

Sunnyvale Climate Action Playbook Update/ Game Plan 2028 and CEQA GHG Emissions Thresholds

Final Initial Study – Negative Declaration

prepared for

City of Sunnyvale
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Initial Study

Proposed Plan Title

Sunnyvale Climate Action Playbook Update/Game Plan 2028 and
California Environmental Quality Act (CEQA) Greenhouse Gas (GHG) Emissions Thresholds

Lead Agency/Plan Sponsor and Contact

Lead Agency/Plan Sponsor

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Plan Location and Physical Setting

The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would apply to all areas and plans and projects within the City of Sunnyvale limits. Figure 1 shows the regional location, and Figure 2 shows the plan location.

Figure 1 Regional Location

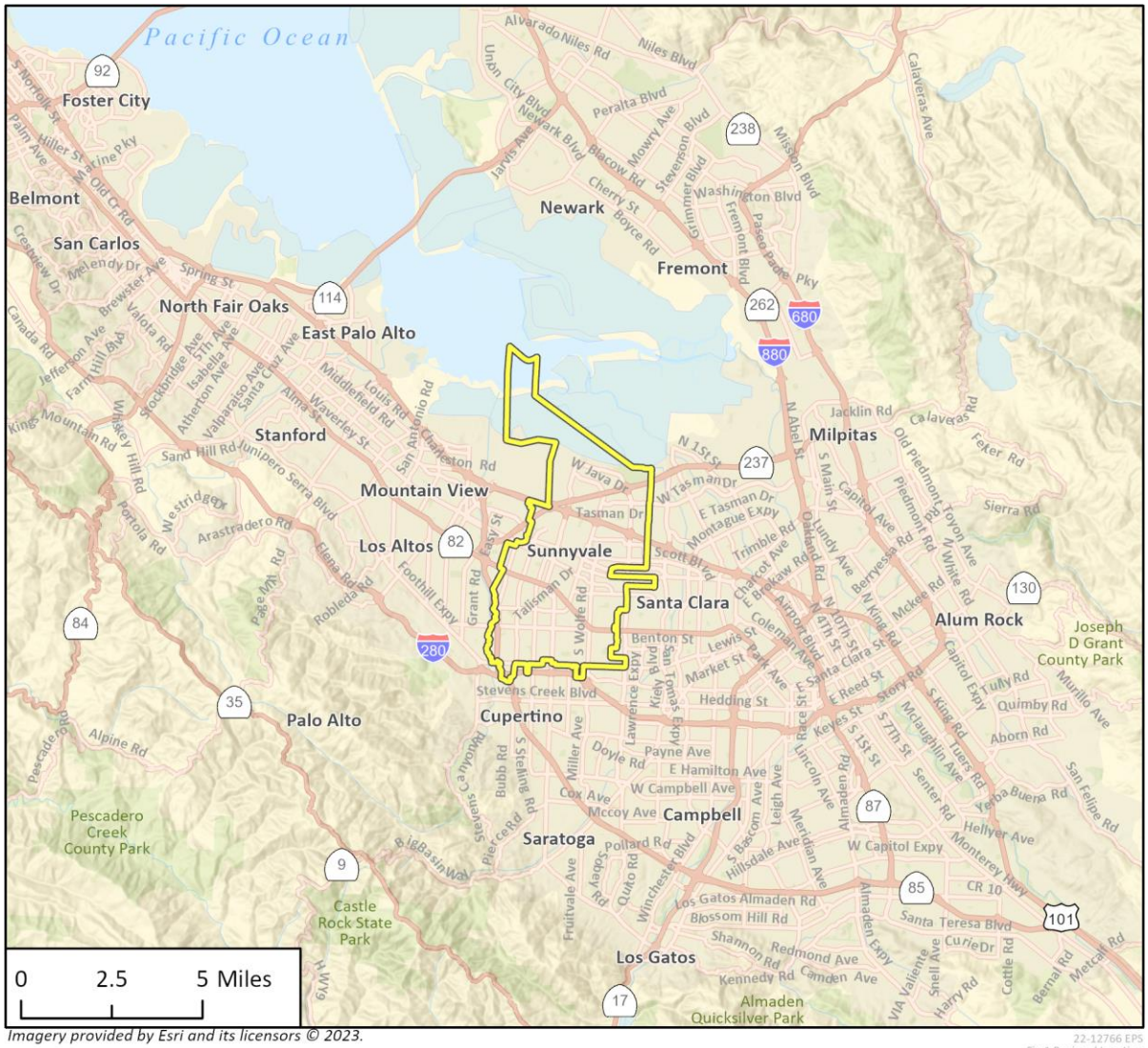


Figure 2 Plan Location



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22-12766 EPS
Fig 2 Project Location

Regional Location and Setting

The City of Sunnyvale is approximately 24 square miles and located in Santa Clara County within the larger San Francisco Bay Area. Sunnyvale is also located within an area informally referred to as Silicon Valley, which is located approximately 42 miles south of San Francisco and generally includes the Cities of Sunnyvale, Cupertino, San Jose, Menlo Park, Palo Alto, Mountain View, Santa Clara, and Redwood City. Sunnyvale is bordered by the San Francisco Bay to the north, City of Santa Clara to the east, City of Cupertino to the south, and Cities of Mountain View and Los Altos to the west.

Sunnyvale is at the crossroads of five major freeways and expressways: US 101 and State Route (SR) 237 to the north, State Route (SR) 85 to the west, Interstate 280 (I-280) to the south, and Lawrence Expressway to the east. These freeways provide regional access to Sunnyvale. Sunnyvale is also served by public transit facilities, including Santa Clara Valley Transportation Authority (SCVTA) rail and bus lines and the Caltrain commuter rail. There are two Caltrain stations located within Sunnyvale: Lawrence Station located beneath the Lawrence Expressway overcrossing between Reed Avenue and Kifer Road and Sunnyvale Station located near the intersection of Frances Street and Evelyn Avenue.[1] Transit routes in Sunnyvale are shown in Figure 3. In addition, nearby airports include the San Jose International Airport and Moffett Federal Airfield.

Local Setting

Sunnyvale is the second most populous city in Santa Clara County, with a population of 156,317 in 2022 according to the California Department of Finance (DOF).[2] Nearly all properties in Sunnyvale are developed; only 0.9 percent of land area is vacant. Residential areas account for the single largest land use, amounting to 54 percent of the developed area, while industrial and office uses constitute 25 percent of the developed area, excluding baylands and streets. The balance comprises open space and commercial and other urban land uses.[3] Sunnyvale is almost entirely surrounded by cities and the San Francisco Bay, generally between Calabazas Creek on the east and Stevens Creek on the west. Elevations in Sunnyvale rise slightly from sea level at San Francisco Bay to 300 feet in the city's southwest corner.

Sunnyvale is characterized by a temperate climate with dry summers and wet winters. The warm season lasts from June to October with an average daily high temperature above 73°F. The cool season lasts from November to February with a daily high temperature below 61°F.[4] The warmest months of the year in Sunnyvale are July and August, while the coldest months of the year are December and January.

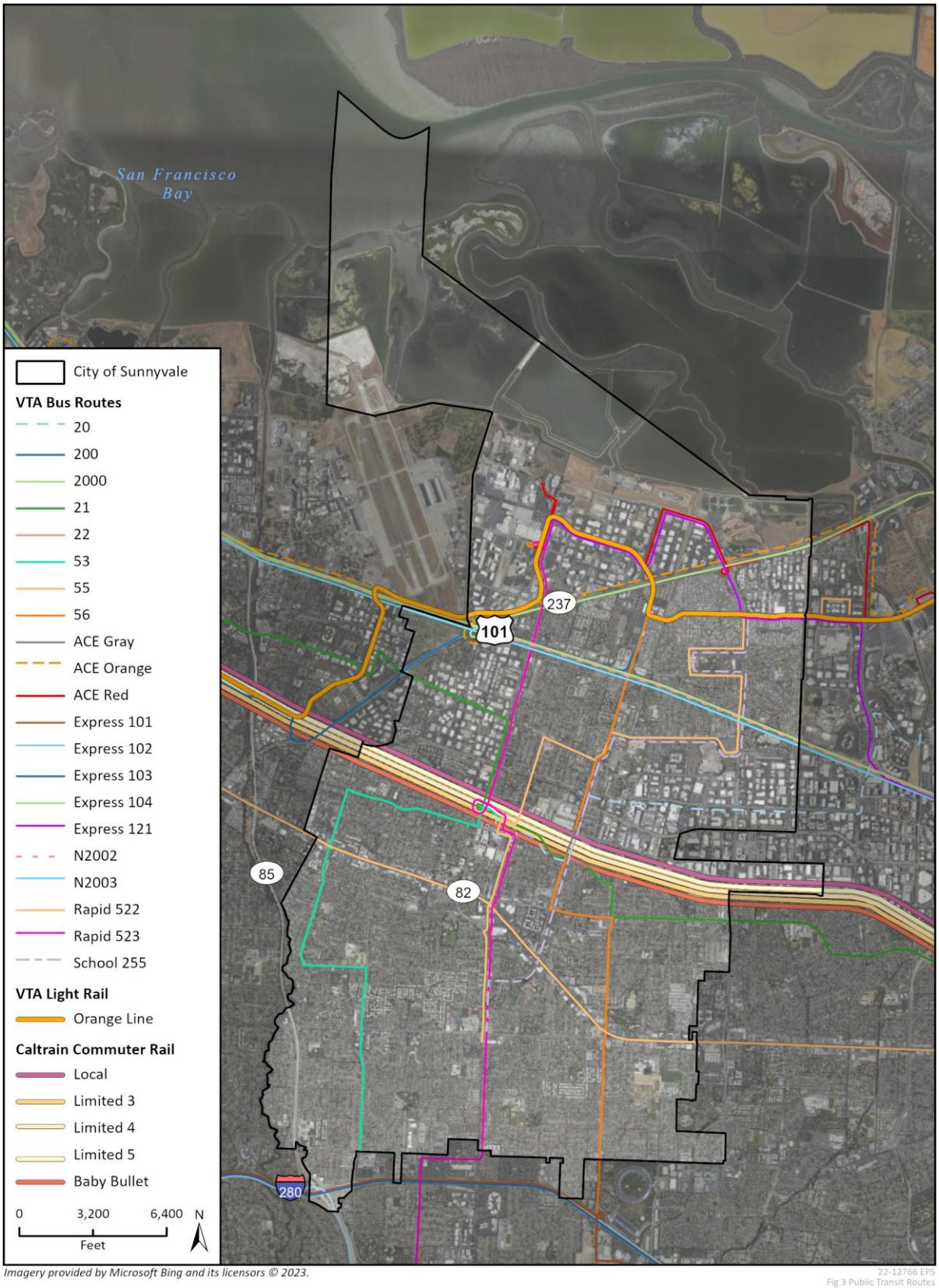
[1] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed November 2023).

[2] California Department of Finance (DOF). 2023. E-5 Population and Housing Estimates. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/ (accessed November 2023).

[3] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed November 2023).

[4] Weather Spark. 2023. Climate and Average Weather Year Round in Sunnyvale. https://weatherspark.com/y/571/Average-Weather-in-Sunnyvale-California-United-States-Year-Round#:~:text=Over%20the%20course%20of%20the,or%20above%2087%C2%B0F (accessed November 2023).

Figure 3 Sunnyvale Transit Routes



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22-12766 EPS
Fig 3 Public Transit Routes

Existing Sustainability Setting

Sunnyvale Sustainability and Greenhouse Gas Emissions Reduction Efforts

The City has actively implemented a variety of environmental programs contributing to GHG emissions reductions. The following is a listing of Sunnyvale's primary sustainability and climate protection programs and policies:

- Zero Waste Strategic Plan adopted (2013)
- CAP 1.0 adopted (2014)
- General Plan Environmental Management Element adopted (2016)
- Joined Silicon Valley Clean Energy (SVCE), a Community Choice Energy opt-in program (2017)
- Climate Action Playbook and Game Plan 2022 adopted (2019)
- Green Building Program update adopted (2019)
- Climate Action Scoreboard launched (2020)
- Sunnyvale Active Transportation Plan adopted (2020)
- Vehicle Miles Traveled (VMT) Transportation Policy (City Council Policy 1.2.8) adopted (2020)
- Sunnyvale Reach Codes requiring all-electric new construction and increased solar and electric vehicle (EV) requirements adopted (2021-2023)

The City has also taken several additional sustainability actions, such as converting streetlights to light-emitting diode (LED), increasing number of EV charging stations, increasing rooftop solar on homes and offices, and increasing number of trees planted.

Regional Sustainability and GHG Reduction Efforts

In coordination with Santa Clara County, the State of California, and the federal government, the City of Sunnyvale has committed to implementing regional and State policies related to GHG emissions reductions. As follows is a summary of the existing regional GHG emissions reduction efforts, which the Draft Sunnyvale Playbook Update/Game Plan 2028 is intended to be consistent with or exceed.

Plan Bay Area: Strategy for a Sustainable Region

In October 2021, the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) jointly adopted Plan Bay Area 2050, which serves as the Bay Area regional long-range plan and identifies how the Bay Area would meet its GHG emission reduction targets. Plan Bay Area is also considered the ABAG/MTC Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In accordance with SB 743, Plan Bay Area includes elements designed to encourage the type of land-use development to preserve affordable housing, improve economic mobility, enhance the transit network to reduce vehicle miles traveled (VMT) per capita, and reduce hazard risks including through adaptation to sea level rise and reducing GHG emissions.[5]

Bay Area Air Quality Management District CEQA Guidelines

In 2022, the Bay Area Air Quality Management District (BAAQMD) adopted the CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans and is in the

[5] ABAG-MTC. 2021. Plan Bay Area 2050. https://www.planbayarea.org/finalplan2050 (accessed November 2023).

process of updating their 2017 CEQA Guidelines.[6] The CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans include requirements for projects and plans in jurisdictions that do not have an adopted local GHG reduction strategy that meets the criteria of CEQA Guidelines Section 15183(b). In addition, according to the BAAQMD, if a project is consistent with a local GHG reduction strategy, then it can be presumed that the project will not have significant GHG impacts.[7] This approach is consistent with CEQA Guidelines, Section 15183.5:

> Lead agencies may analyze and mitigate the significant impacts of GHG emissions at a programmatic level, such as…a plan to reduce GHG 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 GHG emissions.

Santa Clara Countywide Transportation Plan

In 2014, the Santa Clara County Transportation Valley Transportation Authority (VTA) adopted the Valley Transportation Plan (VTP) 2040 to provide the County with a long-range plan for establishing the vision and priorities for transportation over a 25-year planning horizon. The VTP seeks to facilitate and support an integrated, multi-modal transportation system in order to improve mobility and access for all segments of the population and promote environmental sustainability. The plan identifies 371 projects across the county including transit capacity improvements, express lane and highway improvement projects, bicycle and pedestrian facilities, and operations and maintenance. Projects identified for Sunnyvale include Lawrence Expressway and Wildwood Avenue realignment and signalization; Mary Avenue extension; Sunnyvale local streets improvements; and adding bike lanes to Belleville Way, Bernardo Avenue, California Avenue, El Camino Real, Fair Oaks Avenue, Hendy Avenue, Hollenbeck Avenue, Java Drive, Lakewood and Sandia Drive, Mathilda Avenue, Maude Avenue, Moffett Park area, Stevens Creek Trail, Tasman Drive, Fair Oaks/Tasman Drive, Fair Oaks Junction Trail, and Olive Avenue.[8] VTA is currently in the process of updating the VTP, with the 2050 VTP anticipated to be adopted in winter 2024.[9]

Santa Clara County Climate Roadmap 2030

Santa Clara County is currently developing the Climate Roadmap 2030 which will outline actions the County and partners will take to reduce greenhouse gas emissions. The Roadmap will serve to align existing efforts to reduce GHG emissions among Cities that have already adopted CAPs, prioritize actions in unincorporated areas of the County, and help leverage and facilitate regional partnerships to further encourage sustainable and resilient communities. The County aims to use the Roadmap as a tool to increase coordination and collaboration in efforts to reach shared sustainability goals.

The Roadmap will include the following:

- A countywide greenhouse gas emissions inventory and forecast

[6] BAAQMD. 2022. CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf.pdf?la=en (accessed November 2023).

[7] Ibid

[8] Valley Transportation Authority (VTA). 2014. Valley Transportation Plan 2040. http://vtaorgcontent.s3-us-west-1.amazonaws.com/Site_Content/VTP2040_final_hi%20res_030315.pdf (accessed November 2023).

[9] VTA. 2023. Valley Transportation Plan (VTP) 2050 webpage. https://www.vta.org/projects/valley-transportation-plan-vtp-2050 (accessed November 2023).

- An online interactive map tool that will provide a comprehensive overview of the cities, organizations, institutions, and companies working on climate action in Santa Clara County
- Community and partner input
- An implementation roadmap[10]

Silicon Valley Clean Energy Community Choice Energy

SVCE formed in 2017 as the community-owned electricity provider for several south bay cities, including Sunnyvale. SVCE developed its Decarbonization Strategy and Programs Roadmap with extensive community input to help guide community electrification, which entails switching from relying on fossil fuel use in homes, buildings and transportation to electricity from renewable sources. By 2030, SVCE programs aim to cut energy-related pollution in half from the 2015 baseline. That equates to preventing two million metric tons of carbon dioxide equivalents (MT of CO_2e) from being released into the environment each year.

State Sustainability and GHG Reduction Efforts

As follows is a summary of existing State GHG emissions reduction efforts, which the Playbook Update/Game Plan 2028 are intended to be consistent with or exceed.

GHG Reduction Policies

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, CALIFORNIA GLOBAL WARMING POLLUTION SOLUTIONS ACT

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 California Air Resources Board (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 CO_2e.

[10] Santa Clara County. 2023. Climate Roadmap 2030. https://sustainability.sccgov.org/climate-roadmap-2030 (accessed November 2023).

CALIFORNIA SENATE BILL 375, SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT

In 2008, Senate Bill (SB) 375 enhanced the State's ability to reach AB 32 targets by 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 sustainable community's strategy (SCS) that contains a growth strategy to meet such regional GHG emissions reduction targets for inclusion in the respective regional transportation plan (RTP).

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Association of Bay Area Governments was assigned targets of a ten percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a nineteen percent reduction in per capita GHG emissions from passenger vehicles by 2035.[11]

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.

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.

CALIFORNIA EXECUTIVE ORDER B-30-15

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

CALIFORNIA SENATE BILL 32, CALIFORNIA GLOBAL WARMING POLLUTION SOLUTIONS ACT UPDATE

In 2016, SB 32 was passed, 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).

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

[11] CARB. 2023. SB 375 Regional Plan Climate Targets. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets (accessed November 2023).

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 CO_2e by 2030 and two MT of CO_2e 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.[12]

CALIFORNIA EXECUTIVE ORDER B-55-18

In 2018, the California governor issued Executive Order 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.

ASSEMBLY BILL 1279

In September 2022, AB 1279 was approved, which established a legally binding requirement for California to achieve and maintain carbon neutrality no later than 2045. Assembly Bill 1279 also established the requirement to achieve a Statewide reduction in GHG emissions of 85 percent below 1990 levels by 2045. This indicates that the remaining 15 percent to achieve carbon neutrality can be achieved via carbon sequestration and other non-direct-GHG-emissions-reductions techniques.

CALIFORNIA CLIMATE CHANGE SCOPING PLAN UPDATE (2022)

In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB adopted the Final 2022 Climate Change Scoping Plan in November 2022. The 2022 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action in natural working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work.[13]

[12] CARB. 2017. California 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf (accessed November 2023).

[13] CARB. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed November 2023)

Energy- and Vehicle-Related Policies

ASSEMBLY BILL 1493, PAVLEY BILL VEHICLE EFFICIENCY STANDARDS

In 2002, the California State Legislature enacted Assembly Bill 1493 (aka "the Pavley Bill"), which directs the CARB to adopt standards that will achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles," taking into account environmental, social, technological, and economic factors. In September 2009, CARB 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, CARB approved a new emissions control program for vehicle model years 2017 through 2025. The program combines the control of smog, soot, and GHGs and the requirement for greater numbers of zero emission vehicles into a single package of standards called Advanced Clean Cars.

CALIFORNIA ENERGY EFFICIENCY STRATEGIC PLAN OF 2008

In 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 voted to adopt a policy requiring all new homes in California to incorporate rooftop solar. This change went into effect in January 2020 with the adoption of the 2019 California Code of Regulations (CCR) Title 24 Code 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 buildings to be retrofitted to ZNE by 2030, and all new State buildings and major renovations to be constructed to ZNE by 2025.

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 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)). The 2022 Title 24 standards went into effect on January 1, 2023.

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 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 California Energy Commission.

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective on January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards applicable to air quality require:

- Minimum 20 percent reduction in indoor water use relative to specified baseline levels;[14]
- Waste Reduction:
  - Minimum 65 percent non-hazardous construction/demolition waste diverted from landfills;
  - Non-residential and multi-family dwellings with five or more units: Provide readily accessible areas identified for the depositing, storage and collection of nonhazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals; and/or
  - Non-residential: Reuse and/or recycling of 100 percent of trees, stumps, rocks, and associated vegetation soils resulting from primary land clearing;
- 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; and
- EV Charging for New Construction:[15]
  - One- and two-family dwellings and town houses with attached private garages: Dedicated circuitry to facilitate installation of electric vehicle (EV) charging;
  - Multi-family dwellings and hotels/motels with less than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable and at least 25 percent of the total number of parking spaces shall be EV-ready;
  - Multi-family dwellings and hotels/motels with greater than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable, at least 25

[14] Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms. 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.

[15] EV Capable = a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways to support EV charging; EV-ready = a vehicle space which is provided with a branch circuit and any necessary raceways to accommodate EV charging stations, including a receptacle for future installation of a charger (see 2022 California Green Building Standard Code, Title 24 Part 11 for full explanation of mandatory measures, including exceptions).

percent of the total number of parking spaces shall be EV-ready, and at least 5 percent of the total number of parking spaces shall be equipped with a Level 2 charging station;

- Non-residential land uses shall comply with the following EV charging requirements based on the number of passenger vehicle parking spaces:

  0-9: no EV capable spaces or charging stations required;

  10-25: 4 EV capable spaces but no charging stations required;

  26-50: 8 EV capable spaces of which 2 must be equipped with charging stations;

  51-75: 13 EV capable spaces of which 3 must be equipped with charging stations;

  76-100: 17 EV capable spaces of which 4 must be equipped with charging stations;

  101-150: 25 EV capable spaces of which 6 must be equipped with charging stations;

  151-200: 35 EV capable spaces of which 9 must be equipped with charging stations; and

  More than 200: 20 percent of the total available parking spaces of which 25 percent must be equipped with charging stations;

- Non-residential land uses shall comply with the following EV charging requirements for medium- and heavy-duty vehicles: warehouses, grocery stores, and retail stores with planned off-street loading spaces shall install EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s), or subpanel(s) at the time of construction based on the number of off-street loading spaces as indicated in Table 5.106.5.4.1 of the California Green Building Standards;

- Bicycle Parking:
  - Non-residential short-term bicycle parking for projects anticipated to generate visitor traffic: permanently anchored bicycle racks within 200 feet of visitor entrance for 5 percent of new visitor motorized vehicle parking spaces with a minimum of one 2-bike capacity rack; and/or
  - Non-residential buildings with tenant spaces of 10 or more employees/tenant-occupants: secure bicycle parking for 5 percent of the employee/tenant-occupant vehicle parking spaces with a minimum of one bicycle parking facility.
- Shade Trees (Non-Residential):
  - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
  - Landscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years; and/or
  - Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

The City of Sunnyvale Reach Codes modify CALGreen and require that all new buildings and certain alterations be constructed as all-electric (no natural gas lines permitted). The Reach Codes also

require all new buildings to include EV charging infrastructure installed above and beyond that required by CALGreen.[16,17]

ASSEMBLY BILL 117, COMMUNITY CHOICE AGGREGATION

AB 117 allows 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., Pacific Gas and Electric). 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. In 2017, SVCE began supplying south bay area communities, including Sunnyvale, with options for 100 percent renewable energy-sourced electricity or electricity from a mix of renewable and non-renewable sources. 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.

SENATE BILL 1275, CHARGE AHEAD INITIATIVE

In 2014, SB 1275 established a State goal of one million zero-emissions and near-zero-emissions vehicles in service by 2020 and directed 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- and moderate-income communities and consumers.

SENATE BILL 350, CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015

In 2015, SB 350 established new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 codified Governor Brown's aggressive clean energy goals and established the State 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.

SENATE BILL 1020, CLEAN ENERGY, JOBS, AND AFFORDABILITY ACT OF 2022

Established in 2002 under SB 1078, and accelerated by SB 107 (2006), SB X 1-2 (2011), SB 100 (2018), and SB 1020, California's Renewable Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to transition the electricity supply to renewable resources. The RPS requires energy service providers to supply renewable energy as follows: 90 percent of retail sale electricity and 100 percent of electricity procured to serve state agencies by 2035, 95 percent by 2040, and 100 percent by 2045. The CPUC and the CEC are jointly responsible for implementing the program.

[16] Sunnyvale, City of. 2023. Single-Family, Duplex, and Townhome Reach Codes. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1780/638114476018662936 (accessed November 2023).

[17] Sunnyvale, City of. 2021. Nonresidential and Multifamily Residential Reach Codes. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1496/637820847520270000 (accessed November 2023).

Other GHG Emissions-Related Policies

ASSEMBLY BILL 197, STATE AIR RESOURCES BOARD GHGS 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 CARB to protect the State's most impacted and disadvantaged communities [and] consider the social costs of the emissions of GHGs when developing climate change programs. The bill also adds two new legislatively appointed non-voting members to CARB, increasing the Legislature's role in CARB's decisions.

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.

General Plan Designation and Zoning

The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would be implemented throughout the City and would apply to all General Plan designations and in all zoning designations.

Description of Plan

Sunnyvale Playbook Update/Game Plan 2028

The Sunnyvale Playbook Update/Game Plan 2028 incorporates the many climate protection programs noted above that would continue to reduce GHG emissions. The City has developed the Sunnyvale Playbook Update/Game Plan 2028 in order to achieve a resilient and sustainable community and support regional, State, and global climate goals through achieving the City's 2030 and 2045 climate action targets.

The Playbook Update/Game Plan 2028 seeks to achieve several future targets, including reducing GHG emissions 56 percent below 1990 levels by 2030 and putting Sunnyvale on a trajectory to meet the State goal of achieving carbon neutrality by 2045. The Playbook Update/Game Plan 2028 is also intended to provide a framework through its actions for a safer future and enhanced quality of life for the community, new economic opportunities through green jobs, and enhanced social equity and citizen engagement on the issue of climate change. The Playbook Update/Game Plan 2028 provides a foundation for future sustainable development efforts in Sunnyvale. It is anticipated that environmental review documents for future development projects would identify and incorporate applicable GHG reduction measures and actions from the Playbook Update/Game Plan 2028.

The Playbook Update/Game Plan 2028 addresses communitywide GHG emissions and includes a discrete target for Sunnyvale to reach maximum annual emissions of 441,846 MT of CO_2e emissions by 2030. The Playbook Update/Game Plan 2028 includes a 2019 communitywide GHG emissions

inventory, contains a list of Strategies, Plays, and Moves to achieve Sunnyvale's sustainability goals, and focuses on actions through 2030 for purposes of meeting the City's 2030 GHG emissions target.

The 2019 GHG emissions inventory provides the basis for emissions forecasts for the years 2025, 2030, 2035, 2040, and 2045. The GHG emissions inventory was completed in compliance with all relevant protocols and guidance documents, including U.S. Community Protocol, Local Government Operations Protocol, the Global Protocol for Community Scale GHG Emissions, and the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National GHG Inventories. In 2019, Sunnyvale's total GHG emissions were estimated to be 716,382 MT of CO_2e. GHG emissions in the inventory are categorized based on sectors. These sectors include off-road vehicles and equipment, solid waste, water and wastewater, on-road transportation, Caltrain, residential energy use, and nonresidential energy use. Table 1 provides the summary of Sunnyvale's 2019 GHG emissions by sector, as well as each sector's percentage of communitywide emissions.[18] As shown therein, the largest GHG emissions are related to transportation and building energy use.

Table 1 Sunnyvale 2019 Communitywide GHG Emissions Levels

GHG Emissions Sector/Source	CO_2e (MT)	Percent of Total Emissions
Residential Energy	103,299	14
Nonresidential Energy	147,710	21
Transportation	373,498	52
Caltrain	1,119	<1
Off-Road Equipment	41,425	6
Water and Wastewater	825	<1
Solid Waste	48,506	7
Total	**716,382**	**100**

CO_2e = carbon dioxide equivalent; MT = Metric Tons

Source: Rincon Consultants, Inc. Sunnyvale 2019 Community Inventory Memorandum. February 6, 2023.

The Sunnyvale Playbook Update/Game Plan 2028 establishes a target to reduce communitywide GHG emissions to 56 percent below 1990 levels by 2030 (441,846 MT of CO_2e). This would exceed the SB 32 State GHG emissions target of 40% below 1990 levels by 2030, consistent with CEQA for a qualified GHG emissions reduction strategy and to be achievable by City-supported Plays and Moves identified in the Playbook Update/Game Plan 2028. The Playbook Update/Game Plan 2028 includes a business-as-usual (BAU) forecast and an adjusted BAU (ABAU) forecast of GHG emissions, based on the 2019 inventory, that enables Sunnyvale to estimate the emissions reductions required to meet its communitywide reduction targets.

The Sunnyvale Playbook Update/Game Plan 2028 is organized into Strategies, each of which includes "Plays" and "Moves." These Strategies focus on clean electricity, building decarbonization, transportation decarbonization and sustainable land use planning, solid waste and water use reductions, community engagement, and climate adaptation. Table 2 includes a complete list of the Strategies, Plays, and Moves established by the Playbook Update/Game Plan 2028, as well as anticipated annual GHG reductions in 2030.

[18] Rincon Consultants, Inc. Sunnyvale 2019 Community Inventory Memorandum. February 6, 2023.

Table 2 Sunnyvale Playbook Update/Game Plan 2028 GHG Emissions Reduction Strategies, Plays, and Moves

Move ID #	Strategies and Respective Supporting Plays and Moves	Anticipated GHG Emissions Reduction (MT of CO_2e)[1]
Strategy 1: Promoting Clean Energy		
Play 1.1 : Promoting 100% clean energy with 100% clean energy participation by 2030		
1.A	Continue to support and steer SVCE in providing clean power and decarbonization programs.	2030: 3,299 2045: 0
1.B	Collaborate with SVCE to target Direct Access (DA) customers to shift to 100% clean electricity.	
1.C	Implement an Organic Waste-to-Energy program at the Donald M. Somers Water Pollution Control Plant.	
1.D	Work with SVCE to maintain a SVCE GreenPrime opt-out rate of no more than 3% and provide educational materials to community members on available incentives and benefits of the program.	
Play 1.2: Increase local solar photovoltaics with 3% of load from local solar by 2030 and 5% by 2045		
1.E	Continue to enforce the solar panel requirements of the new building Reach Codes and Moffett Park Specific Plan policies to increase solar energy generation and storage in Moffett Park and throughout the community.	2030: 3 2045: 0
Play 1.3: Increase distributed electricity storage with 2% of electricity demand stored in batteries locally by 2030 and 5% by 2045		
1.F	Collaborate with SVCE to evaluate opportunities for community-scale energy storage to maximize utilization of local solar supply and to enhance resiliency.	Supportive
1.G	Support a shared thermal energy system with energy storage at Moffett Park to serve as a potential model for other areas.	
Strategy 2: Decarbonizing Buildings		
Play 2.1: Reduce energy in existing buildings with 5% of homes and businesses receiving a deep energy retrofit by 2030 and 30% by 2045		
2.A	Research and develop energy disclosure and energy benchmarking requirements for existing commercial and multi-family residential buildings to encourage property owners and managers to invest in energy efficiency upgrades and building information systems.	Supportive
2.B	Update the local Green Building Program by fiscal year 2024/25 to incentivize energy efficiency measures and the achievement of net zero energy in existing buildings.	
2.C	Conduct a municipal GHG emissions inventory every five years and continue tracking measure implementation.	
Play 2.2: Support electrification of existing buildings with 44% of homes and businesses electrified by 2030 and 92% by 2045		
2.D	Develop an engagement and incentive program to accelerate the adoption of all-electric appliances.	2030: 108,935 2045: 162,360
2.E	Eliminate non-electric sources of power in municipal buildings upon rebuild or significant remodel.	
2.F	Develop and implement an existing residential building electrification strategy (RBES).	
2.G	Adopt an electrification ordinance for existing residential buildings by 2026.	

Move ID #	Strategies and Respective Supporting Plays and Moves	Anticipated GHG Emissions Reduction (MT of CO_2e)[1]
2.H	Conduct a study to evaluate the feasibility of adopting an end-of-flow ordinance for natural gas by 2045.	
2.I	Develop and implement an existing commercial building electrification strategy (CBES).	
2. J	Adopt an electrification ordinance for existing commercial buildings by 2026.	
2.K	Enforce the residential and commercial electrification ordinance compliance by developing and implementing a comprehensive permitting compliance program.	
2.L	Develop a Building Performance Standard (BPS) for existing buildings that requires electrification by 2030.	
2.M	Partner with Santa Clara County, Bay Area Renewable Energy Network (BayREN) and SVCE to create community-support programs to provide residents the resources and utility rate structures needed to convert to all-electric, energy efficient equipment and appliances.	
Play 2.3: Achieve all-electric new construction with 100% all-electric new buildings by 2030		
2.N	Continue implementing and augmenting Reach Codes through a phased approach.	2030: 75,786 2045 213,785
Strategy 3: Decarbonizing Transportation and Sustainable Land Use		
Play 3.1: Increase opportunities for and encourage development of mixed-use sites to reduce vehicle miles per person by 20% by 2030 and 30% by 2045		
3.A	Identify areas that are most appropriate for parking strategies that discourage vehicle use, such as pricing, time limits and supply reductions.	2030: 66,162 2045: 75,239 (emissions reductions of Play 3.1 and Play 3.2 combined)
Play 3.2: Increase transportation options and support shared mobility to reduce vehicle miles per person by 20% by 2030 and 25% by 2045		
3.B	Enhance City Transportation Demand Management (TDM) program implementation and monitoring to facilitate further reductions in single-occupant automobile trips, citywide.	See above
3.C	Advocate that regional service providers implement high quality transit service and a robust set of first- and last-mile (FLM) strategies in over two-thirds of the cross-city corridors.	
3.D	Update and implement the Active Transportation Plan (ATP) to achieve a connected, safe and active network.	
3.E	Continue to evaluate the potential for the shared bicycle and scooter pilot program as a permanent program.	
3.F	Pilot shuttle service in Peery Park and consider options for expansion of a similar service in other areas undergoing redevelopment.	
3.G	Develop design standards for streets and parking lots to accommodate increased pickup and drop-off for rideshare passengers and apply as appropriate.	
3.H	Create a TDM program for City staff to promote alternative transportation modes and carpooling to the greatest extent possible.	

Move ID #	Strategies and Respective Supporting Plays and Moves	Anticipated GHG Emissions Reduction (MT of CO_2e)[1]
3.I	Establish and implement a plan to convert vehicle roadways to bicycle and pedestrian space to increase opportunities for active transportation in the community.	
3.J	Require employers with 1,000 employees and more to develop TDM Plans.	
3.K	Establish tracking metrics to evaluate effectiveness of Moves impact on VMT and a monitoring schedule to report progress. Revise Moves accordingly based on VMT progress report.	
Play 3.3: Increase zero-emission vehicles (ZEVs) with 42% of all vehicles on road being ZEVs by 2030 and 90% by 2045		
3.K	Continue implementing the Drive Electric Program and providing resources to assist and encourage community adoption of EVs.	2030: 98,079 2045: 99,836
3.L	Electrify the Municipal Fleet as existing vehicles need replacement and install EV infrastructure (EVI) at municipal properties to support the electric fleet.	
3.M	Support the development of the Community EV Readiness and Infrastructure Plan and facilitate the installation of EVI.	
3.N	Partner with SVCE to strengthen and expand their incentive program for EVI.	
Play 3.4: Decarbonize off-road equipment and vehicles with 30% of off-road equipment and vehicles being zero-emissions by 2030 and 75% by 2045		
3.O	Create a phased ordinance by 2026 to ban local operation of gasoline and diesel-powered off-road equipment by type, including banning local operation of gasoline and diesel-powered small off-road equipment (SORE) by 2028.	2030: 15,753 2045: 18,603
Strategy 4: Managing Resources Sustainably		
Play 4.1: Achieve zero waste goals of by reducing landfilled garbage to 1 pound (lb) per person per day and achieve 75% diversion of landfilled organics by 2030 and <1 lb per day and achieve 75% diversion of landfilled organics by 2045		
4.A	Implement a campaign for waste reduction.	2030: 45,258 2045: 65,093
4.B	Conduct a pilot program with reusable foodware for dine-in and takeout orders.	
4.C	Comply with SB 1383 requirements to help the state reduce organic waste disposal 75% by 2025.	
4.D	Expand the City's edible food recovery program to edible food generators beyond those required by SB 1383.	
4.E	Continue to implement the mandatory waste diversion ordinance requiring all residents, visitors, and businesses to place their discards in the appropriate container (i.e., recycle, food scraps or garbage).	
Play 4.2: Ensure resilience of water supply		
4.F	Promote and seek incentives for making water conservation a way of life and set a water reduction target consistent with statewide requirements.	Supportive
4.G	Partner with Valley Water to evaluate opportunities to expand water reuse.	
4.H	Conduct a feasibility study to assess the costs and benefits of implementing Advanced Metering Infrastructure (AMI) citywide and implement if determined feasible.	
4.I	Implement a policy that prohibits installation of non-functional turf in new commercial construction.	

Move ID #	Strategies and Respective Supporting Plays and Moves	Anticipated GHG Emissions Reduction (MT of CO_2e)[1]
4.J	Streamline the permitting process for rainwater catchment, dual water piping and graywater systems.	
4.K	Adopt an ordinance requiring new construction to be built with dual plumbing, where allowable, in preparation for the availability of recycled water infrastructure.	
Play 4.3: Enhance natural carbon sequestration capacity		
4.L	Implement the City's Urban Forest Management Plan and continue to protect and greatly expand tree canopy.	Supportive
4.M	Implement the City's Green Stormwater Infrastructure Plan.	
Play 4.4: Promote awareness of sustainable goods and services		
4.N	Update the City purchasing policy to be aligned with Playbook goals and develop an implementation strategy.	Supportive
Strategy 5: Empowering our Community		
Play 5.1: Enhance community awareness and engagement		
5.A	Pilot a targeted grassroots community engagement strategy to create stronger connections between neighbors to advance climate action and emergency preparedness.	Supportive
5.B	Create a stronger social media and web presence for Sunnyvale climate action.	
5.C	Implement the Sustainability Speaker Series.	
5.D	Cultivate relationship between City and youth groups to engage students on climate, building on current engagement with school classrooms and green teams.	
5.E	Build relationships with largest employers to collaborate on climate action, such as: (a) engaging employees to participate in sustainability initiatives; (b) encouraging and facilitating investment in climate action programs or projects.	
5.F	Create demonstration projects within City operations to educate the community on ways to reduce emissions.	
5.G	Continue to develop and implement educational programs at the Sunnyvale Public Library that focus on environmental and sustainability topics.	
Play 5.2: Track and Share Data and Tools		
5.H	Implement improvements for climate action data performance tracking and reporting progress to the public (e.g., community dashboard).	Supportive
5.I	Publish annual GHG inventory.	
Strategy 6: Adapting to a Changing Climate		
Play 6.1: Assess climate vulnerabilities for Sunnyvale		
6.A	Participate in regional forums on climate vulnerability and adaptation.	Supportive
Play 6.2: Protect shoreline area from sea level rise and coastal flooding		
6.B	Collaborate with Valley Water to advance a shoreline protection project with the US Army Corps of Engineers or other partners.	Supportive

Move ID #	Strategies and Respective Supporting Plays and Moves	Anticipated GHG Emissions Reduction (MT of CO_2e)[1]
6.C	Develop strategies and projects to restore, protect and expand our tidal/salt marshes and natural water ways to the Bay using as much of the dredged materials from the Bay as possible.	
Play 6.3: Strengthen community resiliency		
6.D	Update existing emergency preparedness and response plans to address climate-related impacts such as heat events, air quality issues and flooding.	Supportive
6.E	Develop a community resiliency plan.	
6.F	Implement a Resilience Hub Initiative.	

Notes:
MT of CO_2e = metric tons of carbon dioxide equivalent
Strategy 5 entails administrative and community engagement actions that would not result in environmental impacts.
Strategy 6 entails future climate adaptation planning efforts that cannot be assessed in terms of environmental impacts until specific policies, actions, and/or physical projects are identified; CEQA review would be required at that point.
Source: Compiled by Rincon based on information contained in the Draft Sunnyvale Playbook Update/Game Plan 2028.

The Plays and Moves shown in Table 2, combined with existing State legislation and City initiatives, would enable Sunnyvale to meet its GHG emissions reduction target pathway to reduce GHG emissions 56 percent below 1990 levels by 2030. Table 3 summarizes the communitywide GHG emissions forecasts under the BAU and ABAU scenarios, as well as with implementation of the Sunnyvale Playbook Update/Game Plan 2028, beginning from the 2019 through 2045.

Table 3 Sunnyvale 2030 GHG Emissions Forecasts (MT of CO_2e)

GHG Emissions Pathways	2019	2025	2030	2035	2040	2045
BAU Forecast	716,382	841,327	931,298	1,029,366	1,138,832	1,259,700
Adjusted Forecast	716,382	790,257	833,092	886,784	960,795	1,052,263
Forecast with Playbook Update/Game Plan 2028	716,382	590,277	419,818	403,734	403,267	417,347

Source: Compiled from the Sunnyvale Draft Playbook Update/Game Plan 2028 and the Sunnyvale Playbook Update GHG Forecast Report

Figure 4 depicts the 2030 and 2045 GHG emissions targets for Sunnyvale, including anticipated emissions once the Plays and Moves Moves listed in Table 2 are implemented. Figure 4 also illustrates the forecasted BAU and ABAU emissions, and the target pathway to achieve carbon neutrality by 2045.

Figure 4 Sunnyvale GHG Emissions Projections and Targets

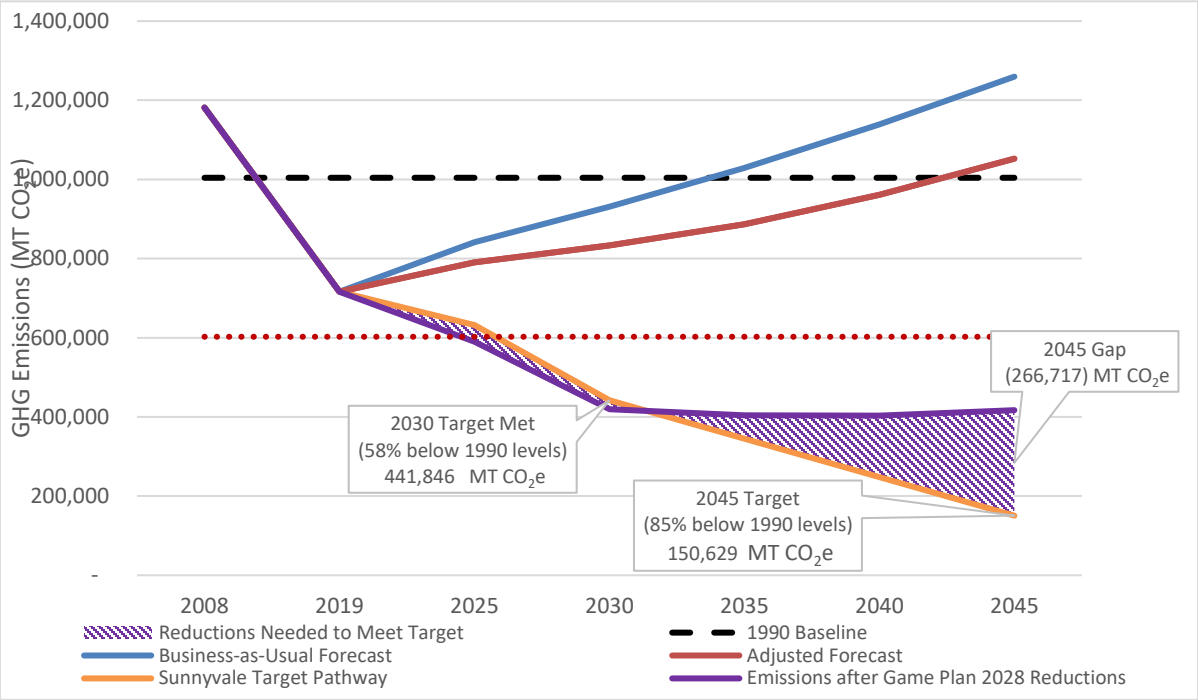


Table 4 shows the Sunnyvale climate action target emissions and the emissions reductions expected from implementing the Plays and Moves shown in Table 2. Table 4 also shows that Sunnyvale would meet its 2030 GHG reduction target and make substantial progress towards the 2045 goal of carbon neutrality.

Table 4 Targets Versus GHG Reductions

Target/Forecast	2030 GHG Emissions (MT of CO_2e)	2045 GHG Emissions (MT of CO_2e)
Adjusted Forecast	833,092	1,052,263
Sunnyvale Targets	441,846	150,629
GHG Reductions from Full Implementation of Plays and Moves	413,274	634,916
GHG Emissions after Measure Reductions (Adjusted Forecast – GHG Emissions Reductions)	419,818	417,347
Target Anticipated to be Met?	Yes	Substantial progress demonstrated

MT of CO_2e = metric tons of carbon dioxide equivalent
Source: Compiled from the Sunnyvale Draft Playbook Update/Game Plan 2028 and the Sunnyvale Playbook Update GHG Forecast Report

The Playbook Update/Game Plan 2028 would provide substantial progress toward meeting the City's carbon neutrality goal by 2045 (85 percent emissions reduction from 1990 levels or 150,629 MT of CO_2e). However, full implementation of the Sunnyvale Playbook Update/Game Plan 2028 would leave a gap of approximately 270,000 MT of CO_2e that would still need to be addressed to achieve carbon neutrality. As such, the Sunnyvale Playbook Update/Game Plan 2028 acknowledges

that additional actions beyond those identified in the plan will be necessary to achieve carbon neutrality and, therefore, provides a mechanism for adopting new Game Plan updates every five years. This allows for certainty in the updated schedule, ensures that the carbon neutrality work is directly tied to the City's financial decision making and prioritization process and allows for constant integration of learning, best practices, and new measures and technologies to further the City toward meeting its goal of carbon neutrality.

Implementation of the Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves identified in Table 2 could result in physical changes to the environment that could potentially have an impact on the environment. While individual projects resulting from these Plays and Moves have not been identified for the purposes of this document, the types of actions that could result from realization of the Plays and Moves are taken into account in considering potential environmental impacts that could occur through implementation of the Playbook Update/Game Plan 2028. For example, the use of carbon-free electricity may require the installation of new infrastructure to accommodate use and transmission of alternative and renewable fuels. Similarly, increasing the use of EVs would require the installation of EV charging stations and supporting infrastructure. Additionally, Sunnyvale Playbook Update/Game Plan 2028 implementation may require the installation of new bicycle or pedestrian facilities. These types of activities would introduce physical changes, such as 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 EV 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 may identify required plan- or project-specific mitigation measures where applicable.

Sunnyvale CEQA GHG Emissions Thresholds

In 2007, SB 97 acknowledged that climate change is an environmental issue that requires analysis in CEQA documents, and in 2010 the California Natural Resources Agency adopted amendments to the CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines gave lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. Specifically, Section 15183.5(b)(1)A-G of Title 14 of the California Code of Regulations was amended to state that a qualified GHG Reduction Plan, or a Climate Action Plan (CAP), may be used for tiering and streamlining the analysis of GHG emissions in subsequent CEQA project evaluation, provided that the GHG Reduction Plan or CAP does the following:

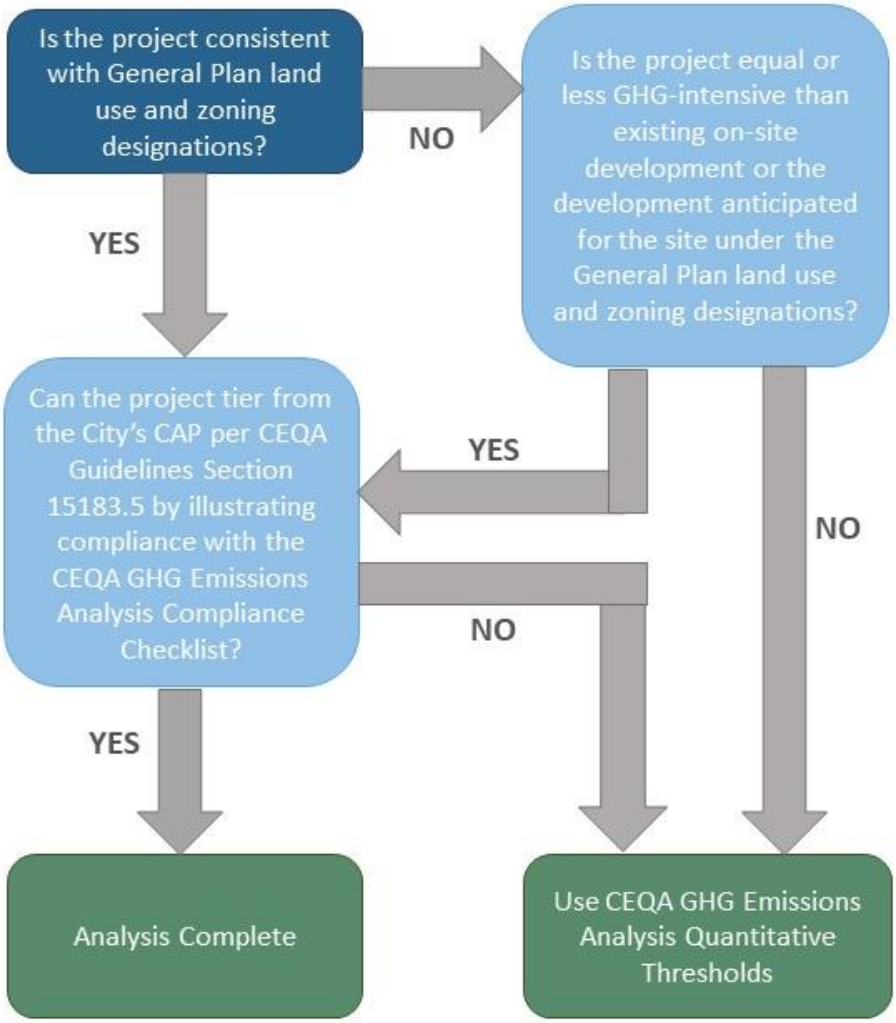
- Quantifies GHG emissions both existing and projected over a specific period of time, resulting from activities within a defined geographical area.
- Establishes a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable.
- Identifies and analyzes the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
- Specifies measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Establishes a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.

- Be adopted in a public process following environmental review.

Therefore, the City of Sunnyvale proposes to also adopt quantitative efficiency thresholds for use in evaluating whether a plan or project's GHG emissions would result in a potentially significant environmental impact under CEQA for plans or projects with pre-2030 buildout or initial operation years. The CEQA GHG Emissions Thresholds would be applied to plans or projects that cannot tier from the environmental analysis for the Sunnyvale Playbook Update/Game Plan 2028 (as contained in this Initial Study- Negative Declaration [IS-ND]) due to one of the following circumstances, which are illustrated in Figure 5:

- The plan or project would not be consistent with the Sunnyvale General Plan land use and zoning designations for the project site and would result in greater GHG emissions than existing on-site development; or
- The plan or project would not be consistent with the CEQA GHG Emissions Analysis Compliance Checklist.

Figure 5 Determining CEQA GHG Emissions Analysis Methodology



These thresholds are set at the level of GHG emissions that new development would need to achieve to be consistent with the Sunnyvale Playbook Update/Game Plan 2028's communitywide emissions reduction target of 441,846 MT of CO_2e by 2030. The efficiency thresholds, listed below, are expressed in terms of MT of CO_2e per service person[19] and are applicable to plans or projects with pre-2030 buildout or initial operational years:

- 0.32 per resident
- 0.57 per employee
- 0.38 per service person[20]

Efficiency thresholds for beyond 2030 would be established later in conjunction with subsequent Play Book and Game Plan amendments.

Plans or projects that do not tier from the Sunnyvale Playbook Update/Game Plan 2028 IS-ND that would generate GHG emissions in excess of these thresholds would result in a potentially significant impact on the environment related to GHG emissions and climate change. Mitigation measures would be required to reduce potentially significant impacts resulting from such plans or projects. Plans or projects that are unable to reduce GHG emissions below these thresholds through implementation of identified mitigation measures would result in a significant and unavoidable environmental impact. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to General Plan land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have direct construction or operational impacts.

Cumulative Projects Scenario

For purposes of CEQA cumulative impacts analysis of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds, the cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 and 2050. The cumulative projects scenario is shown in Table 7.

[19] The service population is equal to the residential population plus half the number of jobs.

[20] Sunnyvale, City of. 2024. Draft CEQA GHG Thresholds.

Table 5 Cumulative Projects Scenario

Demographics/ Sector	2025	2030	2035	2040	2045	2050
Population[1]	201,140	231,502	266,446	306,666	352,957	406,235
Employment[2]	101,341	109,322	117,931	127,218	137,237	148,045
Households[2]	78,974	92,353	107,999	126,295	147,690	172,710
Service Population[3]	302,481	340,823	384,377	433,884	490,194	554,280

[1] Population estimates were calculated by applying Bay Area region growth factors from Play Bay Area 2050 to Sunnyvale's 2015 estimates from Play Bay Area 2040 (i.e., 2.63 people/household in 2015). Growth factors were calculated to represent the compound annual growth rate (i.e., -0.32% annual growth in people/household) from the modeled change in people per household in the Bay Area region between the years 2015 and 2050.

[2] Employment and household estimates were calculated by applying North Santa Clara County growth factors from Play Bay Area 2050 to Sunnyvale's 2015 estimates from Play Bay Area 2040 (i.e., 87,085 jobs in 2015 and 57,750 households in 2015). Growth factors were calculated to represent the compound annual growth rate (i.e., 1.53% annual growth in employment and 3.18% annual growth in households) from the modeled change in employment and households in North Santa Clara County between the years 2015 and 2050.

[3] Service population is calculated as the combined total number of employees and residents in the City.

Source: Rincon Consultants, Inc. Sunnyvale Playbook Update GHG Forecast Report. February 2023.

Required Approvals

City of Sunnyvale

Required approvals include:

- Adoption of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds IS-ND;
- Adoption of the Sunnyvale Playbook Update/Game Plan 2028; and
- Adoption of the Sunnyvale CEQA GHG Emissions Thresholds.

Although individual plans or projects may be implemented later under the umbrella of the Sunnyvale Playbook Update/Game Plan 2028, each individual plan or project would be subject to separate environmental review under CEQA.

Other Public Agencies

The City of Sunnyvale has sole approval authority over the Sunnyvale Playbook Update/Game Plan 2028 as well as the Sunnyvale CEQA GHG Emissions Thresholds. There are no other public agencies whose approval is required.

Environmental Factors Potentially Affected

This project 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.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ 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 in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Lead Agency Representative Signature	Date
Lead Agency Representative Printed Name	Title

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?	☐	☐	☐	■
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
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?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

a. Would the project have a substantial adverse effect on a scenic vista?

According to the Sunnyvale General Plan Land Use and Transportation Element Draft Environmental Impact Report (EIR), Sunnyvale does not contain any designated scenic vistas or viewsheds.[21] As such, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to effects 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?

According to the California Scenic Highway Mapping System, Interstate I-280, traversing the south border of Sunnyvale, is an eligible State scenic highway, but it is not officially designated.[22] There are no officially designated State scenic highways in Sunnyvale, and no portions of the City

[21] Sunnyvale, City of. 2016. Sunnyvale General Plan Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed December 2023).

[22] Caltrans. 2018. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa (accessed December 2023).

encompass the viewshed from a State scenic highway.[23] The nearest designated State scenic highway is a portion of I-280 running from Alpine Road to Valleywood Drive, located approximately 7.5 miles west of Sunnyvale City limits at its closest point. Due to the distance between Sunnyvale and the nearest designated State scenic highway, as well as the developed nature of Sunnyvale and the surrounding communities, views of Sunnyvale from I-280 are not available. Additionally, the Sunnyvale General Plan Land Use and Transportation Element does not identify any local scenic roadways.[24] As such, implementation of the Playbook Update/Game Plan and CEQA GHG Emissions Thresholds could not result in impacts related to scenic resources within the viewshed from a State scenic highway. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to effects on scenic resources within a State scenic highway.

c. *In non-urbanized areas, would the project 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?*

According to the Sunnyvale General Plan Land Use and Transportation Element Draft Environmental Impact Report (EIR), Sunnyvale is 98 percent urbanized, surrounded by other cities, and has limited aesthetic resources. Within Sunnyvale, there are several visual landmarks, including Libby Water Tower, the Murphy Avenue Commercial District, and the cherry orchards on Mathilda Avenue, that comprise important local scenic attributes.[25] The Sunnyvale General Plan Community Character Element includes policies that require preservation of existing visual landmarks, as well as goals and policies that govern scenic quality within the City. These include the following:

- **Goal CC-1: Distinguished City Image:** Promote Sunnyvale's image by maintaining, enhancing and creating physical features, including functional and decorative art, which distinguish Sunnyvale from surrounding communities and by preserving historic buildings, special districts and residential neighborhoods which make the City unique.
- **Goal CC-3: Well-Designed Sites and Buildings:** Ensure that buildings and related site improvements for private development are well designed and compatible with surrounding properties and districts.
- **Policy CC-3.2:** Ensure site design is compatible with the natural and surrounding built environment.
- **Goal CC-3: Protection of Sunnyvale's Heritage:** To enhance, preserve, and protect Sunnyvale's heritage including natural features, the built environment, and significant artifacts.
- **Policy CC-5.1:** Preserve existing landmarks and cultural resources and their environmental settings.
- **Policy CC-5.2:** Enhance the visual character of the City by preserving diverse as well as harmonious architectural styles, reflecting various phases of the City's historical development and the cultural traditions of past and present residents.

[23] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed December 2023).

[24] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

[25] Sunnyvale, City of. 2016. Sunnyvale General Plan Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed December 2023).

In addition, Sunnyvale has adopted a variety of design guidelines, including guidelines specifically for identified landmark and heritage areas such as the Murphy Station Heritage Landmark District Design Guidelines and the Taaffe Frances Heritage Neighborhood Design Guidelines.[26]

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to visual character. As a policy and guidance document, the Sunnyvale Playbook Update/Game Plan 2028 does not propose specific development or changes to land use and zoning designations that would result in impacts to scenic vistas and visual character or conflict with City policies regulating scenic resources. However, implementation of some Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves may promote infrastructure development and other physical changes through policies and programs. Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 promote installation of small-scale solar photovoltaic (PV) systems, thermal energy systems, and battery energy storage systems to increase renewable energy generation and storage in Sunnyvale. Play 3.1 would encourage mixed-use development (as permitted by land use and zoning designations) within the City that could alter visual character via changes in building heights and designs. Additionally, Play 4.3 facilitates the expansion of the urban forest that could have a positive effect on the visual quality of the City by adding new tree cover.

While implementation of the Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves may result in future Playbook Update/Game Plan projects that slightly alter the visual character of Sunnyvale, Sunnyvale Playbook Update/Game Plan 2028-related projects would generally be limited to the existing developed areas of Sunnyvale and would be small-scale in nature. In addition, Sunnyvale Playbook Update/Game Plan 2028-related projects and actions, including those identified above, would be required to adhere to City zoning and regulations that protect aesthetic resources, including the City design guidelines, Sunnyvale Municipal Code (SMC) Chapter 19.80, Design Review, and SMC Chapter 19.96, Heritage Sites, that establish the City's Design Review process and protections for heritage areas.[27,28,29] Compliance with the SMC and design guidelines would require that potential future infrastructure development and redevelopment related to the Sunnyvale Playbook Update/Game Plan 2028 would be carefully integrated with the existing character of the community, minimizing potential impacts related to visual character. In addition, Sunnyvale Playbook Update/Game Plan 2028 projects and actions would be reviewed for consistency with the Sunnyvale General Plan Community Character Element goals and policies related to scenic resources prior to approval to avoid lack of consistency with regulations established to protect scenic quality. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to visual character or scenic quality.

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

Sunnyvale is an urbanized community and contains many existing sources of nighttime light and daytime glare including street and vehicle lighting, security lighting, interior and exterior building

[26] Sunnyvale, City of. 2023. Design Guidelines, Standards, and Specific Plans. https://www.sunnyvale.ca.gov/business-and-development/planning-and-building/permit-center/design-guidelines-standards-and-specific-plans (accessed December 2023).

[27] *Ibid*

[28] Sunnyvale, City of. 2023. Sunnyvale Municipal Code Chapter 19.80. https://ecode360.com/42732806#42732806 (accessed December 2023).

[29] Sunnyvale, City of. 2023. Sunnyvale Municipal Code Chapter 19.96. https://ecode360.com/42733144#42733144 (accessed December 2023).

lighting, and reflective building materials. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use or zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in impacts related to light and glare. The Sunnyvale Playbook Update/Game Plan 2028 would promote sustainable infrastructure development and redevelopment that is complimentary to existing land uses in the City. As a policy document, the Sunnyvale Playbook Update/Game Plan 2028 would not directly result in impacts related to light and glare. However, implementation of Sunnyvale Playbook Update/Game Plan 2028 Play 1.2 promotes installation of small-scale solar PV systems to increase renewable energy generation in Sunnyvale. Solar panels have the potential to result in new sources of glare within Sunnyvale if not thoughtfully designed and located. The design and location of future solar infrastructure would be complimentary to existing development in Sunnyvale, such as the addition of small-scale rooftop solar panels that would reduce potential glare impacts. Furthermore, Sunnyvale Playbook Update/Game Plan 2028 projects would be reviewed for consistency with the CCR Title 24 lighting standards (CCR Title 24 Part 6), Sunnyvale design guidelines, which provide guidance on reducing light impacts and associated glare and design considerations to address glare, and SMC Section 19.42.050 regarding restrictions on lighting would require that lights, spotlights, floodlights, reflectors, and other means of illumination are shielded or equipped with special lenses in such a manner as to prevent any glare or direct illumination on a public street or other property.[30, 31] In addition, Sunnyvale Playbook Update/Game Plan 2028 projects or Moves would be reviewed for consistency with the Sunnyvale General Plan and other applicable aesthetic regulations prior to approval. Compliance with these regulations would minimize environmental impacts related to light and glare by requiring the shielding of exterior lighting and limiting the use of highly reflective materials, respectively. Thus, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to light and glare.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). Cumulative impacts related to scenic vistas and resources, visual character and scenic quality, and light and glare would generally be site-specific, and cumulative projects are not anticipated to contribute to cumulative aesthetic impacts with adherence to Sunnyvale General Plan policies, the SMC, and applicable Specific Plans and design guidelines. As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Because of the developed nature of Sunnyvale, future infrastructure projects under the Sunnyvale Playbook Update/Game Plan 2028, in combination with other cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth, would not adversely impact the visual character of the community. In addition, cumulative projects would be required to comply with the City design review process, as applicable, and be reviewed against applicable Sunnyvale General Plan policies and design standards for design quality and compatibility with adjacent land uses. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to aesthetics.

[30] *Ibid*

[31] Sunnyvale, City of. 2023. Sunnyvale Municipal Code Section 19.42.050. https://ecode360.com/42730956 (accessed December 2023).

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?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
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))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
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?	☐	☐	☐	■

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?

e.1. 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?

Sunnyvale is characterized primarily by urban and suburban development. Maps prepared pursuant to the Farmland Mapping and Monitoring Program primarily identify Sunnyvale as Urban and Built-up Land, and no Prime Farmland or Farmland of Statewide Importance is mapped within Sunnyvale; however, there are a few pockets of Unique Farmland located in the southern portions of

Sunnyvale.[32] Likewise, there are no Williamson Act contracts within Sunnyvale.[33] While Sunnyvale has some small pockets of remaining orchards zoned for nonagricultural uses, it does not contain any agricultural operations.

The Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves focus on electrification of buildings, improving active transportation, ZEV and public transit infrastructure, water conservation, reducing solid waste sent to landfills, increasing carbon sequestration through additional trees, and community engagement around climate change. Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would not involve projects or policies that would result in increased development or impacts related to conversion or loss of farmland. Additionally, the CEQA GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning that could result in the loss of farmland or conflict with existing agricultural zoning. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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, Sunnyvale General Plan land use designations, and Williamson Act Contracts.

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?

e.2. 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?

Sunnyvale is entirely built-out and does not contain forest or timberland resources, and no parcels are zoned for Timberland Production. SMC Chapter 19.94 outlines policies, regulations, and standards to provide for tree preservation within the city. Additionally, Policy 14 and Actions 1 through 4 of the Sunnyvale Land Use and Transportation Element encourages the planting of large canopy trees and implementation of an Urban Forestry Plan, which illustrate the City's commitment to managing and preserving Sunnyvale's urban forest.[34]

The Sunnyvale Playbook Update/Game Plan 2028 aligns with the Sunnyvale General Plan by including Play 4.3 and Move 4.L, which seeks to facilitate the implementation of an urban forest master plan to increase the number of trees throughout Sunnyvale. The Sunnyvale Playbook Update/Game Plan 2028 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. Likewise, the CEQA GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning that could result in the loss of forestland or conflict with existing zoning for forest uses. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions

[32] California Department of Conservation. 2023. California Important Farmland Finder Map. https://maps.conservation.ca.gov/dlrp/ciff/ (accessed December 2023).

[33] Santa Clara County. 2022. Williamson Act Properties. https://sccplanning.maps.arcgis.com/apps/webappviewer/index.html?id=1f39e32b4c0644b0915354c3e59778ce (accessed December 2023).

[34] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

Thresholds 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.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Future infrastructure projects under the Sunnyvale Playbook Update/Game Plan 2028, in combination with other cumulative projects that occur to accommodate Sunnyvale's population, employment, and housing growth could comply with Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 and Move 4.L to maintain an urban forest and plant additional trees throughout the City. Furthermore, as discussed above, the Sunnyvale Playbook Update/Game Plan 2028 would not include Plays or Moves that could impact agricultural or forestry resources. In addition, the Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no cumulative impact*** related to agricultural and forestry resources.

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?	☐	☐	☐	■
b. 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?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

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. Sunnyvale is located within the San Francisco Bay Area Air Basin (the Air Basin), which includes the nine Bay Area counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma. The Air Basin is under the jurisdiction of BAAQMD. As the local air quality management agency, BAAQMD 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 Air Basin 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. BAAQMD is in non-attainment for the State and federal ozone standards, the State and federal $PM_{2.5}$ (particulate matter up to 2.5 microns in size) standards, and the State PM_{10} (particulate matter up to 10 microns in size) standards and is required to prepare a plan for improvement.[35] The sources, health effects, and typical controls associated with criteria pollutants are described in Appendix A.

[35] BAAQMD. 2017. Air Quality Standards and Attainment Status. http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status (accessed December 2023).

The Bay Area 2017 Clean Air Plan provides a plan to improve Bay Area air quality and protect public health as well as the climate. The legal impetus for the Clean Air Plan is to update the most recent ozone plan, the 2010 Clean Air Plan, to comply with State air quality planning requirements as codified in the California Health and Safety Code. Although steady progress has been made toward reducing ozone levels in the Bay Area, the region continues to be designated as non-attainment for both the one-hour and eight-hour State ozone standards as noted previously. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, State law requires the Clean Air Plan to include all feasible measures to reduce emissions of ozone precursors and reduce transport of ozone precursors to neighboring air basins.[36]

The Federal Clean Air Act Amendments (CAAA) 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 Air Quality Management Plans (AQMP) and adopted rules and regulations by each local Air Pollution Control District (APCD) and AQMD, which are submitted for approval to CARB and the U.S. EPA.[37] The goal of an AQMP is to reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes or specific development. Rather the Sunnyvale Playbook Update/Game Plan 2028 would promote sustainable infrastructure development and redevelopment. Likewise, the CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves focus on increasing the use of renewable energy, building electrification, improving active transportation, ZEV and public transit infrastructure, increasing urban trees, and reducing waste production and water use. Implementation of Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves, such as those aimed at reducing VMT, electrifying vehicles, and reducing natural gas use through building electrification, would have co-benefits to air quality within the Air Basin. These Plays and Moves would help BAAQMD meet applicable air quality plan goals, and would generally reduce air pollutant concentrations. Although the purpose and intended effect of the Sunnyvale Playbook Update/Game Plan 2028 is to reduce GHG emissions generated in Sunnyvale to help reduce the effects of climate change, many of its Plays and Moves would also reduce criteria pollutant emissions. Specifically, Plays 2.1 through 2.3 involve reducing the use of natural gas through building electrification of new and existing buildings, thereby reducing criteria pollutants associated with building energy use. Plays 3.1 and 3.2 seek to improve active transportation and public transit facilities and programs in order to reduce VMT and increase the use of sustainable transportation options in Sunnyvale. In addition, Plays 3.3 and 3.4 would encourage the adoption of ZEVs and low-emissions off-road vehicles and equipment by enhancing EV infrastructure and phasing out gasoline- and diesel-powered off-road equipment. These energy- and transportation-related strategies would reduce air pollutant emissions as well as GHG emissions. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are consistent

[36] BAAQMD. 2017. Final Clean Air Plan: Spare the Air Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Final 2017 Clean Air Plan. https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans (accessed December 2023).

[37] CARB. 2022. 2022 State Strategy for the State Implementation Plan. https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf (accessed November 2023).

with the 2017 Clean Air Plan and would result in ***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?

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to an increase of criteria pollutants. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes but would instead promote sustainable infrastructure development and redevelopment. As a policy document, the Sunnyvale Playbook Update/Game Plan 2028 would not result in impacts related to criteria pollutants. However, implementation of the following Sunnyvale Playbook Update/Game Plan 2028 actions may promote construction activities that would temporarily generate criteria pollutants during the construction phase.

Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 would result in the addition of solar PV and thermal energy systems, along with battery storage, within Sunnyvale. Play 2.2 promotes electrification of existing residential, commercial, and municipal buildings that may require minor construction to modify the electrical and natural gas connections to existing buildings. Play 3.2 would encourage development of new bicycle and pedestrian infrastructure that may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Sunnyvale. Play 3.3 would incentivize or require the installation of new EV charging stations. In addition, Play 4.3 seeks to increase the number of trees throughout Sunnyvale that may require the use of construction equipment for the moving and placement of trees.

Construction-related air quality impacts are generally associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases that would be released during the drying phase upon application of architectural coatings. However, implementation of Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would not include large-scale construction and would involve temporary and short-term criteria pollutant emissions. As such, the Sunnyvale Playbook Update/Game Plan 2028 would result in low-level criteria pollutant emissions and negligible impacts related to air quality. Through the standard review process for new development or capital improvement projects, Sunnyvale Playbook Update/Game Plan 2028 projects would also be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations. Thus, the construction associated with implementation of the Sunnyvale Playbook Update/Game Plan 2028 would result in a less-than-significant impact related to net increase of criteria pollutants.

With respect to operational emissions, many of the Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would have the secondary benefit of reducing criteria pollutant emissions, such as strategies aiming to increase reduce natural gas use, promote EVs, reduce on- and off-road gasoline fuel use, and reduce VMT. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would be beneficial by helping the City meet applicable air quality plan goals. Therefore, overall, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to criteria pollutant emissions.

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

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations. Implementation of some of the Sunnyvale Playbook Update/Game Plan 2028 Plays, as described under *Response 3b.*, promotes infrastructure development and redevelopment that may result in temporary construction activities. Construction-related air quality impacts are generally associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles and soil hauling trucks, in addition to reactive organic gases that would be released during the drying phase upon application of architectural coatings. However, implementation of Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would not include large-scale construction, and construction-related emissions would be temporary. As such, implementation of the Sunnyvale Playbook Update/Game Plan 2028 could result in low-level toxic air contaminant emissions associated with construction.

While the Sunnyvale Playbook Update/Game Plan 2028 could result in construction-related impacts related to toxic air contaminants and exposure to sensitive receptors, Sunnyvale Playbook Update/Game Plan 2028 projects or actions would be reviewed for consistency with BAAQMD air quality regulations and other applicable local, State, and federal regulations through the standard development review process once project details and locations are known to minimize air pollutant exposure impacts. Thus, construction associated with implementation of the Sunnyvale Playbook Update/Game Plan 2028 is not expected to 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 Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves. Therefore, overall, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in 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.[38] The CEQA GHG Emissions Thresholds would provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to odors. The Sunnyvale Playbook Update/Game Plan 2028 includes Play 4.1, which seeks to reduce community landfilled organics by 75 percent by 2030. Moves associated with this play include implementing the organic waste diversion requirements of Senate Bill (SB) 1383, encouraging food waste diversion, and implementing edible food recovery programs. As such, the Sunnyvale Playbook Update/Game Plan 2028 could result in minor odors related to organic waste collection. However, green waste collection bins and compost application are not identified on the list of "Sources of Odor Complaints" (Table 1-4) as provided in the CARB *Air Quality Land Use Handbook* and would not be anticipated to result in other odors that would adversely affect a

[38] CARB. 2005. Air Quality and Land Use Handbook: A Community Health Perspective. https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf (accessed December 2023).

substantial number of people.[39] Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Thresholds would not facilitate development that could create odors, and there would be a ***less-than-significant impact*** related to odors exposure.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Sunnyvale Playbook Update/Game Plan 2028-related projects, in combination with other cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth, could result in air pollutant emissions that exceed applicable BAAQMD thresholds or be inconsistent with the 2017 Clean Air Plan. However, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would have a less-than-significant contribution related to potential cumulative air quality impacts within the Air Basin and on sensitive receptors within Sunnyvale, given that the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in communitywide reduction of GHG emissions, energy use, single-occupancy vehicle travel, and associated air pollutant emissions and just temporary air pollutant emissions during infrastructure construction activities. As such, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not result in adverse impacts related to contribution of criteria pollutants to the air basin or exposure of sensitive receptors to toxic air contaminants but rather result in co-benefits to air quality within the Air Basin. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to air quality.

[39] *Ibid*

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?	☐	☐	■	☐
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?	☐	☐	■	☐
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?	☐	☐	■	☐
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?	☐	☐	■	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■
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?	☐	☐	☐	■

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?

Sunnyvale is a primarily urbanized community with limited habitat to support special-status species. However, ruderal infill lots could support burrowing owl, Crotch's bumble bee, and Congdon's tarplant. Shoreline areas and wetlands in Sunnyvale may support protected shore birds and fish species, such as black skimmer, California least tern, California black rail, California Ridgway's rail, western snowy plover, steelhead, and longfin smelt. These special status species are afforded protection under the federal Endangered Species Act, California Endangered Species Act, and/or California Fish and Game Code (CFGC). Additionally, urban parks, open space, and riparian areas could support nesting birds.[40] Active nests of all migratory birds, including raptors, are protected by State and federal law. Migratory and nesting birds are protected by Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGC) and the Migratory Bird Treaty Act (MBTA), and may utilize trees, landscaping, and structures throughout Sunnyvale for nesting habitat. SMC Chapter 19.94 provides for the protection of trees within the City, and Policy LT-1.10 of the Land Use and Transportation Element illustrates the City's commitment to protecting biological resources.[41,42] The City also maintains Bird Safe Design Guidelines in reviewing the design of new structures in the city.[43]

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to special status species and their habitats. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes. Rather the Sunnyvale Playbook Update/Game Plan 2028 would address infrastructure development and programming to reduce GHG emissions and increase sustainable practices within Sunnyvale. As a policy document, the Sunnyvale Playbook Update/Game Plan 2028 would not directly result in impacts related to wildlife species identified as candidate, sensitive, or special status. However, implementation of the following Sunnyvale Playbook Update/Game Plan 2028 Plays may promote infrastructure development and redevelopment thathave the potential to result in impacts to special status species through construction activities that could directly cause mortality or result in indirect impacts through loss of breeding, foraging, and nesting habitat. Nonetheless, as addressed below, with adherence to the requirements of federal Endangered Species Act, California Endangered Species Act, CFCG, SMC, and Sunnyvale General Plan policies and actions, construction impacts would be minimized.

Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 would result in the addition of solar PV and thermal energy systems, along with battery storage, within the City. Play 2.2 promotes electrification of existing residential, commercial, and municipal buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. Play 3.2

[40] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed December 2023).

[41] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 19.94, Tree Preservation. https://ecode360.com/42733058#:~:text=It%20is%20unlawful%20to%20damage,a%20protected%20tree%20removal%20permit.&text=%C2%A7%2019.94.,-050%20Permits%20required (accessed January 2024).

[42] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

[43] Sunnyvale, City of. N.d. Bird-Safe Building Design Guidelines. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1542/638273438333130000 (accessed May 2024).

would encourage development of new bicycle and pedestrian infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Sunnyvale. In addition, Play 4.3 seeks to increase the number of trees throughout Sunnyvale, which may require the use of construction equipment for the moving and placement of trees. These Plays have the potential to disturb special-status species and nesting habitat for birds and raptors protected under the CFGC and the MBTA. However, construction activities for future Sunnyvale Playbook Update/Game Plan 2028 projects would be required to comply with the provisions of the CFGC and the MBTA that include requirements for nesting bird and roosting bat avoidance. Compliance with State and federal requirements for the protection of special-status species would be required for all future Sunnyvale Playbook Update/Game Plan 2028-related projects and would minimize the potential for impacts to biological resources.

Furthermore, the Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would not conflict with the SMC or objectives and policies of the Sunnyvale General Plan related to wildlife but would rather be consistent with and promote those policies. Sunnyvale Playbook Update/Game Plan 2028 Plays involving infrastructure development or redevelopment would generally apply to the urbanized areas of the City, with little application to parks, open spaces area, or undeveloped portions of Sunnyvale where sensitive habitat and related species may be present. In addition, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 facilitates an increase in the tree canopy throughout Sunnyvale, and Move 6.C would restore, protect and expand tidal/salt marshes and natural water ways. This play and this move would help increase and improve habitat for special status species and migratory and nesting birds. As such, the Sunnyvale Playbook Update/Game Plan 2028 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. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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?

Sunnyvale contains wetlands, streams, shoreline, riparian areas, and other sensitive habitat in the areas adjacent to the San Francisco Bay and Stevens Creek, Calabazas Creek, and Moffett Channel.[44] Wetlands and other waters in Sunnyvale are protected by the federal Clean Water Act, the California Porter-Cologne Water Quality Control Act, and CFGC Section 1600 et seq., and are under the jurisdiction of the U.S. Army Corps of Engineers, the San Francisco Bay Regional Water Quality Control Board, and the California Department of Fish and Wildlife. Federal and State regulations require avoidance of impacts to the extent feasible, as well as compensation for unavoidable losses of jurisdictional wetlands and waters and sensitive natural communities and riparian habitat. SMC Chapter 12.60 requires compliance with the Clean Water Act and the Porter-Cologne Water Quality Control Act.[45] In addition, Policies LT-1.10, LT-9.19, and LT-10.5 of the Land Use and Transportation

[44] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed May 2024).

[45] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 12.60, Stormwater Management. https://ecode360.com/42718251#42718251 (accessed January 2024).

Element describe the City's commitment to protection of wetlands, riparian areas, and other natural habitats within Sunnyvale.[46]

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to riparian, wetland, or other sensitive habitats. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City, with little application to parks, open spaces area, or other locations where riparian, wetland, and sensitive habitat is located. Furthermore, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 facilitates an increase in the tree canopy throughout Sunnyvale, and Move 6.C would restore, protect and expand tidal/salt marshes and natural water ways. This play and this move align with the Sunnyvale General Plan goals and policies related to the preservation of sensitive habitats.

In addition, future Sunnyvale Playbook Update/Game Plan 2028-related projects would be required to adhere to City development regulations and General Plan policies, including SMC Chapter 12.60 and General Plan Policies LT-1.10, LT-9.19, and LT-10.5, to limit the potential for project impacts related to biological resources. In addition, the location and details of future Sunnyvale Playbook Update/Game Plan 2028-related projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. Any future Playbook Update/Game Plan 2028-related projects that could affect sensitive habitat, streams, or wetlands would be required to comply with the requirements of the California Porter-Cologne Water Quality Control Act, and CFGC Section 1600 et seq. Compliance with these regulations would include obtaining the appropriate CDFW, U.S. Army Corps of Engineers, and/or Regional Water Quality Control Board permits and complying with any avoidance, minimization, and habitat restoration measures required by the applicable agencies. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to riparian habitat or sensitive natural communities, such as wetlands.

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?

Sunnyvale is largely developed and offers limited habitat to provide migratory wildlife corridors or wildlife nursery sites. Areas that may support wildlife movement are generally limited to the wetlands and open space areas along San Francisco Bay and the Baylands Park where development is not permitted. In addition, creek and waterway corridors within the City such as Stevens Creek, Calabazas Creek, and Moffett Channel may serve as wildlife corridors.[47] Policies LT-1.10, LT-9.19, and LT-10.5 of the Land Use and Transportation Element describe the City's commitment to protection of wetlands, rivers, and other natural habitats within Sunnyvale that may be utilized by wildlife for movement and nurseries.[48]

[46] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

[47] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed December 2023).

[48] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to interference with species movement or wildlife nurseries. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City, with little application to the wetlands and baylands, open spaces area, creeks, or other locations where habitat supporting wildlife migration and nurseries may be present. Furthermore, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 facilitates an increase in the tree canopy throughout Sunnyvale, and Move 6.C would restore, protect and expand tidal/salt marshes and natural water ways. This play and this move align with the Sunnyvale General Plan policies related to the preservation of natural habitats, such as Policies LT-1.10, LT-9.19, and LT-10.5 that seek to preserve and enhance natural areas and habitat in Sunnyvale.

Future Sunnyvale Playbook Update/Game Plan 2028-related projects would be required to adhere to City development regulations and General Plan policies to limit the potential for project impacts related to biological resources, including wildlife movement corridors and nursery sites. In addition, the location and details of future Sunnyvale Playbook Update/Game Plan 2028-related projects would be reviewed for consistency with applicable local, regional, and State regulations related to sensitive habitat prior to approval. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Thresholds would result in a ***less-than-significant impact*** related to interference with wildlife migratory corridors or nursery sites.

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

Sunnyvale maintains a Heritage Resources Inventory, which identifies several heritage tree locations. Chapter 19.94 of the SMC, also known as the Tree Preservation Ordinance, was established to regulate the protection, installation, removal and long term management of significantly sized trees on private and City-owned property, encourage the proper protection and maintenance of significantly sized trees, establish a review and permit procedure to assure the correct planting, maintenance, protection and removal of significant trees, and establish penalties for violation of its provisions.[49] Additionally, Policies LT-2.3 through LT-2.5 and LT-9.5 and LT-9.6 of the Land Use and Transportation Element would further protect and encourage the planting of trees within the City.[50]

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to biological resources. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning changes but would instead promote sustainable infrastructure development and redevelopment within urbanized areas of the City. The purpose and intended effect of the Sunnyvale Playbook Update/Game Plan 2028 is to reduce GHG emissions generated in Sunnyvale to help reduce the effects of climate change. Implementation of proposed Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would be beneficial by helping Sunnyvale meet applicable local policies and

[49] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 19.94, Tree Preservation. https://ecode360.com/42733058#:~:text=It%20is%20unlawful%20to%20damage,a%20protected%20tree%20removal%20permit.&text=%C2%A7%2019.94.,-050%20Permits%20required (accessed January 2024).

[50] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

ordinances for protecting biological resources, including the SMC Chapter 19.94 and the General Plan policies related to tree protection and preservation. Specifically, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 facilitates the implementation of an urban forest master plan that would increase tree canopy throughout the City and Move 6.C would restore, protect and expand tidal/salt marshes and natural water ways to support a biodiverse ecology and protect the shoreline from sea level rise and coastal flooding. Future Sunnyvale Playbook Update/Game Plan 2028-related projects would also be required to comply with SMC Chapter 19.94 during any construction activities. As such, the Sunnyvale Playbook Update/Game Plan 2028 would not conflict with or obstruct implementation of the applicable policies for preserving biological resources, including protected trees, and would not affect the City's ability to attain goals and policies that protect biological resources. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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?

No portion of Sunnyvale is currently subject to a habitat conservation plan or natural community conservation plan. The Santa Clara Valley Habitat Plan is a Natural Community Conservation Plan that applies to portions of Santa Clara County, but Sunnyvale is not included in the boundaries of that plan area.[51,52] Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with an adopted habitat or natural community conservation plan.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could lead to cumulative impacts. Implementation of Sunnyvale Playbook Update/Game Plan 2028 projects, in combination with other cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth, could result in impacts to biological resources during infrastructure and building construction. However, infrastructure development or redevelopment resulting from implementation of the Sunnyvale Playbook Update/Game Plan 2028 would be required to comply with applicable Sunnyvale General Plan policies, the SMC, and State and federal regulatory requirements regarding avoidance of special wildlife species and habitat. In addition, the Sunnyvale Playbook Update/Game Plan 2028 would not result in new building construction and contains actions that prioritize the preservation of trees and natural habitats. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to biological resources.

[51] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed December 2023).

[52] California Department of Fish and Wildlife. 2024. NCCP Plan Summary- Santa Clara Valley Habitat Plan. https://wildlife.ca.gov/Conservation/Planning/NCCP/Plans/Santa-Clara (accessed January 2024)

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?	☐	☐	■	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	■	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

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

The City maintains a Heritage Resources Inventory, which includes landmarks, trees, residential and commercial districts, and individual structures of local importance. Approximately 65 individual structures are listed as heritage resources, along with several heritage tree locations, and 11 properties are identified as local landmarks. In addition, Sunnyvale also contains two historical districts—the Taaffe-Frances Heritage Neighborhood (a residential district) and the Murphy Station Heritage Landmark District (a commercial district).[53,54] Sunnyvale General Plan Goal CC-5 and Policies CC-5.1 through CC-5.5, LT-1.10, and LT-2.5 illustrate the City's goals and policies related to the preservation of historical and cultural resources within Sunnyvale.[55,56] In addition, SMC Chapter 19.96 provides regulations for the protection of heritage resources within the City.[57]

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to historical resources. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes but would promote infrastructure development and redevelopment that would be complimentary to existing development. Sunnyvale Playbook Update/Game Plan 2028 projects would be required to comply with the applicable General Plan policies, including Policy CC-5.1, which aims to preserve existing landmarks and cultural resources

[53] Sunnyvale, City of. 2018. Heritage Resources Inventory. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1556/637820850915270000 (accessed January 2024).

[54] Sunnyvale, City of. 2011. Community Character Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/598/637819113519200000 (accessed January 2024).

[55] *Ibid*

[56] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

[57] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 19.96, Heritage Preservation. https://ecode360.com/42733144#42733144 (accessed January 2024).

and their environmental settings, and Policy CC-5.3, which seeks to identify and work to resolve conflicts between the preservation of historic resources and alternative land uses.[58] Future projects would also be required to comply with Chapter 19.96 of the SMC, which regulates development affecting historical and cultural resources within the City. Sunnyvale Playbook Update/Game Plan 2028-related projects would be reviewed for compliance with applicable local, regional, and State regulations regarding cultural resources and the Sunnyvale General Plan Land Use and Community Design Element to avoid adverse impacts related to historical resources. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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?

A number of recorded archaeological resources and sites exist within Sunnyvale, and there is the potential for undiscovered archaeological resources during construction activities within the City.[59] Policy CC-5.5 of the General Plan Community Character Element directs that archaeological resources should be protected whenever possible, and Action LT-1.10f of the Land Use and Transportation Element includes a requirement that projects halt all ground-disturbing activities when unusual amounts of shell or bone, isolated artifacts, or other similar features are discovered and retain an archaeologist to assess the finding and implement mitigation measures.[60] Additionally, Chapter 19.96 of the SMC aims to protect the City's historical and cultural resources. [61]

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to archaeological resources. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes but would promote infrastructure development and redevelopment that would generally be limited to previously developed and disturbed areas of the City where the presence of archaeological resources is unlikely. Nonetheless, there is a possibility for archaeological sites not previously recorded to be present in areas where Sunnyvale Playbook Update/Game Plan 2028 projects could occur. In particular, Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2, 1.3, 2.2, 3.2, and 4.3 may result in small-scale construction that could expose previously undiscovered archaeological resources during ground disturbing activities.

Future Sunnyvale Playbook Update/Game Plan 2028 projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, Sunnyvale Playbook Update/Game Plan 2028 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 comply with Policy CC-5.5 and Action LT-1.10f of the General Plan and Chapter 19.96 of the SMC. As such, archeological resources would be protected, and impacts would be reduced to a minimal level. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG

[58] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed January 2024).

[59] *Ibid*

[60] Sunnyvale, City of. 2011. Sunnyvale General Plan Community Character Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/598/637819113519200000 (accessed January 2024).

[61] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 19.96, Heritage Preservation. https://ecode360.com/42733144#42733144 (accessed January 2024).

Emissions Thresholds 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 Sunnyvale. The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not have construction or operational impacts related to human remains. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes but would promote infrastructure development and redevelopment that would generally be limited to previously developed and disturbed areas of the City where the presence of human remains is unlikely. However, there is the potential for future Sunnyvale Playbook Update/Game Plan 2028-related projects to encounter unknown human remains during project construction activities. Future projects that occur in accordance with the Sunnyvale Playbook Update/Game Plan 2028 would be required to comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 regulations related to burial findings, including notification, assessment, and treatment of burial sites. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to potential disturbance of human remains.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). Projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth would cumulatively increase the potential for adverse effects on historic and archaeological resources in Sunnyvale. As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts; however, the Sunnyvale Playbook Update/Game Plan 2028 could incrementally contribute to this cumulative effect through small-scale construction activities that could affect previously undiscovered cultural resources. Impacts related to historic and archaeological resources are generally site-specific. Accordingly, as required under applicable laws and regulations, potential impacts associated with future development in Sunnyvale, including Sunnyvale Playbook Update/Game Plan 2028-related projects, would be addressed on a project-by-project basis as project details and locations are determined. Future projects in Sunnyvale, including those associated with implementation of the Sunnyvale Playbook Update/Game Plan 2028, would be required to comply with the applicable General Plan policies and SMC Chapter 19.96, that require the identification and protection of sites and structures of historical, archaeological, and cultural significance in order to avoid impacts related to cultural resources. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to cultural resources.

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?	☐	☐	☐	■
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	■

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 46th in the nation, due to its energy efficiency programs and mild climate.[62] California consumed 287,826 gigawatt-hours (GWh) of electricity and 23,421 million therms of natural gas in 2022.[63,64] The single largest end-use sector for energy consumption in California is transportation (37.8 percent), followed by industry (23.2 percent), residential (20.0 percent), and commercial (19.0 percent).[65] The City of Sunnyvale has demonstrated its commitment to energy efficiency and renewable energy through many efforts, as described in the *Existing Sustainability Setting* section above. The City has adopted CALGreen, pursuant to SMC Chapter 16.43, which requires efficiency measures to reduce energy use and provide energy reduction benefits. The City has also completed communitywide GHG emissions inventories starting in 2008 and has been updating the inventory regularly since 2014. In 2019, transportation was responsible for approximately 52 percent of total GHG emissions within the Sunnyvale community, followed by commercial/industrial gas, residential gas, off-road equipment, solid waste, commercial/industrial electricity, residential electricity, water and wastewater, and finally Caltrain. In 2017, Sunnyvale's electricity emissions declined due to receiving carbon-free electricity from Silicon Valley Clean Energy (SVCE).

The CEQA GHG Emissions Thresholds provide guidance during CEQA review and do not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to wasteful consumption of energy resources. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing climate action strategies to reduce communitywide GHG emissions. The

[62] U.S. Energy Information Administration (USEIA). 2023. "California - Profile Overview." https://www.eia.gov/state/?sid=CA.(accessed October 2023).

[63] CEC. 2023. Electricity Consumption by County. http://www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed October 2023).

[64] CEC. 2023. Gas Consumption by County. http://www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed October 2023).

[65] USEIA. 2023. "California - Profile Overview." https://www.eia.gov/state/?sid=CA (accessed October 2023).

Sunnyvale Playbook Update/Game Plan 2028 would encourage energy efficiency and a transition away from natural gas use in existing and new residential and nonresidential building stock through Plays 2.1 through 2.3. The Sunnyvale Playbook Update/Game Plan 2028 would also incentivize increased use of renewable energy sources and renewable energy production and storage within Sunnyvale through Plays 1.1 through 1.3. Additionally, the Sunnyvale Playbook Update/Game Plan 2028 would reduce transportation-related energy consumption by increasing active transportation and public transit use, reducing VMT, and reducing the use of gasoline vehicles through Plays 3.1 through 3.4.

Implementation of some Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves, such as the installation of new active 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 CCR Title 13 Sections 2449 and 2485, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency (U.S. EPA) Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, pursuant to the applicable regulatory requirements such as the 2022 CALGreen (CCR 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 pursuant to Chapter 16.74 of the SMC. These practices would result in efficient use of energy necessary to construct Sunnyvale Playbook Update/Game Plan 2028-related projects. Upon completion of construction for any Sunnyvale Playbook Update/Game Plan 2028-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 Sunnyvale Playbook Update/Game Plan 2028 is to reduce GHG emissions generated within the Sunnyvale community to minimize the effects of climate change, including those emissions generated by energy demand and supply. The Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 1020, 2022 CALGreen (Title 24 Part 11), and 2022 California Building Energy Efficiency Standards (Title 24 Part 6). SB 1020 supports the reduction of GHG emissions from the electricity sector by accelerating the State RPS Program and requires electricity providers to increase procurement from eligible renewable energy resources to 90 percent of total retail sales by 2035, 95 percent by 2040, 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.

Sunnyvale is part of the SVCE, a Joint Powers Agreement that provides electricity primarily from clean, renewable sources. Sunnyvale would continue to reduce its use of nonrenewable energy resources as the electricity and power resources generated by renewable sources provided by SVCE continues to increase to comply with State requirements through SB 1020. The Sunnyvale Playbook Update/Game Plan 2028 includes Plays and Moves to reduce non-renewable electricity use and increase production and storage of renewable energy, as discussed further below, and would, thus, align with the overall intent of SB 1020.

In addition, the City of Sunnyvale has adopted CALGreen (Title 24 Part 11) and the California Building Energy Efficiency Standards (Title 24 Part 6) pursuant to SMC Chapter 16.43, Green Building Code. Future Sunnyvale Playbook Update/Game Plan 2028-related projects would be required to demonstrate compliance with the CALGreen and 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 *Response 6a*., Sunnyvale Playbook Update/Game Plan 2028 Plays 2.1 through 2.3 seek to decrease non-renewable energy consumption in new and existing buildings by requiring electrification, efficiency upgrades, and phasing out natural gas use. Additionally, Plays 1.1 through 1.3 would encourage the production, use, and storage of local renewable energy. These Plays are consistent with the goals and policies established by SB 1020, CALGreen, and the California Building Energy Efficiency Standards. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with State and local renewable energy and energy efficiency plans.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts. Implementation of the Sunnyvale Playbook Update/Game Plan 2028 would result in reduced use of non-renewable energy resources across the community by phasing out natural gas use, increasing the use of the SVCE, and reducing gasoline vehicle use. Implementation of the Sunnyvale Playbook Update/Game Plan 2028 would also increase the production and storage of renewable energy within the City by incentivizing the inclusion of small-scale solar and battery storage projects. As Sunnyvale's population grows and development intensifies in the future, actions contained within the Sunnyvale Playbook Update/Game Plan 2028 would require that planned new development not related to the Sunnyvale Playbook Update/Game Plan 2028 is constructed to strict energy efficiency standards and that VMT is reduced. As the Sunnyvale Playbook Update/Game Plan 2028 would result in decreased non-renewable energy use and would align with existing plans and policies related to renewable energy and energy efficiency, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result a ***no cumulative impact*** related to energy.

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?	☐	☐	☐	■
2. Strong seismic ground shaking?	☐	☐	☐	■
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	■
4. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
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?	☐	☐	■	☐
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?	☐	☐	■	☐
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?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	■	☐

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- 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?
- Strong seismic ground shaking?
- Seismic-related ground failure, including liquefaction?
- Landslides?

Sunnyvale is located in a seismically active region, and there are several active faults within the vicinity of Sunnyvale that could cause seismic-related impacts. Three active faults are located near Sunnyvale: the Hayward fault (11.7 miles east), the San Andreas fault (7.5 miles west), and the Monte Vista-Shannon fault (4.3 miles west). There are also three potentially active faults that traverse the City—the San Jose fault, the Stanford fault, and the Cascade fault that cross the City in a northwesterly-southeasterly direction.[66] There are no Alquist-Priolo Fault Zones within Sunnyvale.[67] However, the City could experience strong seismic ground shaking and seismic-related ground failure (e.g., liquefaction and settlement) from earthquakes on active faults located in and outside of the City. The northern half of Sunnyvale starting at roughly Washington Avenue and Central Expressway northward is considered susceptible to liquefaction. Additionally, Sunnyvale is underlain by young alluvial sediments that can be susceptible to settlement, and sediments located immediately adjacent to San Francisco Bay consisting of Bay muds are generally very susceptible to settlement.[68]

Although Sunnyvale is at risk of earthquake-induced ground shaking and associated hazards, the Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing Plays and Moves to reduce GHG emissions. The Sunnyvale Playbook Update/Game Plan 2028 does not propose habitable development or policies 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. Likewise, the CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to substantial loss of topsoil.

[66] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed January 2024).

[67] California Geological Survey. 2023. Earthquake Zones of Required Investigation. https://maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed October 2023).

[68] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed January 2024).

Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning designation changes but would promote sustainable infrastructure development. As a policy document, the Sunnyvale Playbook Update/Game Plan 2028 would not directly require ground-disturbing activities. However, implementation of several Sunnyvale Playbook Update/Game Plan 2028 Plays may result in small-scale construction activities that could cause soil erosion or the loss of topsoil during construction. Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 would result in the addition of solar PV and thermal energy systems, along with battery storage, within the City. Play 2.2 promotes electrification and energy efficiency upgrades for existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. Play 3.2 would encourage development of new bicycle and pedestrian infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Sunnyvale. Play 3.3 would incentivize or require the installation of new EV charging stations. In addition, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 seeks to plant additional trees throughout Sunnyvale. As such, the Sunnyvale Playbook Update/Game Plan 2028 could result in construction-related soil erosion and topsoil loss impacts associated with such installations and plantings.

Sunnyvale Playbook Update/Game Plan 2028 projects would be reviewed for consistency with local and State erosion and grading regulations prior to final siting and construction. The potential for Sunnyvale Playbook Update/Game Plan 2028 project construction activities involving soil disturbance to result in increased erosion and sediment transport by stormwater to surface waters would be minimized through compliance with CBC Chapter 70 standards, which would ensure implementation of appropriate measures during grading activities to reduce soil erosion. Additionally, any development involving clearing, grading, or excavation that causes soil disturbance of 1 or more acres would be required to prepare and comply with a stormwater pollution prevention plan (SWPPP) that provides a schedule for the implementation and maintenance of erosion control measures and a description of applicable erosion control practices, including appropriate design details and a time schedule. Future projects would also be required to comply with SMC Chapter 12.60, which establishes local requirements for stormwater management and Section 18.12.110, which specifies that when grading would create a nuisance or hazard to other properties, public ways, or public facilities due to erosion from storm runoff or rainfall, no grading may commence or continue without specific consent in writing from the Director of Public Works or the Director of Community Development.[69,70] The City's grading regulations would require public and private development projects to include control measures for erosion and sediment control as well as permanent features to minimize stormwater pollution. The City's current development review process also requires construction projects to obtain required permits and that on-site regional control measures are considered for new development projects.[71] Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to soil erosion and loss of topsoil.

[69] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 12.60, Stormwater Management. https://ecode360.com/42718154#42718154 (accessed February 2024).

[70] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Section 18.12.100, Grading. https://ecode360.com/42728788?highlight=&searchId=16481596759239067#42728788 (accessed February 2024).

[71] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed January 2024).

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?

The northern half of Sunnyvale starting at roughly Washington Avenue and Central Expressway northward is considered susceptible to liquefaction. The liquefaction probability for Sunnyvale is between 0 and 10 percent. Additionally, surficial soils in Sunnyvale are largely composed of expansive clays. Bay mud and clayey alluvium located generally in the northern half of Sunnyvale have the potential for expansive movement. However, locally expansive soils may occur wherever clayey soils exist.[72] The City requires new development to prepare geotechnical soils reports pursuant to SMC Section 18.20.100 in order to improve the structural safety of buildings in areas of Sunnyvale with unstable soils. The resulting report recommended mitigation techniques for site-specific expansive soil conditions, compressive (settlement) soil conditions, and seismic hazards such as strong ground motion and liquefaction are required to be implemented by projects. [73] Future projects would also be required to comply with SMC Chapter 16.16, which adopts the CBC and includes common engineering practices requiring special design and construction methods that minimize potential expansive soil-related impacts.[74]

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to project location on an unstable geologic unit or soil. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 is a policy document that does not propose specific development or land use designation changes. Some of the proposed Plays and Moves in the Sunnyvale Playbook Update/Game Plan 2028 would support small-scale construction projects as discussed under *Response 7b.*, such as new solar panels and EV charging stations. However, Sunnyvale Playbook Update/Game Plan 2028 projects and actions would be reviewed for consistency with local and State geotechnical regulations prior to final siting and construction. In addition, new structures would be required to comply with SMC Section 18.20.100 and Chapter 16.16to address applicable unstable soil conditions. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to risks associated with unstable geologic units or 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not involve the development of habitable structures and, thus, no use of septic tanks or alternative wastewater disposal systems would be required. Therefore, ***no impact*** would occur related to soil capability support of alternative wastewater disposal systems.

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[72] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (Accessed January 2024).

[73] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Section 18.20.100, Final or parcel map—Action before filing. https://ecode360.com/42728788?highlight=&searchId=16481596759239067#42728788 (accessed February 2024).

[74] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 16.16, Building Code. https://ecode360.com/42720766?highlight=&searchId=16482460774455457#42720766 (accessed February 2024).

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

Sunnyvale's underlying geology consists of basin and alluvial deposits that have the potential to contain fossils, based on previously reported finds in similar materials in other locations in the Bay Area. Because Sunnyvale is largely developed, it is likely there has been a substantial amount of ground disturbance and placement of fill that has altered the subsurface soils and underlying geologic materials at varying depths. However, if a large area were excavated to depths greater than 10 feet, it is possible the excavation could be within Holocene-age deposits or older Pleistocene alluvial materials that could contain fossils.[75] Policy LT-1.10 of the General Plan Land Use and Transportation Element establishes the City's commitment to the protection of the natural and human environment in Sunnyvale, and Action LT-1.10f requires work stoppage during construction of projects if archaeological or paleontological resources are discovered, investigation by a qualified professional, and implementation of measures to protect the resource.[76]

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to paleontological resources. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 would not involve land use or zoning changes but would instead promote infrastructure development and redevelopment primarily within previously developed areas of the City. As a policy document, the Sunnyvale Playbook Update/Game Plan 2028 would not directly result in impacts related to paleontological resources or unique geologic features. Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves that would involve construction activities, such as those related to building electrification retrofits (Play 2.2) and EV charging infrastructure (Play 3.3), would involve work within existing, previously graded and disturbed areas where the likelihood of encountering intact and previously undiscovered paleontological resources would be minimal. In general, Sunnyvale Playbook Update/Game Plan 2028 projects would be located and designed to reduce ground disturbance to the maximum extent possible. Nonetheless, there is a possibility that small-scale construction projects may expose paleontological resources during ground-disturbing activities. To reduce such risks, future Sunnyvale Playbook Update/Game Plan 2028-related projects would be reviewed for consistency with geotechnical and paleontological policies and regulations prior to final siting and construction, including General Plan Action LT-1.10f. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to paleontological resources or unique geologic features.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts. Future Sunnyvale Playbook Update/Game Plan 2028-related projects, in combination with other cumulative projects that occur to accommodate the City's anticipated population, employment, and housing growth, could expose additional people

[75] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed January 2024).

[76] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

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 Sunnyvale Playbook Update/Game Plan 2028, 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 related 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 project-by-project basis. Furthermore, compliance with existing regulations, including CBC requirements, City-issued permit requirements, the Sunnyvale General Plan, the CMC, and/or Construction General Permit requirements, would minimize potential cumulative seismic and geologic hazard impacts. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to geology and soils.

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?	☐	☐	■	☐
b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	☐	☐	☐	■

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 CO_2, methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride, hydrofluorocarbons, and perfluorinated compounds. Combustion of fossil fuels (gasoline, natural gas, and coal), deforestation, and decomposition of waste release carbon into the atmosphere that had been locked underground and stored in oil, gas, and other hydrocarbon deposits or in the biomass of surface vegetation. Since 1750, estimated concentrations of CO_2, CH_4, and N_2O 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 forest fires, and more frequent and severe drought years.[77] Although GHG emissions do not

[77] 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. https://www.researchgate.net/profile/Seth-Shonkoff/publication/237420289_ENVIRONMENTAL_HEALTH_AND_EQUITY_IMPACTS_FROM_CLIMATE_CHANGE_AND_MITIGATION_POLICIES_IN_CALIFORNIA_A_REVIEW_OF_THE_LITERATURE/links/0deec533acf69321ea000000/ENVIRONMENTAL-HEALTH-AND-EQUITY-

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.[78]

Sunnyvale has completed a communitywide GHG emissions inventory for 2019, which is summarized in Table 1. In 2019, communitywide GHG emissions totaled 716,382 MT of CO_2e, with the transportation sector contributing approximately 52 percent of overall GHG emissions, followed by nonresidential and residential energy use. Under the business-as-usual scenario, communitywide GHG emissions are forecasted to increase to approximately 931,298 MT of CO_2e by the year 2030 and 1,259,700 MT of CO_2e by the year 2045. Implementation of the Sunnyvale Playbook Update/Game Plan 2028 alongside State laws and programs would reduce annual communitywide GHG emissions to approximately 419,818 MT of CO_2e by the year 2030 and 417,347 MT of CO_2e by the year 2045.

The Plays and Moves included in the Sunnyvale Playbook Update/Game Plan 2028 combined with Statewide legislation and initiatives would enable the City of Sunnyvale to meet its target of reducing communitywide GHG emissions output to 56 percent below 1990 levels by 2030, which exceeds the State target of 40 percent below 1990 levels by 2030 pursuant to SB 32. Because SB 32 is considered an interim target toward meeting the 2045 State goal of carbon neutrality, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would be considered substantial progress toward meeting the State long-term 2045 goal. Avoiding interference with, and making substantial progress toward, these long-term State targets is 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 Sunnyvale Playbook Update/Game Plan 2028 includes Strategies, Plays, and associated Moves intended to reduce communitywide GHG emissions in terms of the building energy, transportation, waste/water, and carbon sequestration sectors. The Playbook/Game Plan also includes strategies related to community engagement and climate adaptation. Implementation of the Sunnyvale Playbook Update/Game Plan 2028 would result in the reduction of communitywide operational GHG emissions, while only generating temporary GHG emissions during construction of infrastructure such as EV charging stations and building energy efficiency upgrades. Additionally, the Sunnyvale Playbook Update/Game Plan 2028 would serve as a pathway to reduce GHG emissions and introduce other beneficial environmental and sustainability effects. These benefits include

IMPACTS-FROM-CLIMATE-CHANGE-AND-MITIGATION-POLICIES-IN-CALIFORNIA-A-REVIEW-OF-THE-LITERATURE.pdf (accessed February 2024).

[78] State of California. 2019. California's Fourth Climate Change Assessment Statewide Summary Report. http://www.climateassessment.ca.gov/state/ (accessed February 2024).

reduction in building energy consumption, vehicle miles traveled (and thus air pollution), solid waste generation, and water consumption. The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning and, thus, would not result in construction or operational impacts related to GHG emissions. The CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the goals established by the Sunnyvale Playbook Update/Game Plan 2028 that are enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in Sunnyvale. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 2022 Climate Change Scoping Plan outlines a pathway for achieving the 2045 carbon neutrality goal established by AB 1279. The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are policy-level documents that establish policies to reduce GHG emissions within Sunnyvale in an effort to comply with State regulations. As discussed under *Response 8a*, the Sunnyvale Playbook Update/Game Plan 2028 includes Plays and Moves that would reduce Sunnyvale GHG emissions from forecasted BAU annual levels to approximately 419,818 MT of CO_2e by 2030. The purpose of the Sunnyvale Playbook Update/Game Plan 2028 is to meet Sunnyvale'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 by the 2022 Scoping Plan and AB 1279.

The Sunnyvale Playbook Update/Game Plan 2028 would not conflict with any applicable GHG reduction plans, including the CARB 2022 Climate Change Scoping Plan. The Sunnyvale Playbook Update/Game Plan 2028 identifies how the City would achieve consistency with the Statewide GHG emissions reduction goals. The Sunnyvale Playbook Update/Game Plan 2028 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, VMT (and thus air pollution), solid waste generation, and water consumption. Likewise, the CEQA GHG Emissions Thresholds would establish GHG emissions targets and analysis methodologies consistent with the Sunnyvale Playbook Update/Game Plan 2028 and would be enforced during CEQA review with the intention of reducing GHG emissions associated with construction and operation of future projects and plans in the City. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with applicable GHG emissions reduction plans, policies, and regulations.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). Analyses of GHG emissions and climate change are cumulative in nature, as they affect the accumulation of GHG emissions in the atmosphere. Cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth and that exceed the proposed CEQA GHG Emissions Thresholds would have a significant impact related to GHG emissions and climate change, both individually and cumulatively. The Sunnyvale Playbook Update/Game Plan 2028 creates a GHG emissions reduction strategy (consistent with Section 15183.5 of the CEQA Guidelines) for

Sunnyvale. The Sunnyvale Playbook Update/Game Plan 2028 also includes a series of Plays and Moves that are intended to reduce communitywide GHG emissions by approximately 56 percent below 1990 levels by 2030 and that provides substantial progress toward Sunnyvale meeting State carbon neutrality goals by 2045. As such, the Sunnyvale Playbook Update/Game Plan 2028 would result in the reduction of GHG emissions rather than generating GHG emissions. Some GHG emissions would occur during future construction of Sunnyvale Playbook Update/Game Plan 2028-related infrastructure projects; however, these emissions would be temporary and minor in nature. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Thresholds would result in a ***less-than-significant cumulative impact*** related to GHG emissions.

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?	☐	☐	■	☐
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?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	■	☐
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?	☐	☐	■	☐
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?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	■

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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to hazardous materials. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing Plays and Moves to reduce GHG emissions. The Sunnyvale Playbook Update/Game Plan 2028 does not involve identified site-specific development and, for the most part, would not facilitate new development that would involve the routine use of hazardous materials. Implementation of some of the Sunnyvale Playbook Update/Game Plan 2028 actions, such as building electrification and energy efficiency retrofits and installation of EV charging stations, 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 are regulated by 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. Thus, construction activities related to Sunnyvale Playbook Update/Game Plan 2028 actions would not be anticipated to create upset and accident conditions involving the release of hazardous materials, and operation of the majority of Sunnyvale Playbook Update/Game Plan 2028-related projects would not involve the routine transport, use, or disposal of hazardous materials during operation.

Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 emphasize increasing local renewable energy production and battery energy storage facilities within the City. Lithium-ion batteries, the typical battery technology used in battery storage systems, may pose a risk of upset and accidental release of hazardous chemicals contained within the batteries (e.g., in the event of a fire). 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 renewable energy systems. Future proposed battery energy storage facilities would, thus, be carefully reviewed for appropriate locations, safety measures, and consistency with the Sunnyvale General Plan, SMC, and applicable local, State, and federal regulations. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to creation of 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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to handling hazardous materials in the vicinity of schools. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing Plays and Moves to reduce GHG emissions. The Sunnyvale Playbook Update/Game Plan 2028 does not include site-specific proposals and development. Implementing some Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves may require future development or improvements, such as EV charging stations and building improvements related to energy efficiency. However, Sunnyvale Playbook Update/Game Plan 2028 projects would be reviewed to confirm the appropriate location of projects in relation to existing development in the City and would be reviewed for consistency with the Sunnyvale General Plan, SMC, and applicable local, State, and federal regulations. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to handling of hazardous materials within 0.25 mile of 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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to project site location on a site listed on a hazardous material site. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing Plays and Moves to reduce GHG emissions. The Sunnyvale Playbook Update/Game Plan 2028 does not include site-specific proposals or non-infrastructure development, but certain Plays and Moves could result in projects that could be located on listed hazardous materials sites. However, Sunnyvale Playbook Update/Game Plan 2028-related projects would be reviewed for consistency with the Sunnyvale General Plan and SMC and would be required to comply with applicable local, State, and federal regulations related to hazardous materials sites. In addition, future Sunnyvale Playbook Update/Game Plan 2028 projects would be required to comply with applicable local, State, and federal regulations pertaining to hazardous materials, such as those discussed under *Response 9a*. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Thresholds 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?

Sunnyvale does not contain any airports. The nearest airport to Sunnyvale is the Moffett Federal Airfield, located immediately west of the City's northern limits. Although Moffett Federal Airfield is located adjacent to the City, the CEQA GHG Emissions Thresholds and Sunnyvale Playbook Update/Game Plan 2028 are policy documents 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are policy documents intended to reduce GHG emissions. The proposed Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds do not involve site-specific development, nor would they facilitate new development that would interfere with adopted emergency plans. Implementation of some Sunnyvale Playbook Update/Game Plan 2028 Plays, such as Play 3.2, which would provide for the addition of new bicycle and pedestrian infrastructure, may involve construction within a 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 a 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 SMC Chapter 13.08.[79] Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 Santa Clara Operational Area Hazard Mitigation Plan- Sunnyvale Annex, Sunnyvale is urbanized and is categorized as having no risk of wildland fire.[80] The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds do not propose specific development or new residential or commercial land uses that could be subject to wildland fire, nor would they result other physical changes to the environment that could increase the risk of a wildland fire. Therefore, the Update and CEQA GHG Emissions Thresholds would result in ***no impact*** related to risks associated with exposure to wildland fires.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to hazardous materials and hazards. Hazards and hazardous materials impacts are typically site-specific in nature. Future Sunnyvale Playbook Update/Game Plan 2028 projects, in combination with other cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth, are not anticipated to contribute to cumulative hazards and hazardous materials impacts with adherence to

[79] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 13.08, Right-of-Way Encroachments. https://ecode360.com/42719687?highlight=encroachments&searchId=16491543957131113#42719687 (accessed February 2024).

[80] County of Santa Clara. 2017. Santa Clara Operational Area Hazard Mitigation Plan; Volume 2—Partner Annexes. https://sunnyvaleca.legistar.com/LegislationDetail.aspx?ID=3216998&GUID=7E0A85F2-3134-4300-B6FC-DF5ACC14A82C&FullText=1 (accessed February 2024).

applicable Sunnyvale General Plan policies, SMC requirements, and State and federal regulatory requirements. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***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?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
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:	☐	☐	■	☐
(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; or	☐	☐	■	☐
(iv) Impede or redirect flood flows?	☐	☐	■	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	■	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	■

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

The CEQA GHG Emissions Thresholds is a guidance document as does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to water quality standards. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing actions intended to reduce GHG emissions within the City and does not propose specific development or land use designation changes. Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 would result in the addition of solar PV and thermal energy systems, along with battery storage, within the City. Play 2.2 promotes electrification and energy efficiency upgrades for existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. Play 3.2 would encourage development of new bicycle and pedestrian infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Sunnyvale. Play 3.3 would incentivize or require the installation of new EV charging stations. In addition, Play 4.3 seeks to plant additional trees throughout Sunnyvale. These Plays may result in small scale construction activities in the future that could result in temporary water quality impacts due to soil erosion and ground disturbance, as further discussed under *Response 10c* and in Section 7, *Geology and Soils*.

However, Sunnyvale Playbook Update/Game Plan 2028 projects would be reviewed for consistency with local and State regulations, including the NPDES permitting program that requires implementation of SWPPPs and SMC Chapter 12.60 and Section 18.12.100 that regulate stormwater management and grading and include erosion, pollution, and sediment control standards.[81,82] These regulations require BMPs to reduce water quality impacts from construction activities. Compliance with the SMC and/or NPDES permitting program would require that BMPs are implemented during construction to minimize potential impacts to surface and groundwater quality. As such, the Sunnyvale Playbook Update/Game Plan 2028's related infrastructure and retrofit projects would not result in new or different waste discharge that would violate water quality standards, waste discharge requirements, or otherwise degrade surface or groundwater quality. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to surface or groundwater water quality in Sunnyvale.

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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to groundwater supplies. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 does not propose development or land use designation changes but rather is a policy document containing strategies intended to reduce GHG emissions and increase sustainability. Sunnyvale Playbook Update/Game Plan 2028 Play 4.2 seeks to decrease community water use through water efficiency retrofits and sustainable landscaping and irrigation. Reduced water use within Cupertino would aid in maintaining

[81] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 12.60, Stormwater Management. https://ecode360.com/42718154#42718154 (accessed February 2024).

[82] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Section 18.12.100, Grading. https://ecode360.com/42728788?highlight=&searchId=16481596759239067#42728788 (accessed February 2024).

groundwater supplies. Additionally, Play 4.3 directs the City to implement the Green Stormwater Infrastructure Plan, which would increase groundwater recharge. As such, implementing the Sunnyvale Playbook Update/Game Plan 2028 would have a beneficial effect related to local groundwater recharge as well as support groundwater management in Sunnyvale. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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:

- *Result in substantial erosion or siltation on- or off-site?*
- *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- *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?*
- *Impede or redirect flood flows?*

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to alterations in drainage patterns and impervious surfaces. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 does not propose specific development or land use designation changes but rather emphasizes strategies intended to reduce GHG emissions and increase sustainability in the City. Implementation of several Sunnyvale Playbook Update/Game Plan 2028 Plays may promote infrastructure development and small-scale construction activities within the City. Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 would result in the addition of solar PV and thermal energy systems, along with battery storage, within the City. Play 2.2 promotes electrification and energy efficiency upgrades for existing residential and commercial buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. Play 3.2 would encourage development of new bicycle and pedestrian infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Sunnyvale. Play 3.3 would incentivize or require the installation of new EV charging stations. In addition, Play 4.3 seeks to plant additional trees throughout the City that may require the use of construction equipment for the moving and placement of trees.

Implementation of these Sunnyvale Playbook Update/Game Plan 2028 Plays would primarily occur within previously developed areas and would not result in substantial alterations to Sunnyvale's existing drainage pattern and amount of impervious surface. Construction of Sunnyvale Playbook Update/Game Plan 2028 projects could result in erosion as discussed in Section 7, *Geology and Soils*. However, impacts related to drainage and water quality during construction would be minimized through the implementation of BMPs as required by the SMC and NPDES Construction General Permit program. In addition, Sunnyvale Playbook Update/Game Plan 2028 projects would be in accordance with the Sunnyvale General Plan Land Use and Transportation Element, which includes Policies LT-1.10, LT-9.19, and LT-10.5 for the protection and preservation of wetlands, creeks, and streams within Sunnyvale.[83] Furthermore, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3

[83] Sunnyvale, City of. 2022. General Plan Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed October 2023).

directs the City to implement the Green Stormwater Infrastructure Plan, which would improve drainage and water quality. As such, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not substantially alter drainage patterns or impervious surfaces within the City. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to erosion, flooding, and polluted runoff.

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

Portions of Sunnyvale are located within the 100-year floodplain designated by Federal Emergency Management Agency (FEMA). Therefore, areas of Sunnyvale are at risk of flooding.[84]

The Sunnyvale Playbook Update/Game Plan 2028 does not propose specific development or land use designation changes but rather emphasizes strategies intended to reduce GHG emissions and increase sustainability in Sunnyvale. Implementation of several Sunnyvale Playbook Update/Game Plan 2028 Plays may promote infrastructure development and small-scale construction activities within Sunnyvale. As described under *Response 10c*., Sunnyvale Playbook Update/Game Plan 2028 projects would not impede or redirect flood flows, and as discussed under *Response 9a. and 9b.* in Section 9, *Hazards and Hazardous Materials*, Sunnyvale Playbook Update/Game Plan 2028 projects would generally not involve the regular use or storage of hazardous materials with the exception of battery energy storage that include the storage of lithium-ion batteries. Future Sunnyvale Playbook Update/Game Plan 2028 projects, such as battery energy storage facilities, would be reviewed for compliance with the applicable local and State regulations related to flooding and hazardous materials use and storage, including the SMC and CBC standards for construction within flood-prone areas. SMC Chapter 16.62 regulates development in flood-prone areas and requires new structures built within a FEMA-designated Special Flood Hazard Area to meet requirements for flood resistance. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to obstruction of a water quality control plan. The Sunnyvale Playbook Update/Game Plan 2028 would not include projects that would result in the direct extraction of groundwater. Rather, the Sunnyvale Playbook Update/Game Plan 2028 encourages water savings through Play 4.2 and sustainable stormwater management and groundwater recharge through Play 4.3. The Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with a water quality control plan or sustainable groundwater management plan.

[84] Sunnyvale, City of. 2011. General Plan Safety and Noise Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/602/638370338402370000 (accessed February 2024).

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to hydrology. Future Sunnyvale Playbook Update/Game Plan 2028-related projects, in combination with other cumulative projects that occur to accommodate the City's anticipated population, employment, and housing growth, are not anticipated to contribute to cumulative hydrology and water quality impacts with adherence to applicable Sunnyvale General Plan policies and local, State, and federal regulatory requirements. Implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not contribute to an increase in development but could result in infrastructure development projects and minor construction activities. As such, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and other cumulative projects could have incremental impacts related to hydrology and water quality, such as erosion and sedimentation due to construction activities. However, the Sunnyvale Playbook Update/Game Plan 2028's contribution to such impacts would be minor and temporary, and the Sunnyvale Playbook Update/Game Plan 2028 would have the long-term effect of reducing water use and improving stormwater capture and groundwater recharge. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***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?	☐	☐	☐	■
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?	☐	☐	☐	■

a. Would the project physically divide an established community?

The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing strategies that are consistent with the Sunnyvale General Plan and does not include actions or specific development projects that would divide an established community. Sunnyvale Playbook Update/Game Plan 2028 Play 3.2 facilitates the provisioning of new bike and pedestrian infrastructure and amenities, improved public transit connectivity, and enhanced safety and active transportation throughout the community. Such actions would help to increase connectivity within the Sunnyvale community. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 Sunnyvale Playbook Update/Game Plan 2028 is a policy document and does not propose development or changes to land use and zoning designations and contains strategies that are consistent with the Sunnyvale General Plan, including General Plan Land Use and Transportation Element Policy LT-2.2 and Action LT-2.2a that direct the City to maintain and implement a CAP for GHG reduction and green development.[85] Nonetheless, implementing the Sunnyvale Playbook Update/Game Plan 2028 would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. For example, Sunnyvale Playbook Update/Game Plan 2028 Play 2.2 includes adoption of new building ordinance to require building electrification for existing developments. Play 3 would include adoption of an ordinance to phase out the use of gasoline- and diesel-powered off-road equipment. In addition, Play 4.2 would involve the adoption of new plans and policies related to water efficiency, recycled water, and water efficient landscaping. In order to implement these Plays, the SMC and other applicable City 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 and

[85] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

water, the Sunnyvale Playbook Update/Game Plan 2028 Plays would result in greater avoidance or reduction of environmental effects. Furthermore, future updates to existing policies or via new proposed policies would require a separate public review process and environmental review in accordance with applicable local and State regulations. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with current land use plans or policies.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are policy documents containing programs that are consistent with the City's General Plan goals to increase sustainability and reduce the City's contribution to climate change impacts. Nonetheless, implementing the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would require some modification of existing policies, including developing and implementing new programs, and projects, or modifying existing ones. The proposed policy changes are consistent with the intent of the goals and policies established within the City General Plan and would not cumulatively contribute to any environmental impacts. Cumulative projects, including the Sunnyvale Playbook Update/Game Plan 2028, would be required to adhere to City development regulations and Sunnyvale General Plan policies to retain land use character and minimize environmental impacts. Future Sunnyvale Playbook Update/Game Plan 2028-related projects and actions would be reviewed for consistency with the Sunnyvale General Plan, SMC, and other applicable regulatory land use actions prior to approval and would have the overall effect of greater avoidance or reduction of environmental effects. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no 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?	☐	☐	☐	■
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?	☐	☐	☐	■

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?

According to the Sunnyvale General Plan Land Use and Transportation Element, there are no active mines and no known areas with mineral resource deposits in Sunnyvale, and no minerals or aggregate resources of Statewide importance are located in Sunnyvale.[86] Furthermore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not facilitate projects within the City that could result in the loss of availability of known mineral resources. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to mineral resources.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). The Sunnyvale General Plan does not identify mineral resources or active mineral resource extraction operations within the City. As such, Sunnyvale Playbook Update/Game Plan 2028 projects and the CEQA GHG Emissions Thresholds, in combination with other cumulative projects that occur to accommodate the anticipated population, housing, and employment forecasts of the City, would not contribute to cumulative impacts related to mineral resources. Thus, implementation of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no cumulative impact*** related to mineral resources.

[86] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed December 2023).

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?	☐	☐	■	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
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?	☐	☐	☐	■

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 Sunnyvale General Plan Safety and Noise Element identifies roadway vehicles as Sunnyvale's main source of noise, followed by Moffett Federal Airfield, the Caltrain corridor, and San Jose International Airport. The Sunnyvale General Plan Safety and Noise Element and SMC Section 19.42.030 aim to ensure appropriate noise levels considered compatible for community noise environments.[87, 88] The City's normally acceptable exterior noise exposure standards are shown in Table 6.

Table 6 Exterior Noise Compatibility Standards

Land Use Type	Highest Level of Exterior Noise Exposure that is Regarded as "Normally Acceptable" (L_{dn})
Residential: Low- Density Detached Single-Family Homes, Duplexes, Mobile Homes	60 dBA
Other Residential: Townhomes, Multi-Family Apartments, Condominiums, and all other residential	65 dBA
Lodging: Motels and Hotels	70 dBA
Outdoor Activities: Golf Courses, Cemeteries, Parks	75 dBA
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	70 dBA
Office Buildings, Commercial and Professional Businesses	70 dBA
Auditoriums, Concert Halls, Amphitheaters, Sports Arena, Outdoor Spectator Sports	70 dBA
Industrial, Manufacturing, Utilities	75 dBA

Source: Sunnyvale General Plan Safety and Noise Element, Figure 6-6

Construction noise is regulated by SMC Section 16.08.030, which provides an exemption to the noise regulations for construction occurring between the hours of 7:00 am and 6:00 pm on weekdays and 8:00 am and 5:00 pm on Saturdays. Construction is prohibited on Sundays.[89] No loud environmentally disruptive noises, such as air compressors without mufflers, continuously running motors or generators, loud playing musical instruments, radios, etc., is allowed where such noises may be a nuisance to adjacent residential neighborhoods. SMC Section 19.42.030 regulates operational noise within residential and nonresidential areas of the City and provides special exceptions to the noise limits for powered equipment, leaf blowers, deliveries, warning sounds, and other activities.[90]

[87] Sunnyvale, City of. 2011. General Plan Safety and Noise Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/602/638370338402370000 (accessed February 2024).

[88] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Section 19.42.030, Noise or sound level. https://ecode360.com/42730950?highlight=&searchId=1674280784088171 9#42730950 (accessed February 2024).

[89] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Section 16.08.030, Hours of construction—Time and noise limitations. https://ecode360.com/42720748?highlight=&searchId=1674240686622412 0#42720748 (accessed February 2024).

[90] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Section 19.42.030, Noise or sound level. https://ecode360.com/42730950?highlight=&searchId=1674280784088171 9#42730950 (accessed February 2024).

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to excessive noise levels. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing programs that are consistent with the General Plan. Some of the Sunnyvale Playbook Update/Game Plan 2028 Plays would support small-scale construction projects that could result in temporary noise. Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 would result in the addition of solar PV and thermal energy systems, along with battery storage, within the City. Play 2.2 promotes electrification of existing residential, commercial, and municipal buildings, which may require minor construction to modify the electrical and natural gas connections to existing buildings. Play 3.2 would encourage development of new bicycle and pedestrian infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Sunnyvale. Play 3.3 would incentivize or require the installation of new EV charging stations. In addition, Play 4.3 seeks to increase the number of trees throughout Sunnyvale, which may require the use of construction equipment for the moving and placement of trees. However, future Sunnyvale Playbook Update/Game Plan 2028-related projects would be reviewed for consistency with the Sunnyvale General Plan and SMC, and construction activities would be required to comply with the provisions of SMC Section 16.08.030, including the permitted construction hours. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 would not result in significant construction noise impacts.

The Sunnyvale Playbook Update/Game Plan 2028 does not include future projects that would result in substantial operational noise. Rather, the Sunnyvale Playbook Update/Game Plan 2028 encompasses a suite of GHG-reduction opportunities, including those that affect the transportation sector and its associated noise. For example, Sunnyvale Playbook Update/Game Plan 2028 Plays 3.3 and 3.4 encourage adoption of EVs and electric small engine and off-road equipment that are quieter than gas-powered alternatives. In addition, Plays 3.1 and 3.2 seek to reduce VMT in the City and facilitate improvements to bicycle, pedestrian, and public transit circulation to increase active transportation and transit ridership. These Plays would reduce roadway vehicle-related noise in Sunnyvale that is the major source of noise pollution identified in the General Plan Safety and Noise Element.[91] Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not generate excessive 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.[92] Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from

[91] Sunnyvale, City of. 2011. General Plan Safety and Noise Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/602/638370338402370000 (accessed February 2024).

[92] Caltrans. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf (accessed February 2024).

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.[93] 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 7.

Table 7 Human Response to Different Levels of Groundborne Vibration[94]

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 Transit Noise and Vibration Impact Assessment Manual

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to groundborne vibration. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing programs that are consistent with the Sunnyvale General Plan. Some of the proposed Sunnyvale Playbook Update/Game Plan 2028 Plays would support small-scale construction projects, such as EV charging station construction and new bicycle lanes, that may result in a temporary, minor increase in groundborne vibration during construction. However, Sunnyvale Playbook Update/Game Plan 2028 projects would be subject to review by the City for compliance and consistency with SMC Section 19.42.060, which regulates vibration in the City, and construction activities would be required to comply with applicable local, State, and federal regulations to minimize temporary construction impacts related to groundborne vibration.[95] Furthermore, Sunnyvale Playbook Update/Game Plan 2028 projects would not include operational sources of groundborne vibration. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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?

[93] Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm (accessed February 2024).

[94] Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed February 2024).

[95] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Section 19.42.060, Ground vibration regulated. https://ecode360.com/42730957?highlight=&searchId=1674449726465578#42730957 (accessed February 2024).

Sunnyvale does not contain any airports but is located adjacent to the Moffett Federal Airfield. The Santa Clara County Airport Land Use Commission (ALUC) has advisory powers over new land uses in the vicinity of airports and establishes 65 dBA CNEL as the maximum allowable noise level considered compatible with residential uses. The unacceptable noise areas resulting from Moffett Federal Airfield are contained within the airport.[96] The CEQA GHG Emissions Thresholds and Sunnyvale Playbook Update/Game Plan 2028 are policy documents 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 from Moffett Federal Airfield. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to aviation-related noise exposure.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are policy documents containing programs that are consistent with the Sunnyvale General Plan Safety and Noice Element. As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to noise. However, future Sunnyvale Playbook Update/Game Plan 2028-related projects, in combination with other cumulative projects that occur to accommodate Sunnyvale's anticipated population, housing, and employment growth, 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 Sunnyvale Playbook Update/Game Plan 2028 projects, would be subject to review by the City for compliance with the Sunnyvale General Plan and SMC and would be required to comply with applicable local, State, and federal regulations governing construction noise and vibration. Additionally, the Sunnyvale Playbook Update/Game Plan 2028 encompasses a suite of GHG-reduction opportunities that would decrease VMT and roadway vehicle-related noise. As such, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would not generate permanent, excessive groundborne vibration or noise levels. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to noise.

[96] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed February 2024).

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)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are policy documents and do not propose development or changes to land use and zoning designations. Thus, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would not result in construction or operational impacts related to substantial unplanned population growth or the displacement of existing people or housing. In addition, the Sunnyvale Playbook Update/Game Plan 2028 does not propose new roadways or utilities that could indirectly lead to new population growth or development. As such, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not directly increase the population, indirectly induce additional unplanned population growth, or displace people or housing. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to population and housing.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in any development or land use changes that could result in cumulative impacts related to population and housing. Similarly, future Sunnyvale Playbook Update/Game Plan 2028 projects, in combination with other cumulative development that occurs to accommodate Sunnyvale's anticipated population, employment, and housing growth, are not anticipated to displace people or housing nor induce substantial unplanned

population growth within the City. Specifically, the Sunnyvale Playbook Update/Game Plan 2028 would not contribute to person or housing displacement in Sunnyvale nor result in population growth beyond that already assumed and planned for in the Sunnyvale General Plan and in accordance with Sunnyvale 2040 population projections. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no cumulative impact*** related to population and housing.

15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	■

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:

- Fire protection?
- Police protection?
- Schools?
- Parks?
- Other public facilities?

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning designations. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to public services. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing programs that are consistent with the Sunnyvale General Plan and does not propose specific development or changes to land use and zoning designations. Implementation of the Sunnyvale Playbook Update/Game Plan 2028 and its proposed Plays and Moves would not result in increases in population or new employment opportunities that could induce population growth, as further

discussed in Section 14, *Population and Housing*. As such, the Sunnyvale Playbook Update/Game Plan 2028 would not require the construction of new or physically altered governmental (i.e., fire protection, police protection, schools, parks, libraries) facilities to serve additional population, the construction of which could cause significant environmental impacts. Sunnyvale Playbook Update/Game Plan 2028 Plays 6.1 through 6.3 would help to increase community resiliency, reduce vulnerability to the impacts of climate change, and mitigate hazards such as flooding within Sunnyvale, thereby reducing the burden on local public services related to such natural disasters. Furthermore, future Sunnyvale Playbook Update/Game Plan 2028 projects and actions would be reviewed for consistency with the Sunnyvale General Plan and other applicable local and State regulations related to public services. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts related to public services and facilities. Likewise, implementation of future Sunnyvale Playbook Update/Game Plan 2028 projects, in combination with other cumulative development that occurs to accommodate Sunnyvale's anticipated population, employment, and housing growth, would not result in increases in population or induce additional population growth beyond that assumed under the Sunnyvale General Plan and 2040 population projections. As such, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would not result in cumulative need to construct or expand public services facilities. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no 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?	☐	☐	☐	■
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

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?

Sunnyvale is a primarily urbanized community with parks and recreational spaces incorporated throughout the City. About 770 acres, over 7 percent of the area within Sunnyvale's incorporated City limits, is devoted to park and recreation facilities owned or maintained by the City for public use, including 22 neighborhood parks (176 acres) and nine special use facilities (264 acres). The City has a recreational standard of 5.2 acres per 1,000 residents, which is within the National Recreation and Park Association (NRPA) guidelines of four to six acres of open space per 1,000 residents.[97] The Sunnyvale General Plan Land Use and Transportation Element and Community Character Element identify policies and actions such as Policies LT-9.1 through LT-9.9 and LT-10.1 through LT-10.4, to manage the local parks and recreational facilities and protect open space resources within Sunnyvale.[98, 99]

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to parks or recreational facilities. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing Plays and Moves, such as Moves 4.L and 4.M to increase trees and green stormwater infrastructure and Moves 6.B and 6.C to protect the shoreline and expand tidal and salt marshes, that are consistent with

[97] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed February 2024).

[98] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

[99] Sunnyvale, City of. 2011. Community Character Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/598/637819113519200000 (accessed February 2024).

Sunnyvale's General Plan, including its recreation and open space policies. Additionally, as described in Section 14, *Population and Housing*, the Sunnyvale Playbook Update/Game Plan 2028 would not result in substantial population growth or direct land use changes. As such, implementation of the Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Thresholds would result in ***no impact*** related to recreation in terms of construction of or need for the construction of new or altered recreational facilities.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts related to parks and recreational facilities. Likewise, implementation of future Sunnyvale Playbook Update/Game Plan 2028 projects, in combination with other cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth, would not result in increases in population or induce additional population growth beyond that assumed under the Sunnyvale General Plan and 2040 population projections. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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?	☐	☐	☐	■
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	■
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	■	☐
d. Result in inadequate emergency access?	☐	☐	■	☐

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 Sunnyvale General Plan Land Use and Transportation Element includes the following goals:

- **Goal LT-1:** Coordinated regional and local planning.
- **Goal LT -2:** Environmentally sustainable land use and transportation planning and development.
- **Goal LT -3:** An effective multimodal transportation system.
- **Goal LT -4:** An attractive community for residents and businesses.
- **Goal LT -5:** Creation, preservation, and enhancement of Village Centers and neighborhood facilities that are compatible with residential neighborhoods.
- **Goal LT -6:** Protected, maintained, and enhanced residential neighborhoods.
- **Goal LT -7:** Diverse housing opportunities.
- **Goal LT -8**: Options for healthy living.
- **Goal LT -9**: Adequate and balanced recreation facilities.
- **Goal LT -10:** Regional approach to providing and receiving open space.
- **Goal LT -11:** Supportive economic development environment.
- **Goal LT -12:** A balanced economic base.
- **Goal LT -13:** Protected, maintained, and enhanced commercial areas, shopping centers, and business districts.

- **Goal LT -14:** Special and unique land uses to create a diverse and complete community.[100]

Additionally, the City adopted the Active Transportation Plan in 2020, which includes plans for bicycle, pedestrian, and safe routes to school programs, with a main goal to assist the City in creating a safe, connected, and efficient Citywide walking and bicycling network. The Active Transportation Plan also implements the Sunnyvale General Plan goals, policies, and actions related to complete streets by building a blueprint for a system of bikeways and pedestrian facilities across Sunnyvale.[101]

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to conflict with a program, plan, ordinance, or policy addressing the transportation circulation system. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing strategies and policies that are consistent with the Sunnyvale Land Use and Transportation Element and Active Transportation Plan. Sunnyvale Playbook Update/Game Plan 2028 Play 3.2 facilitates the continued implementation of the Active Transportation Plan and the development of new bicycle and pedestrian facilities, including bike and pedestrian paths and bike share and scooter share. Play 3.2 also emphasizes improvements to the public transit system and first-last-mile connections to increase transit ridership. Additionally, Sunnyvale Playbook Update/Game Plan 2028 Play 3.1, along with Play 3.2, would reduce VMT within the City, aligning with the goals of the General Plan and Active Transportation Plan.

The Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would advance active transportation and public transit within Sunnyvale and decrease VMT and associated air pollutants and GHG emissions. The Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would be consistent with the Sunnyvale General Plan Land Use and Transportation Element and Active Transportation Plan goals related to improving multi-modal facilities, reducing VMT and single-occupancy vehicles, encouraging active transportation, and reducing vehicle congestion within Sunnyvale. Furthermore, the Sunnyvale Playbook Update/Game Plan 2028 would seek to reduce VMT within Sunnyvale, consistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to consistency with plans and policies 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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to risk associated with transportation design, incompatible use, or emergency access. The Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing strategies that are consistent with the Sunnyvale General Plan, including the Land Use and Transportation Element, and would not facilitate development beyond that allowed under the General Plan. Implementation of some

[100] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

[101] Sunnyvale, City of. 2020. Sunnyvale Active Transportation Plan. https://www.sunnyvale.ca.gov/home/showpublisheddocument/2844/637822670426570000 (accessed October 2023).

Sunnyvale Playbook Update/Game Plan 2028 Plays, such as Play 3.2 that would provide for new bicycle and pedestrian facilities, may 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 coordinate with the City to ensure appropriate construction staging and adequate emergency access on adjacent roadways pursuant to SMC Chapter 13.08.[102] Compliance with the SMC would minimize impacts related to the circulation system design, including safety impacts and emergency access, would not occur. As such, construction of Sunnyvale Playbook Update/Game Plan 2028 projects would not create transportation design hazards or result in inadequate emergency access. Furthermore, the Sunnyvale Playbook Update/Game Plan 2028 would facilitate increased active transportation and public transit use and decreased VMT within Sunnyvale, which in turn would reduce potential transportation hazards and congestion conditions that can hinder emergency response. Thus, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to transportation hazards and emergency access.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth could result in increases in VMT or changes affecting traffic design safety and emergency access. However, the Sunnyvale Playbook Update/Game Plan 2028 is a policy document containing programs that are consistent with the General Plan and other applicable transportation policies and does not propose new development that would increase VMT, result in design hazard, or affect emergency access. Rather, the Sunnyvale Playbook Update/Game Plan 2028 Plays and Moves would promote alternative modes of transportation and reduction of VMT throughout Sunnyvale, consistent with goals contained in the General Plan Land Use and Transportation Element and Active Transportation Plan. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to transportation.

[102] Sunnyvale, City of. 2024. Sunnyvale Municipal Code Chapter 13.08, Right-of-Way Encroachments. https://ecode360.com/42719687?highlight=encroachments&searchId=16491543957131113#42719687 (accessed February 2024).

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:				
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	☐	☐	■	☐
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?	☐	☐	■	☐

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 January 18 and 22, 2024, the eight following Native American Heritage Commission (NAHC)-identified local Native American tribal groups were formally notified via certified mail and email that

the City initiated environmental review of the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds and were invited to provide consultation:

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- North Valley Yokuts Tribe
- Tamien Nation
- The Ohlone Indian Tribe
- Wuksache Indian Tribe/Eshom Valley Band

The City also sent follow up emails to the tribes on February 1, 2024. Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. The only response received was from the Amah Mutsun Tribal Band that emailed the City on February 1, 2024 indicating that the plan area is outside of the tribe's traditional boundaries.

The CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to tribal cultural resources. Likewise, the Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale. As a policy document, the Sunnyvale Playbook Update/Game Plan 2028 would also not directly entail ground disturbing activities. However, future implementation of Sunnyvale Playbook Update/Game Plan 2028 actions related to existing building energy, active transportation, renewable energy, and tree planting may include construction activities with the potential to disturb previously undiscovered tribal cultural resources, as discussed further below.

Electrification retrofits associated with Sunnyvale Playbook Update/Game Plan 2028 Play 2.2 may change the physical environment through the need for upgraded service and electrical panels, branch circuit upgrades, installation of condensate drains to facilitate the installation of electric heat pumps for water and space heating, and ground disturbance to remove nature gas infrastructure. 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.

Sunnyvale Playbook Update/Game Plan 2028 Play 3.2 would encourage development of new bicycle and pedestrian infrastructure, which may involve construction activities to create new bike lanes and bike/pedestrian paths throughout Sunnyvale. Installation of new bike and pedestrian facilities would primarily impact previously disturbed areas within the public rights-of-way. However, the physical changes these enhancements would entail are dependent on the location of construction, which in some cases may include minor temporary excavation and grading.

Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2 and 1.3 would result in the addition of solar PV and thermal energy systems, along with battery storage, within the City. These would primarily entail the installation of small-scale systems on existing developed sites. Additionally, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 seeks to plant additional trees throughout the City,

which may require the use of construction equipment for the moving and placement of trees. These actions could result in ground disturbance related to the construction of new infrastructure and planting of new trees.

Implementation of these Sunnyvale Playbook Update/Game Plan 2028 actions could impact unknown tribal cultural resources during construction that involves below-grade activities in previously undisturbed soils. However, future Sunnyvale Playbook Update/Game Plan 2028 projects would be located and designed strategically to reduce ground disturbance to the maximum extent possible. In addition, Sunnyvale Playbook Update/Game Plan 2028 projects and actions 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 comply with Sunnyvale General Plan Policy LT-1.10 and Action LT-1.10f, which includes a requirement that projects halt all ground-disturbing activities when unusual amounts of shell or bone, isolated artifacts, or other similar features are discovered and retain a qualified professional to determine the significance of the finding and implement mitigation measures.[103] 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to tribal cultural resources.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in construction projects and would not affect tribal cultural resources. Future Sunnyvale Playbook Update/Game Plan 2028 projects, in combination with other cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth, could increase the potential for adverse effects to unknown tribal cultural resources in Sunnyvale. 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. Sunnyvale Playbook Update/Game Plan 2028 projects and other cumulative projects would be required to comply with Sunnyvale General Plan Policy LT-1.10 and Action LT-1.10f, for the protection and proper treatment of any cultural resources discovered during ground disturbance, which would minimize the potential for significant impacts to tribal cultural resources. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant cumulative impact*** related to tribal cultural resources.

[103] Sunnyvale, City of. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	■	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	■
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?	☐	☐	☐	■
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?	☐	☐	☐	■
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	■

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 Sunnyvale Playbook Update/Game Plan 2028 is a policy document aimed at reducing water, solid waste, and energy consumption and related GHG emissions and does not propose development or changes to land use and zoning designations or include site-specific infrastructure designs or project proposals. Furthermore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would not result in an increase in population and housing, nor would it facilitate growth beyond that anticipated by the Sunnyvale General Plan and 2040 Plan Bay Area

projections. As such, implementing the Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 could include redevelopment and/or restructuring of electricity and natural gas power facilities and infrastructure, as well as new local renewable energy generation and storage and water infrastructure projects. Potential impacts related to these strategies are discussed further as follows by utility facilities topic.

Water Supply Facilities/Infrastructure

Sunnyvale has three sources of potable water supply: surface water from the San Francisco Public Utilities Commission (SFPUC), treated surface water from the Santa Clara Valley Water District (SCVWD), and groundwater. Recycled water produced at the City's Water Pollution Control Plant (WPCP) makes up the remaining part of the water portfolio.[104] The Sunnyvale 2020 Urban Water Management Plan projects that the City will have adequate water supplies for normal, single dry year, and multiple dry year scenarios through 2040.[105]

The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not result in new land uses that would contribute to an increase in water use compared to existing conditions. Rather, Sunnyvale Playbook Update/Game Plan 2028 Play 4.2 seeks to decrease water consumption and increase the resilience of the Sunnyvale water supplies. In addition, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 would increase green stormwater infrastructure in the City, improving water infiltration and groundwater recharge. As such, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in reduced water use and, thus, relocation or construction of new or expanded water facilities would not be required. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to need for the construction or expansion of water supply facilities and infrastructure.

Wastewater Treatment Facilities/Infrastructure

The City owns and operates the Donald M. Sommers Water Pollution Control Plant located at 1444 Borregas Avenue in Sunnyvale. The Water Pollution Control Plant treats wastewater from residential, commercial, and industrial sources in Sunnyvale, the Rancho Rinconada portion of Cupertino, and Moffett Federal Airfield. Treated wastewater is discharged to the southern San Francisco Bay via the Guadalupe Slough. Five major trunk networks terminate at the WPCP, referred to as the Lawrence, Borregas, Lockheed, Moffett, and Cannery trunks.[106] The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not result in new land uses that would generate sanitary wastewater or otherwise contribute to an increase in wastewater treatment requirements. The amount or characteristics of wastewater treated at the WPCP or by the City of Sunnyvale would not change compared to existing conditions. As such, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not only reduce water use but also not require relocation or construction of new wastewater collection or treatment infrastructure. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG

[104] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed February 2024).
[105] Sunnyvale, City of. 2021. 2020 Urban Water Management Plan. https://www.sunnyvale.ca.gov/home/showpublisheddocument/380/637889141541470000 (accessed March 2024).
[106] *Ibid*

Emissions Thresholds would result in ***no impact*** related to need for the construction or expansion of wastewater facilities and infrastructure.

Stormwater Drainage Facilities/Infrastructure

The City of Sunnyvale maintains a system of storm drains, gutters, and ditches to convey stormwater generated during rain events. As discussed in Section 10, *Hydrology and Water Quality*, the Sunnyvale Playbook Update/Game Plan 2028 does not propose development or changes to land use and zoning designations and, thus, would not have direct construction or operational impacts related to stormwater drainage facilities. Implementation of Sunnyvale Playbook Update/Game Plan 2028 Plays 1.2, 1.3, 2.2, 3.2, 3.3, and 4.3 related to building electrification, renewable energy production and storage, transportation, water, and urban trees may promote infrastructure development that would involve small-scale construction. Construction of projects implemented in accordance with the Sunnyvale Playbook Update/Game Plan 2028 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*, Sunnyvale Playbook Update/Game Plan 2028 projects would be required to comply with local, State, and federal requirements during construction that would reduce stormwater runoff, erosion, and potential impacts to the stormwater drainage system. Furthermore, Sunnyvale Playbook Update/Game Plan 2028 Play 4.3 encourages the development of green stormwater infrastructure in the City, which would help to reduce stormwater flows to the City's drainage facilities. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to need for the construction or expansion of stormwater drainage facilities and infrastructure.

Electric Power Facilities/Infrastructure

Electric power service in the City is provided by SVCE using transmission infrastructure operated and maintained by Pacific Gas & Electric (PG&E). The Sunnyvale Playbook Update/Game Plan 2028 would not involve new land uses or development that require new or additional electric service. Sunnyvale Playbook Update/Game Plan 2028 Play 1.1 promotes the use of SVCE-supplied energy to increase the use of clean electricity, with a goal of 100 percent clean energy participation by 2030. Plays 1.2 and 1.3 support installation of small-scale solar PV and renewable energy systems and battery storage facilities throughout the City to provide greener renewable electricity. Sunnyvale Playbook Update/Game Plan 2028 Plays 2.1 through 2.3 promote energy efficiency upgrades and electrification of new and existing buildings. In addition, Play 3.3 encourages new EV infrastructure throughout the City. These Plays may alter electricity demand within Sunnyvale. However, the Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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 Sunnyvale. The Sunnyvale Playbook Update/Game Plan 2028 would not involve new land uses that require new or additional natural gas service that could require the construction of new or expanded natural gas facilities. Sunnyvale Playbook Update/Game Plan 2028 Plays 2.2 and 2.3 would encourage or require building electrification in

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. However, the Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a ***less-than-significant impact*** related to construction, removal, or relocation of natural gas power facilities and infrastructure.

Telecommunications Facilities/Infrastructure

Sunnyvale is served by existing telecommunications companies such as AT&T and Comcast. The Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 would result in ***no impact*** related to need for construction or expansion of telecommunication facilities and infrastructure.

Overall, the Sunnyvale Playbook Update/Game Plan 2028 would result in a ***less-than-significant impact*** related to need for construction, relocation, or expansion of utilities.

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 CEQA GHG Emissions Thresholds is a guidance document and does not propose development or changes to land use and zoning. Thus, implementation of the CEQA GHG Emissions Thresholds would not result in construction or operational impacts related to water supplies or wastewater. Sunnyvale Playbook Update/Game Plan 2028 is a policy-level document that does not propose development or changes to land use and zoning designations or 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 Sunnyvale Playbook Update/Game Plan 2028 contains Plays and Moves to reduce water use, such as Play 4.2, which includes actions to require water efficient fixtures and landscaping irrigation, promote graywater use, and education the community on water conservation, and Play 4.3, which would increase green stormwater infrastructure and groundwater infiltration in the City. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds 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?

The City contracts with Specialty Solid Waste and Recycling to provide solid waste collection services to residents and businesses in Sunnyvale. Collected waste is transported to the Sunnyvale Materials

Recovery and Transfer Station, where it is sorted to remove recyclable materials from mixed waste and prepare them and source-separated recyclables and compostable materials for shipment to markets. The City of Sunnyvale has an agreement for solid waste disposal with Waste Management of California that currently directs the City's waste to the Kirby Canyon Landfill. If, in the future, Waste Management of California closed the Kirby Canyon Landfill, Waste Management would be required to provide Sunnyvale disposal capacity at an alternative disposal site.[107] The Kirby Canyon Landfill has a remaining capacity of 16,191,600 cubic yards with a maximum daily throughput of 2,600 tons of waste and is permitted to operate through 2059.[108]

The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds do not propose development or changes to land use and zoning designations and would not facilitate increased development and, thus, would not result in an increase in solid waste collection and disposal demand. Rather, the Sunnyvale Playbook Update/Game Plan 2028 includes Play 4.1, which would reduce solid waste production, increase the diversion of organic and food waste, and increase participation in recycling programs in order to minimize waste being sent to the landfill. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to solid waste.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). As a guidance document, the CEQA GHG Emissions Thresholds would not result in cumulative impacts. Other cumulative projects that occur to accommodate Sunnyvale's anticipated population, employment, and housing growth could result in increases in population and additional use of or need for utilities and service systems. However, implementation of the CEQA GHG Emissions Thresholds and Sunnyvale Playbook Update/Game Plan 2028 and related infrastructure projects would not contribute to increases in population or induce additional population growth that would require additional use of existing utilities or service systems. Rather, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would result in reduced energy and water consumption and solid waste and wastewater generation. Therefore, implementation of the Sunnyvale Playbook Update/Game Plan 2028 CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to utilities and service systems.

[107] Sunnyvale, City of. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed February 2024).

[108] CalRecycle. 2024. Kirby Canyon Recycle and Disposal Facility. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1370?siteID=3393 (accessed February 2024).

20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	■
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?	☐	☐	☐	■
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?	☐	☐	☐	■
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?	☐	☐	☐	■

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 (CalFIRE), the City is not located in a Local Responsibility Area or State Responsibility Area Fire Hazard Severity Zones.[109] The nearest Very High Fire Hazard Severity Zone (VHFHSZ) is located within southern Cupertino, approximately 2.4 miles south of the Sunnyvale City limits at its closest point. According to the Santa Clara Operational Area Hazard Mitigation Plan-Sunnyvale Annex, Sunnyvale is urbanized and categorized as having no risk of wildland fire.[110]

The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are policy-level documents that do not propose new residential, commercial, or institutional development that could be at risk from wildfire, nor do they grant entitlements for development that would have the potential to directly cause wildfire. Rather, these documents would aim to reduce Sunnyvale's contributions to and vulnerability to the effects of climate change, such as drought and flooding. Thus, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in ***no impact*** related to wildfire exposure, exacerbation, or related emergency evacuation.

Cumulative Impacts

The cumulative projects scenario is the population, employment, and households forecasts identified in the supporting documentation for the Sunnyvale Playbook Update/Game Plan 2028, based on demographic data contained in Plan Bay Area 2040 (refer to Table 5). The City is not at risk of wildfire. Furthermore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds do not propose habitable development that could be at risk from wildfire, nor do they grant entitlements for development that would have the potential to directly cause wildfire. Thus, the Sunnyvale Playbook Update/Game Plan 2028 and the CEQA GHG Emissions Thresholds would result in ***no cumulative impact*** related to wildfire.

[109] California Department of Forestry and Fire Protection (CalFIRE). 2023. Fire Hazard Severity Zone Viewer. https://egis.fire.ca.gov/FHSZ/ (accessed October 2023).

[110] County of Santa Clara. 2017. Santa Clara Operational Area Hazard Mitigation Plan; Volume 2—Partner Annexes. https://sunnyvaleca.legistar.com/LegislationDetail.aspx?ID=3216998&GUID=7E0A85F2-3134-4300-B6FC-DF5ACC14A82C&FullText=1 (accessed February 2024).

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?	☐	☐	■	☐
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)?	☐	☐	■	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds is to reduce GHG emissions from Sunnyvale community operations through implementation of Plays and Moves related to energy use, water consumption, transportation, solid waste, and carbon sequestration. The Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds are consistent with the Sunnyvale General Plan and encourage residents, businesses, and institutions to reduce energy and water use, fuel use, VMT, and solid waste generation and the associated GHG emissions. The Sunnyvale Playbook Update/Game Plan 2028 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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***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 Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in a cumulatively beneficial reduction of GHG and air pollutant emissions across Sunnyvale. In addition, as discussed throughout the respective cumulative impacts discussions within this document, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not result in significant cumulative impacts. Rather, implementation of the Sunnyvale Playbook Update/Game Plan 2028 would be consistent with the Sunnyvale General Plan policies aimed at reducing emissions of GHGs and air pollutants, VMT, energy and water supply demands on utilities, and solid waste generation. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant cumulative impact*** related to the various 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, hazards and hazardous materials, noise, transportation, and wildfire impacts. As detailed in the preceding sections, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would not result, either directly or indirectly, in substantial adverse effects related to air quality, GHG emissions, hazards, noise, transportation, or wildfire. As discussed in more detail in Section 3, *Air Quality*, Section 13, *Noise*, and Section 17, *Transportation*, the Sunnyvale Playbook Update/Game Plan 2028 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. In addition, as discussed throughout this document, the Sunnyvale Playbook Update/Game Plan 2028 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, as well as improved air quality and resiliency to the effects of climate change and natural disasters. Therefore, the Sunnyvale Playbook Update/Game Plan 2028 and CEQA GHG Emissions Thresholds would result in an overall ***less-than-significant impact*** related to potential for adverse effects on human beings.

References

List of Citations

Association of Bay Area Governments and Metropolitan Transportation Commission (ABAG-MTC). 2021. Plan Bay Area 2050. https://www.planbayarea.org/finalplan2050 (accessed November 2023).

Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status (accessed December 2023).

_____. 2017. Final Clean Air Plan: Spare the Air Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. Final 2017 Clean Air Plan. https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans (accessed December 2023).

_____. 2022. CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf.pdf?la=en (accessed November 2023).

California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf (accessed December 2023).

_____. 2017 Climate Change Scoping Plan. https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf (accessed November 2023).

_____. 2022 Scoping Plan for Achieving Carbon Neutrality. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed November 2023).

_____. 2022. 2022 State Strategy for the State Implementation Plan. https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf (accessed November 2023).

_____. 2023. SB 375 Regional Plan Climate Targets. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets (accessed November 2023).

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. https://www.researchgate.net/profile/Seth-Shonkoff/publication/237420289_ENVIRONMENTAL_HEALTH_AND_EQUITY_IMPACTS_FROM_CLIMATE_CHANGE_AND_MITIGATION_POLICIES_IN_CALIFORNIA_A_REVIEW_OF_THE_LITERATURE/links/0deec533acf69321ea000000/ENVIRONMENTAL-HEALTH-AND-EQUITY-IMPACTS-FROM-CLIMATE-CHANGE-AND-MITIGATION-POLICIES-IN-CALIFORNIA-A-REVIEW-OF-THE-LITERATURE.pdf (accessed February 2024).

California Department of Conservation. 2023. California Important Farmland Finder Map. https://maps.conservation.ca.gov/dlrp/ciff/ (accessed December 2023).

California Department of Finance (DOF). 2023. E-5 Population and Housing Estimates. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/ (accessed November 2023).

California Department of Forestry and Fire Protection (CalFIRE). 2023. Fire Hazard Severity Zone Viewer. https://egis.fire.ca.gov/FHSZ/ (accessed October 2023).

California Department of Transportation (Caltrans). 2018. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa (accessed December 2023).

_____. 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-13-069.25.3). https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf (accessed February 2024).

California Energy Commission (CEC). 2023. Electricity Consumption by County. http://www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed October 2023).

_____. 2023. Gas Consumption by County. http://www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed October 2023).

California Geological Survey. 2023. Earthquake Zones of Required Investigation. https://maps.conservation.ca.gov/cgs/EQZApp/app/ (accessed October 2023).

CalRecycle. 2024. Kirby Canyon Recycle and Disposal Facility. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1370?siteID=3393 (accessed February 2024).

Federal Highway Administration (FHWA). 2006. FHWA Highway Construction Noise Handbook. (FHWAHEP-06-015; DOT-VNTSC-FHWA-06-02). https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook00.cfm (accessed February 2024).

Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed February 2024).

Rincon Consultants, Inc. 2023. Sunnyvale 2019 Community Inventory Memorandum. February 6, 2023.

_____. 2023. Sunnyvale Playbook Update GHG Forecast Report. February 2023.

Santa Clara County. 2017. Santa Clara Operational Area Hazard Mitigation Plan; Volume 2—Partner Annexes. https://sunnyvaleca.legistar.com/LegislationDetail.aspx?ID=3216998&GUID=7E0A85F2-3134-4300-B6FC-DF5ACC14A82C&FullText=1 (accessed February 2024).

_____. 2022. Williamson Act Properties. https://sccplanning.maps.arcgis.com/apps/webappviewer/index.html?id=1f39e32b4c0644b0915354c3e59778ce (accessed December 2023).

_____. 2023. Climate Roadmap 2030. https://sustainability.sccgov.org/climate-roadmap-2030 (accessed November 2023).

State of California. 2019. California's Fourth Climate Change Assessment Statewide Summary Report. http://www.climateassessment.ca.gov/state/ (accessed February 2024).

Sunnyvale, City of. 2011. Community Character Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/598/637819113519200000 (accessed January 2024).

_____. 2011. General Plan Safety and Noise Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/602/638370338402370000 (accessed February 2024).

_____. 2016. Land Use and Transportation Element Draft Environmental Impact Report. https://www.sunnyvale.ca.gov/home/showpublisheddocument/608/637819113538930000 (accessed November 2023).

_____. 2018. Heritage Resources Inventory. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1556/637820850915270000 (accessed January 25, 2024).

_____. 2020. Sunnyvale Active Transportation Plan. https://www.sunnyvale.ca.gov/home/showpublisheddocument/2844/637822670426570000 (accessed October 2023).

_____. 2021. Nonresidential and Multifamily Residential Reach Codes. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1496/637820847520270000 (accessed November 2023).

_____. 2021. 2020 Urban Water Management Plan. https://www.sunnyvale.ca.gov/home/showpublisheddocument/380/637889141541470000 (accessed March 2024)._____. 2022. Land Use and Transportation Element. https://www.sunnyvale.ca.gov/home/showpublisheddocument/596/638130909277830000 (accessed December 2023).

_____. 2023. Single-Family, Duplex, and Townhome Reach Codes. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1780/638114476018662936 (accessed November 2023).

_____. 2023. Draft Sunnyvale Playbook Update/Game Plan 2028. https://www.sunnyvale.ca.gov/home/showpublisheddocument/5082/638430745425470000 (accessed February 2024).

_____. 2023. Design Guidelines, Standards, and Specific Plans. https://www.sunnyvale.ca.gov/business-and-development/planning-and-building/permit-center/design-guidelines-standards-and-specific-plans (accessed December 2023).

_____. 2023. Sunnyvale Municipal Code Section 19.42.050. https://ecode360.com/42730956 (accessed December 2023).

_____. 2023. Sunnyvale Municipal Code Chapter 19.80. https://ecode360.com/42732806#42732806 (accessed December 2023).

_____. 2023. Sunnyvale Municipal Code Chapter 19.96, Heritage Preservation. https://ecode360.com/42733144#42733144 (accessed December 2023).

_____. 2024. Sunnyvale Municipal Code Chapter 12.60, Stormwater Management. https://ecode360.com/42718251#42718251 (accessed January 2024).

_____. 2024. Sunnyvale Municipal Code Chapter 13.08, Right-of-Way Encroachments. https://ecode360.com/42719687?highlight=encroachments&searchId=16491543957131113#42719687 (accessed February 2024).

_____. 2024. Sunnyvale Municipal Code Section 16.08.030, Hours of construction—Time and noise limitations. https://ecode360.com/42720748?highlight=&searchId=16742406866224120#42720748 (accessed February 2024).

_____. 2024. Sunnyvale Municipal Code Chapter 16.16, Building Code. https://ecode360.com/42720766?highlight=&searchId=16482460774455457#42720766 (accessed February 2024).

_____. 2024. Sunnyvale Municipal Code Section 18.12.100, Grading. https://ecode360.com/42728788?highlight=&searchId=16481596759239067#42728788 (accessed February 2024).

_____. 2024. Sunnyvale Municipal Code Section 18.20.100, Final or parcel map—Action before filing. https://ecode360.com/42728788?highlight=&searchId=16481596759239067#42728788 (accessed February 2024).

_____. 2024. Sunnyvale Municipal Code Section 19.42.030, Noise or sound level. https://ecode360.com/42730950?highlight=&searchId=16742807840881719#42730950 (accessed February 2024).

_____. 2024. Sunnyvale Municipal Code Section 19.42.060, Ground vibration regulated. https://ecode360.com/42730957?highlight=&searchId=16744449726465578#42730957 (accessed February 2024).

_____. 2024. Sunnyvale Municipal Code Chapter 19.94, Tree Preservation. https://ecode360.com/42733058#:~:text=It%20is%20unlawful%20to%20damage,a%20protected%20tree%20removal%20permit.&text=%C2%A7%2019.94.,-050%20Permits%20required (accessed January 2024).

_____. 2024. Draft CEQA GHG Emissions Thresholds.

_____. N.d. Bird-Safe Building Design Guidelines. https://www.sunnyvale.ca.gov/home/showpublisheddocument/1542/638273438333130000 (accessed May 2024).

U.S. Energy Information Administration (USEIA). 2023. “California - Profile Overview.” https://www.eia.gov/state/?sid=CA.(accessed October 2023).

Valley Transportation Authority (VTA). 2014. Valley Transportation Plan 2040. http://vtaorgcontent.s3-us-west-1.amazonaws.com/Site_Content/VTP2040_final_hi%20res_030315.pdf (accessed November 2023).

_____. 2023. Valley Transportation Plan (VTP) 2050 webpage. https://www.vta.org/projects/valley-transportation-plan-vtp-2050 (accessed November 2023).

Weather Spark. 2023. Climate and Average Weather Year Round in Sunnyvale. https://weatherspark.com/y/571/Average-Weather-in-Sunnyvale-California-United-States-Year-Round#:~:text=Over%20the%20course%20of%20the,or%20above%2087%C2%B0F (accessed November 2023).

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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 NH3).	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 SO2, (see SO2 sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	See SO2

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 January 2024

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	12	Geological deposits (natural gas fields) extraction; landfills; fermentation of manure; and decay of organic matter
Nitrous oxide (N_2O)	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
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 January 2024