business, Commercial, and Professional	70
Industrial, Manufacturing, Utilities, Agriculture	75

dBA = A-weighted decibels; L_{dn} = day/night average sound level; n/a = not applicable
 Source: City of Santa Cruz 2012

The CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan. Some of the CAP actions would support small scale construction projects that could result in temporary noise. These include CAP Action BE-2-4 promotes the removal of obsolete natural gas infrastructure, while CAP Action BE-2-5 promotes the deployment of community solar and electrification of existing buildings in residential neighborhoods; CAP Action BE-3-3, which supports commercial battery storage installations and business district scale microgrid opportunities; CAP Action-BE 5-1, which vows to deliver weatherization, healthy home retrofits, and solar system installs to low-income homeowners and rental units; CAP Action T-1-1, which will fund, staff, and implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update; CAP Actions T-1-2, T-1-3, and T-1-5, which describe completing all portions of Rail Trail, planning active and public transportation to the Rail line, ensuring secure bike parking near transit and in major activity centers, requiring bike parking installation in new commercial developments and existing commercial renovations, and building new infrastructure to

ensure there is equitable access to safe bicycle and pedestrian infrastructure; and CAP Action T-4-1, which promotes the installation of at least 1,247 new public EV charging stations. However, CAP-related projects would be reviewed for consistency with the Santa Cruz 2030 General Plan and SCMC, and construction activities would be required to comply with the provisions of the SCMC Chapter 9.36. Therefore, the CAP would not result in significant construction noise related impacts.

The CAP does not include future projects that would result in substantial operational noise. Rather, the CAP encompasses a suite of GHG-reduction opportunities that affect the transportation sector and its associated noise. For example, CAP Measures T-1, T-2, T-3, T-4, and T-5 would discourage driving single passenger occupancy vehicles and would promote the adoption of EVs, which are quieter than gas-powered alternatives, and facilitate improvements to bicycle and public transit circulation to increase active transportation and transit ridership and decrease VMT. These measures would reduce VMT and traffic-related noise in Santa Cruz. Therefore, the CAP would not generate excessive operational noise levels and would result in a **less-than-significant impact** related to noise exposure.

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise (Caltrans 2020). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or Root Mean Square (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings. Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings. The general human response to different levels of groundborne vibration velocity levels is described in Table 6.

Table 6 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

VdB = vibration decibels
 Source: Federal Transit Administration (FTA) 2018

The CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan. Some of the CAP actions would support small-scale construction projects, such as EV charging station construction and building energy efficiency retrofits that may result in a temporary, minor increase in groundborne vibration. However, CAP-related projects would be reviewed for consistency with the Santa Cruz 2030 General Plan and SCMC, and construction activities would be required to comply with applicable local, State, and federal regulations to ensure that temporary construction impacts related to groundborne vibration would not occur. Furthermore, CAP-related projects would not include operational sources of groundborne vibration. Therefore, the CAP would result in a ***less-than-significant impact*** related to groundborne vibration.

- c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

Santa Cruz does not contain any airports. The nearest airport to Santa Cruz is the Watsonville Municipal Airport, which is located approximately 12 miles southeast of the City. The City is not within the airport land use plan for the Watsonville Municipal Airport (Watsonville Municipal Airport 2003). Furthermore, the CAP is a policy document that would not increase airport activity or result in additional habitable development or commercial development that could increase potential exposure of residents and employees to aircraft-related noise. Therefore, the CAP would result in ***no impact*** related to aviation-related noise exposure.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). The CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan, including Chapter 8, Hazards, Safety, and Noise (City of Santa Cruz 2012). Nonetheless, CAP-related projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, would support construction projects, such as EV charging station construction that may result in a temporary increase in groundborne vibration or noise levels. However, cumulative projects, including CAP-related projects, would be subject to review by the City for compliance with the Santa Cruz 2030 General Plan and SCMC and would be required to comply with applicable State and federal regulations governing construction noise and vibration. Additionally, the CAP encompasses a suite of GHG-reduction opportunities that would decrease traffic and traffic-related noise. As such, implementation of the CAP would not generate permanent, excessive groundborne vibration or noise levels. Therefore, the CAP would result in a ***less-than-significant cumulative impact*** related to noise.

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*
- b. *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The CAP does not include measures, policies, or programs that would result in new housing or jobs or that would displace existing residents or housing. In addition, the CAP does not propose new infrastructure, such as roadways or utilities, which could indirectly lead to new population growth or development. Therefore, the CAP would not directly increase the population, indirectly induce additional unplanned population growth, or displace people or housing. Therefore, the CAP would result in **no impact** related to population and housing.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). CAP-related projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, are not anticipated to displace people or housing nor induce substantial unplanned population growth within Santa Cruz. Specifically, the CAP would not contribute to person or housing displacement in Santa Cruz nor result in population growth beyond that already assumed and planned for in the Santa Cruz 2030 General Plan and in accordance with Santa Cruz 2030 population projections. Therefore, the CAP would result in **no cumulative impact** related to population and housing.

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

1. Fire protection?
2. Police protection?
3. Schools?
4. Parks?
5. Other public facilities?

The CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan. Implementation of the CAP and its proposed strategies and actions would not result in increases in population and new employment opportunities would target existing residents and not induce population growth, as discussed in Section 14, *Population and Housing*. As such, the CAP would not require the construction of new or physically altered governmental facilities to serve additional population, the construction of which could cause significant environmental impacts. Rather, CAP measures and actions would help to increase community resiliency and reduce vulnerability to the impacts of climate change within Santa Cruz, thereby reducing the burden on local public services related to such climate impacts and disasters. Furthermore, future projects resulting from implementation of the CAP would be reviewed for consistency with the Santa Cruz 2030 General Plan and other applicable local and State regulations related to public services. Therefore, the CAP would result in **no impact** related to public services in terms of need for the construction of new or altered governmental facilities.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Implementation of CAP-related projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the Santa Cruz 2030 General Plan and in accordance with Santa Cruz's 2030 population projections. As such, implementation of the CAP would not result in substantial cumulative need to expand public services facilities. Therefore, the CAP would result in a ***no significant cumulative impact*** related to public services.

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

The City of Santa Cruz is a primarily urbanized community with a variety of recreational facilities. According to the City of Santa Cruz Parks Master Plan 2030, there are six community parks (181 acres), one regional park (151 acres), seven open spaces (1,315 acres), four primary beaches (33 acres), and a large trail system comprised of approximately 35 total miles of trails within the City, as shown in the Existing Park Coverage Map on Page 20 of the Parks Master Plan (City of Santa Cruz 2020). The Parks Master Plan incorporates four general goals outlined in the City of Santa Cruz General Plan 2030, including Goal PR1, provide ample, accessible, safe, and well-maintained parks, open space, and active recreational facilities; Goal PR2, maintain high-quality, affordable recreational programs, activities, events, and services for all; Goal PR3, provide well managed, clean, and convenient public access to open space lands and coastline; and Goal PR4, develop an integrated system of citywide and regional trails. In addition, the City’s standard for community parks is 2.5 acres per 1,000 people, with a service radius of 1.5 miles (City of Santa Cruz 2020).

The CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan, including the recreation and open space policies described above. Additionally, as described in Section 14, *Population and Housing*, the CAP would not result in substantial population growth or direct land use changes. As such, implementation of the CAP would not result in a substantial physical deterioration of parks or other recreational facilities or result in the need to expand recreational facilities. Therefore, the CAP would result in **no impact** related to the need for construction of new or altered recreational facilities.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Implementation of CAP projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, would not result in increases in population or induce additional population growth beyond that assumed under the Santa Cruz 2030 General Plan and in accordance with Santa Cruz 2030 population projections. Therefore, implementation of the CAP would not result in increased demand for parks or substantial cumulative physical deterioration of parks or other recreational facilities or result in the cumulative need to expand recreational facilities. Therefore, implementation of the CAP would result in ***no cumulative impact*** related to recreation.

17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*
- b. *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

The Santa Cruz 2030 General Plan Circulation Element includes the following goals (City of Santa Cruz 2012):

- **Goal M1:** Implement land use patterns, street design, parking, and access solutions that facilitate multiple transportation alternatives.
- **Goal M2:** Develop a safe, sustainable, efficient, adaptive, and accessible transportation system.
- **Goal M3:** Develop a safe, efficient, and adaptive road system.
- **Goal M4:** Develop a citywide interconnected system of safe, inviting, and accessible pedestrian ways and bikeways.

Additionally, the City adopted the City of Santa Cruz Active Transportation Plan (ATP) in 2017 to identify an integrated network of walkways and bikeways that connect the City of Santa Cruz neighborhoods and communities to employment, education, commercial, recreational and tourist destinations. The ATP was developed through the City’s Planning and Public Works Departments and in coordination with other City Departments. Preparation of the ATP included a review of pertinent planning documents and policies, including the Santa Cruz 2030 General Plan (City of Santa Cruz 2017).

The CAP is a policy document containing strategies and policies that are consistent with the Santa Cruz 2030 General Plan and the Santa Cruz ATP. CAP Action T-1-1 would facilitate the funding, staffing, and overall implementation of the ATP. CAP Action T-1-2 would result in the completion of all portions of Rail Trail, while CAP Action T-1-3 would ensure secure bike parking near transit and in major activity centers and require bike parking installations in commercial developments and redevelopments. CAP Action T-1-5 would build new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure throughout the City, while CAP Action T-1-6 would pilot designating streets specifically for bikes only. Additionally, CAP Actions designed to support CAP Measure T-2 would implement programs for public transportation. These CAP actions would advance active transportation and public transit within Santa Cruz and decrease VMT and associated air pollutants and GHG emissions.

The CAP Measures and Actions would be consistent with the Santa Cruz 2030 General Plan and ATP goals related to facilitating multiple transportation alternatives, developing an accessible transportation system, and developing an interconnected system of pedestrian ways and bikeways. Furthermore, the CAP would seek to reduce VMT within the City through CAP Measure M-4, which would implement a municipal Transportation Demand Management Plan by 2023 and result in consistency with CEQA Guidelines section 15064.3, subdivision (b). Therefore, the CAP would result in **no impact** related to consistency with plans addressing the transportation circulation system and CEQA Guidelines section 15064.3, subdivision (b).

- c. *Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*
- d. *Would the project result in inadequate emergency access?*

The CAP is a policy document containing strategies that are consistent with the Santa Cruz 2030 General Plan and would not facilitate development beyond that allowed under the General Plan. Implementation of some CAP actions, such as CAP Action T-1-1 which would implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update, could involve construction within the local right-of-way. Construction activities have the potential to require lane closures and may impact traffic and vehicle speeds on the affected roadways; however, these impacts would be temporary and access to roadways would generally be maintained throughout project construction. Furthermore, future projects involving work in the public right-of-way would be required to obtain an encroachment permit to ensure public safety, public convenience, and adequate traffic control pursuant to SCMC Chapter 15.34, Encroachment Permits (City of Santa Cruz 2021b). Compliance with the SCMC would ensure that significant impacts to the circulation system design, including safety impacts and emergency access, would not occur. As such, construction of CAP projects would not create transportation design hazards or result in inadequate emergency access. Furthermore, the CAP would facilitate increased active transportation and public transit use and decreased VMT within Santa Cruz, which in turn would reduce potential transportation hazards and congestion conditions that can hinder emergency response. Therefore, the CAP would result in a **less-than-significant impact** related to transportation hazards and emergency access.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Implementation of CAP-related projects, in

combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, could result in increases in VMT or changes affecting traffic design safety and emergency access. However, the CAP is a policy document containing programs that are consistent with the Santa Cruz 2030 General Plan and does not propose new development that would require the provisioning of new roadways. The CAP measures and actions would promote alternative modes of transportation and reduction of VMT throughout the Santa Cruz community, consistent with goals contained in the Santa Cruz 2030 General Plan and Santa Cruz ATP (City of Santa Cruz 2012; City of Santa Cruz 2017). Therefore, the CAP would result in a ***less-than-significant cumulative impact*** related to transportation.

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p> <p>a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1 (k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe?*

On April 27, 2022, the following Native American Heritage Commission (NAHC)-identified local Native American tribal groups were formally notified that the City initiated environmental review of the CAP 2.0 and were invited to provide consultation:

1. Amah Mutsun Tribal Band of Mission San Juan Bautista

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. Formal consultation was requested by the tribe and is expected to take place in June 2022. Results of formal consultation will be addressed in this document prior to finalization of this IS-ND.

The CAP would not involve land use or zoning changes that would increase development within the City but would instead promote sustainable infrastructure development within the urbanized area of the City. As a policy document, the CAP would also not directly entail ground disturbing activities. Implementation of the CAP actions related to electrification of buildings, commercial battery storage installation, EV charging infrastructure, and active transportation and public transit infrastructure may include minor construction activities.

Electrification retrofits associated with CAP Measures BE-1, BE-2, and BE-3 may change the physical environment through the need for upgraded service and electrical panels, branch circuit upgrades, and installation of condensate drains to facilitate the installation of electric heat pumps for water and space heating. The physical changes these upgrades would entail are dependent on the year of building construction and location of electrical and service panels and plumbing connection of condensate drains, which sometimes may include modifications to the interior and/or exterior of buildings for wiring and panel replacement and minor excavation for connection of drainage to sewer systems.

Installation of active transportation infrastructure, public transit infrastructure, and EV chargers associated with CAP Measures T-1, T-2, T-3, and T-4 would primarily impact previously disturbed areas within existing parking lots and developments. However, the physical changes these installations and enhancements would entail are dependent on the location of construction, which in some cases may include minor temporary excavation. In addition, implementation of CAP Action T-1-1 and T-1-2, which would implement the Active Transportation Plan Update, Vision Zero, Safe Routes to School and the 2030 General Plan update and complete all portions of Rail Trail, could impact some previously undisturbed areas of the City. Furthermore, CAP Measure CS-1 would result in the planting of 3,000 new trees within the City by 2030, which could result in ground disturbing activities in previously undisturbed areas.

Implementation of these CAP actions could impact unknown tribal cultural resources during construction that involves below-grade activities in previously undisturbed soils. However, CAP-related projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, CAP-related projects would be reviewed for consistency with applicable local, regional, and State tribal cultural and archaeological regulations prior to final siting and construction and would be required to implement BMPs in accordance with the Santa Cruz 2030 General Plan goals and policies and the SCMC. As such, tribal cultural resources would be protected prior to and/or upon discovery and, thus, impacts would be reduced to a minimal level. Therefore, the CAP would result in a ***less-than-significant impact*** related to tribal cultural resources.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). CAP projects, in combination with other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout, could increase the potential for adverse effects to unknown tribal cultural resources in Santa Cruz. However, impacts

to tribal cultural resources are site-specific; accordingly, as required under applicable laws and regulations, potential impacts associated with cumulative developments would be addressed on a case-by-case basis as cumulative project details and locations become known. CAP projects and other cumulative projects would be required to comply with the Santa Cruz 2030 General Plan and SCMC. Therefore, the CAP would result in a ***less-than-significant cumulative impact*** related to tribal cultural resources.

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The CAP is a policy document that, amongst other objectives, aims to reduce solid waste production, reduce energy consumption, and maintain existing water usage, thereby reducing related GHG emissions throughout Santa Cruz. The CAP does not include site-specific infrastructure designs or project proposals. Implementing the CAP would not result in an increase in population and housing nor would it facilitate growth beyond that anticipated by the Santa Cruz 2030 General

Plan. As such, implementing the CAP would not create new demand related to water, wastewater, stormwater drainage, electric power, natural gas power, or telecommunications utilities.

However, projects resulting from implementation of the CAP could include the development, redevelopment and/or restructuring of infrastructure throughout Santa Cruz. For example, CAP Measures BE-1, BE-2, and BE-3 promote the electrification of new and existing commercial and residential buildings while CAP Action BE-3-3 supports commercial battery storage installations. CAP Action BE-5-1 would deliver weatherization, healthy home retrofits, energy efficiency, and solar system installs to low-income homeowners and rental units. CAP Measure T-1 would implement programs for active transportation by implementing the Active Transportation Plan Update, completing all portions of Rail Trail, ensuring secure bike parking near transit and in major activity centers, and building new infrastructure to ensure there is equitable access to safe bicycle and pedestrian infrastructure throughout the City. Additionally, CAP Action T-4-1 would install at least 1,247 new public EV charging stations. Potential impacts related to these measures and actions are discussed further below.

Water Supply Facilities/Infrastructure

The City of Santa Cruz Water Department is the retail water supplier for development within the City limits. Santa Cruz obtains 100 percent of its municipal water supply from local water sources. According to the City of Santa Cruz Urban Water Management Plan (UWMP), 95 percent of the City's water is supplied by North Coast surface water sources (Liddell Spring and Laguna, Majors, and Reggiardo Creeks), the San Lorenzo River (Felton Diversion, Tait Diversion, and Tait Wells), and the Loch Lomond Reservoir. The remaining water supply is extracted through the Beltz well system from the Santa Cruz Mid-County Groundwater Basin (City of Santa Cruz 2021c). The City Water Department's distribution system consists of three water treatment plants, including the Graham Hill Water Treatment Plant and two groundwater treatment plants related to the Beltz well system; four raw water pump stations; ten treated water pump stations; 15 distribution tanks with a total maximum capacity of 21.2 million gallons of treated water storage; seven surface water diversions; seven production wells; and approximately 300 miles of treated and raw water pipelines interconnecting the entire system (City of Santa Cruz 2021c).

The City addresses issues of water supply in the Santa Cruz UWMP, which is a long-range planning document used to assess current and projected water usage, water supply planning, and conservation and recycling efforts. According to the UWMP, the City has analyzed three different hydrological conditions to determine the reliability of water supplies: average/normal water year, single dry water year, and multiple dry water year periods. The UWMP indicates that water supplies under the average/normal year and single dry water year hydrological conditions will be sufficient to meet demand through 2045. In an extreme multiple dry water year hydrological condition, the UWMP indicates that the estimated water supply available to the City in the near term (2025) during the fourth year would meet over 99 percent of projected demand, but during the fifth year only 73 percent of projected demand would be met. However, with implementation of planned water infrastructure projects by 2030, along with proposed water rights modifications, the City's projected water supply would meet projected water demand during all years except for small projected shortages during the fifth year of the extended drought in the 2040 – 2045 timeframe. During this period in the fifth year of the extended drought, supply is projected to be able to meet 98 percent of demand (City of Santa Cruz 2021c). The also UWMP includes a Water Shortage Contingency Plan.

Construction of projects resulting from implementation of the CAP may require minimal water usage for dust suppression purposes. As described above, the City's projected water supply is expected to meet the projected water demand during all years except for small shortages during the fifth year of an extended drought scenario in the 2040 – 2045 timeframe. However, the CAP would not result in new land uses, such as increased residential or commercial development, that would contribute to an increase in water use compared to existing conditions or that would require relocation or construction of new water infrastructure. Therefore, the CAP would have **no impact** related to the need for construction or expansion of water supply facilities and infrastructure.

Wastewater Treatment Facilities/Infrastructure

According to the Santa Cruz 2030 General Plan, Santa Cruz maintains a system of wastewater collection, conveyance, and treatment infrastructure for wastewater within the City. The City's sewer system consists of approximately 160 miles of sewer and 17 pump stations that convey wastewater to the Santa Cruz Wastewater Treatment Facility. The Santa Cruz Wastewater Treatment Plant is a regional facility, owned and operated by the City, located along Bay Street within the City limits. Conservatively, the City's wastewater treatment facility has the capacity to treat up to 17 million gallons of wastewater per day, with an average daily flow of less than ten million gallons per day. The City disposes of its treated effluent into the Pacific Ocean (City of Santa Cruz 2012).

The CAP would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. Furthermore, the CAP would not require relocation or construction of new wastewater treatment infrastructure. Therefore, **no impact** related to need for construction or expansion of wastewater treatment facilities and infrastructure would occur.

Stormwater Drainage Facilities/Infrastructure

The City of Santa Cruz maintains a system of storm drains that collect stormwater runoff from City streets along gutters and through underground pipes to discharge into waterways and ocean. The system is designed for the control of flooding and does not provide any treatment to the storm water runoff. As discussed in Section 10, *Hydrology and Water Quality*, implementation of CAP Actions related to building electrification and energy efficiency upgrades, renewable energy production and storage, and transportation may promote infrastructure development that would involve small-scale construction. Construction of projects implemented in accordance with the CAP could result in erosion and potential changes to drainage patterns. However, as described in Section 7, *Geology and Soils*, and Section 10, *Hydrology and Water Quality*, CAP-related projects would be required to comply with local, State, and federal requirements during construction that would control stormwater runoff, erosion, and potential impacts to the stormwater drainage system. Therefore, **no impact** related to need for construction or expansion of stormwater drainage facilities and infrastructure would occur.

Electric Power Facilities/Infrastructure

Electric power service in the City is provided by Pacific Gas & Electric (PG&E). Santa Cruz is also part of the CCCE community choice aggregate, which provides electricity from those who opt in within the City primarily from clean, renewable sources. Implementation of CAP Measures BE-1, BE-2, and BE-3 promote the electrification of new and existing buildings, while CAP Action BE-5-1 aims to deliver weatherization, healthy home retrofits, energy efficiency and solar system installs to low-

income homeowners and rental units. In addition, CAP Measure T-4 would increase the adoption of EVs through implementation of new EV infrastructure and charging stations throughout the City. These CAP measures and actions may slightly alter electricity demand within Santa Cruz. In addition, implementation of the CAP could slightly increase electricity demand within the City during temporary construction activities associated with CAP Measures and Actions. However, the CAP would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in energy consumption. Therefore, the CAP would result in a **less than significant impact** related to construction, expansion, or relocation of electric power facilities and infrastructure.

Natural Gas Power Facilities/Infrastructure

PG&E provides natural gas services to the City of Santa Cruz. The CAP would not involve new land uses that require new or additional natural gas service which could result in the construction of new or expanded natural gas facilities. CAP Measures BE-1, BE-2, and BE-3 promote the electrification of new and existing buildings to reduce natural gas consumption within the City. Implementation of these actions could involve minor alterations to existing natural gas infrastructure as natural gas use is reduced. In addition, implementation of the CAP could slightly increase natural gas demand within the City during temporary construction activities associated with CAP Measures and Actions. However, the CAP would serve as a pathway to reduce GHG emissions, including emissions related to energy consumption, and other beneficial environmental and sustainability effects. These benefits include a reduction in natural gas consumption. Therefore, the CAP would result in a **less than significant impact** related to construction, expansion, or relocation of natural gas facilities and infrastructure.

Telecommunications Facilities/Infrastructure

The City is served by a variety of existing telecommunications companies, such as AT&T and Comcast. The CAP would not alter existing telecommunications facilities and infrastructure and would not involve new land uses or development that would require new telecommunications infrastructure. Therefore, the CAP result in **no impact** related to need for construction or expansion of telecommunication facilities and infrastructure.

- b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*
- c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The CAP is a policy-level document that does not include site-specific infrastructure designs or project proposals, nor does it grant entitlements for development that would have the potential to increase demand for water supply or wastewater treatment. Rather the CAP contains strategies and actions to maintain reduced water use, such as CAP Measure W-1 that aims to maintain gallons per capita water use for the residential sector at a level that is at least ten percent below the State goal of 55 gallons per person per day. Thus, the CAP would result in **no impact** related to water supply and wastewater treatment.

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

Santa Cruz Municipal Utilities provides solid waste services for residential and commercial uses within Santa Cruz. The City owns and operates a Class III Sanitary Landfill, a recycling drop-off facility, and a recycling processing center at the Dimeo Lane Resource Recovery Facility, located approximately three miles west of the City on Highway 1 (City of Santa Cruz 2012). The Resource Recovery Facility landfill has a maximum permitted throughput of 535 tons of solid waste per day and has a remaining capacity 4,806,477 cubic yards (CalRecycle 2019).

The CAP focuses on sustainable infrastructure development and does not include land use or other policy changes that would result in increased residential, commercial, or other development that would increase solid waste generation within the City. CAP Measure W-2 aims to reduce organic waste by 85 percent by 2030 and reduce inorganic waste by 90 percent by 2035, while CAP Measure W-3 aims to set a long-term target to reduce waste generation growth. These CAP measures align with federal, State, and local regulations aimed at reducing solid waste disposal, such as Senate Bill 1383. Additionally, because the CAP is a policy document that would not facilitate growth beyond that anticipated by the Santa Cruz 2030 General Plan, it would not generate solid waste in excess of State or local standards. Therefore, the CAP would result in **no impact** related to solid waste.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). Other cumulative projects anticipated under Santa Cruz 2030 General Plan buildout within the City could result in increases in population and additional use of or need for utilities and service systems. However, implementation of the CAP and related infrastructure projects would not contribute to increases in population or induce additional population growth that would require additional use of existing City utilities or service systems. Rather, implementation of the CAP would reduce solid waste production, reduce energy consumption, and maintain existing water usage. Therefore, implementation of the CAP would result in a **less-than-significant cumulative impact** related to utilities and service systems.

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*
- b. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- c. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

- d. *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

According to the California Department of Forestry and Fire Protection (CAL FIRE), the majority of the City of Santa Cruz is not located in designated California Fire Hazard Severity Zones; however, the City contains and is adjacent to areas classified as moderate and high fire hazard severity zones of Local Responsibility at the wildland fringes located at the northern and western borders of the City (CAL FIRE 2007). Local Responsibility Areas are incorporated cities and other areas where the local government is responsible for wildfire protection, typically provided by city fire departments, fire protection districts, counties, or by CAL FIRE under contract.

Santa Cruz is a compact city surrounded by greenbelt. According to the LHMP, wildfire poses a threat to portions of the City in several canyons and in the wildland/urban interface. The area's most vulnerable to wildfires within the City are Pogonip, DeLaveaga, Moore Creek Preserve, Arana Gulch, Arroyo Seco Canyon, and on UCSC land (City of Santa Cruz 2018). The central, urbanized portions of the City are less subject to wildfire risk.

Though there are areas within and surrounding Santa Cruz that are at risk of wildfires, the CAP is a policy-level document that does not propose new residential, commercial, or institutional development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to directly cause wildfire. Therefore, the CAP would result in ***no impact*** related to wildfire.

Cumulative Impacts

The cumulative projects scenario is buildout of the Santa Cruz 2030 General Plan in addition to the projected population, employment, and housing for the City of Santa Cruz through 2030 (75,571 residents, 46,153 jobs, and 28,634 housing units). The CAP does not include new habitable development that could be at risk from wildfire, nor does it grant entitlements for development that would have the potential to cause wildfire. Therefore, the CAP would result in ***no cumulative impact*** related to wildfire.

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The intent of the CAP is to reduce GHG emissions from the Santa Cruz community and municipal operations through implementation of measures and actions related to energy use, water consumption, transportation, solid waste, and community coordination, education, and outreach. The CAP measures and actions are consistent with the Santa Cruz 2030 General Plan and encourage residents, businesses, and the municipal facilities to reduce energy and water use, fuel use, VMT, and solid waste generation and the associated GHG emissions. The CAP would not facilitate development that would eliminate or threaten wildlife habitats or eliminate important examples of the major periods of California history or prehistory. Therefore, as discussed in more detail in Section 4, *Biological Resources*, Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural*

Resources, the CAP would result in a **less-than-significant impact** related to biological and cultural resources.

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Implementation of the CAP would result in a cumulatively beneficial reduction of GHG and air pollutant emissions across the City of Santa Cruz. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the CAP would not result in significant cumulative impacts. Rather, implementation of the CAP would be consistent with Santa Cruz 2030 General Plan policies aimed at reducing emissions of GHGs and air pollutants, reducing VMT, reducing energy and water supply demands on utilities, and decreasing solid waste generation. Therefore, the CAP would result in an overall **less-than-significant cumulative impact** related to all CEQA topics addressed within this document.

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, GHG emissions and climate change, hazards and hazardous materials, noise, and transportation impacts. As detailed in the preceding sections, the CAP would not result, either directly or indirectly, in substantial adverse effects related to air quality, GHG emissions, hazards, and noise. As discussed in more detail in Section 3, *Air Quality*, Section 13, *Noise*, and Section 17, *Transportation*, the CAP could cause temporary construction impacts related to transportation, air quality, and noise that could, in turn, affect human beings but would not result in substantial adverse effects. However, as discussed throughout this document, the CAP would serve as a pathway to reduce operational GHG emissions and would result in other positive environmental and sustainability effects. These benefits include reduction in building energy and water consumption, VMT, and solid waste generation and improved air quality. Therefore, the CAP would result in a **less-than-significant impact** related to potential for adverse effects on human beings.

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Appendix A

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Sources, Health Effects, and Typical Controls Associated with Criteria Pollutants

Pollutant	Sources	Health Effects	Typical Controls
Ozone (O ₃)	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Reduce motor vehicle reactive organic gas (ROG) and nitrogen oxide (NO _x) emissions through emission standards, reformulated fuels, inspections programs, and reduced vehicle use. Limit ROG emissions from commercial operations, gasoline refueling facilities, and consumer products. Limit ROG and NO _x emissions from industrial sources such as power plants and manufacturing facilities.
Carbon monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Control motor vehicle and industrial emissions. Use oxygenated gasoline during winter months. Conserve energy.
Nitrogen dioxide (NO ₂)	See Carbon Monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Control motor vehicle and industrial combustion emissions. Conserve energy.
Sulfur dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Respirable particulate matter (PM ₁₀)	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO _x , SO _x , organics).	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Control dust sources, industrial particulate emissions, woodburning stoves and fireplaces. Reduce secondary pollutants which react to form PM ₁₀ . Conserve energy.
Fine particulate matter (PM _{2.5})	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO _x , SO _x , organics, and NH ₃).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Reduce combustion emissions from motor vehicles, equipment, industries, and agricultural and residential burning. Precursor controls, like those for ozone, reduce fine particle formation in the atmosphere.
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage. Control metal smelters.	No lead in gasoline or paint.
Sulfur Dioxide (SO ₂)	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Reduce use of high sulfur fuels (e.g., use low sulfur reformulated diesel or natural gas). Conserve energy.
Sulfates	Produced by reaction in the air of SO ₂ , (see SO ₂ sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO ₂

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Pollutant	Sources	Health Effects	Typical Controls
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Control emissions from geothermal power plants, petroleum production and refining, sewers, and sewage treatment plants.
Visibility Reducing Particulates	See PM _{2.5}	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	See PM _{2.5}
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	Control emissions from plants that manufacture or process vinyl chloride, installation of monitoring systems.
Toxic Air Contaminant (TAC)	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects.	Toxic Best Available Control Technologies (T-BACT), limit emissions from known sources.

Source: Compiled by Rincon Consultants, Inc. in October 2021

Appendix B

Description of Greenhouse Gases of California Concern

Description of Greenhouse Gases of California Concern

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Carbon dioxide (CO ₂)	Odorless, colorless, natural gas.	1	50–200	Burning coal, oil, natural gas, and wood; decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; oceanic evaporation; volcanic outgassing; cement production; land use changes
Methane (CH ₄)	Flammable gas and is the main component of natural gas.	28 ⁹⁵	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N ₂ O)	Nitrous oxide (laughing gas) is a colorless GHG.	298	114	Microbial processes in soil and water; fuel combustion; industrial processes
Chloro-fluoro-carbons (CFCs)	Nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (level of air at the Earth's surface); formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms.	3,800–8,100	45–640	Refrigerants aerosol propellants; cleaning solvents
Hydro-fluoro-carbons (HFCs)	Synthetic human-made chemicals used as a substitute for CFCs and contain carbon, chlorine, and at least one hydrogen atom.	140 to 11,700	1–50,000	Automobile air conditioners; refrigerants
Per-fluoro-carbons (PFCs)	Stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface.	6,500 to 9,200	10,000–50,000	Primary aluminum production; semiconductor manufacturing
Sulfur hexafluoride (SF ₆)	Human-made, inorganic, odorless, colorless, and nontoxic, nonflammable gas.	22,800	3,200	Electrical power transmission equipment insulation; magnesium industry, semiconductor manufacturing; a tracer gas

⁹⁵ The City of Chico used a 20-year Global Warming Potential for methane.

Greenhouse Gas	Physical Description and Properties	Global Warming Potential (100 years)	Atmospheric Residence Lifetime (years)	Sources
Nitrogen trifluoride (NF ₃)	Inorganic, is used as a replacement for PFCs, and is a powerful oxidizing agent.	17,200	740	Electronics manufacture for semiconductors and liquid crystal displays

Source: Compiled by Rincon Consultants, Inc. in May 2021
