HELIX Environmental Planning

VOLUME III

Santee Town Center Specific Plan Update

Draft Environmental Impact Report Appendix A-H

SCH# 2023090032

~~August 2024~~ February 2025

Prepared for:

City of Santee Planning & Building Department
10601 Magnolia Ave.
Santee, CA 92071

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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Appendix A

Notice of Preparation (NOP) and NOP Comments

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NOTICE OF PREPARATION

of a Draft Program Environmental Impact Report

Notice of Public Scoping Meeting

Project: Santee Town Center Specific Plan Update

Project Case Files: General Plan Amendment GPA2023-1, Town Center Specific Plan Amendment TCSPA2023-1, Rezone 2023-1, Zoning Ordinance Amendment ZA2023-2, Environmental Impact Report AEIS2023-2

Project Proponent: City of Santee

Project Location: Town Center, Arts & Entertainment Overlay District, Strategic Housing Element Sites 16A, 16B, 20A, 20B (refer to Table 1 and Figure 2)

Environmental Impact Report: The City of Santee is preparing a Program Environmental Impact Report (EIR) addressing a comprehensive update to the City of Santee Town Center Specific Plan (TCSP), including updates to the Santee Arts & Entertainment Overlay District (AEOD), and conceptual planning and objective design standards for four large strategic housing sites, which were analyzed programmatically within the Sixth Cycle Housing Element EIR. The City will be the lead agency under the California Environmental Quality Act (CEQA) for the project. This Notice of Preparation (NOP) describes the proposed project that will be analyzed in the Program EIR and identifies areas of probable environmental effects of the project.

As specified in the CEQA Guidelines, the Notice of Preparation will be circulated for a 30-day review period. Agencies, organizations, and interested members of the public are invited to provide input on the scope of the environmental analysis. If you are a responsible or trustee agency, the views of your agency are requested as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. In the event that no response or well justified request for additional time is received by any responsible agency or trustee agency by the end of the review period, we presume that these agencies have no response. Comments may be submitted in writing during the review period and addressed to:

Michael Coyne, Principal Planner
City of Santee Planning & Building Department
10601 Magnolia Avenue
Santee, CA 92071
Telephone: (619) 258-4100 ext. 160
Email: mcoyne@cityofsanteeca.gov

The Notice of Preparation comment period commences September 1, 2023 and closes at 5:00 p.m. on October 16, 2023. All comments concerning this environmental document must be submitted in writing to Michael Coyne, Principal Planner, prior to the close of the public comment period as noted above. Please indicate a contact person in your comment. The City will consider all written comments received during the noticed public review period prior to approving the project.

Public Scoping Meeting:

The City will hold a scoping meeting to provide an opportunity for agency staff and interested members of the public to submit comments, either written or verbal, on the scope of the environmental issues to be addressed in the Program EIR. The scoping meeting will be held on September 7, 2023 between 3:00 p.m. and 5:00 p.m. at the City of Santee, Building 5, 10601 Magnolia Avenue, Santee, CA 92071.

Project Background:

In October 1986, the City of Santee completed a focused effort to plan for the development of property in its geographic core known as the Town Center Specific Plan (TCSP). The TCSP establishes guidelines for creating a people- and transit-oriented hub for commercial, civic, and residential uses along the San Diego River. Since its adoption, the TCSP has been amended 16 times, with the latest amendment, Amendment 19-1 adopted in December 2019, establishing the AEOD. The primary goal of the AEOD is to support tourism in the City and attract commercial, educational, and recreational uses that beautify and enliven portions of the Town Center.

More recently, on July 14, 2021, the City Council adopted the Sixth Cycle Housing Element, which included within its Sites Inventory four strategic housing sites (Sites 16A, 16B, 20A, 20B) within the TCSP area that were identified as sites intended to be developed with transit-oriented multifamily residential uses that support the inclusion of affordable housing. The City has also recently adopted a few other plans that are relevant to ongoing planning in the TCSP area, including the Sustainable Santee Plan, the City of Santee Mobility Element, and the Active Santee Plan.

Proposed Project:

The proposed project consists of a comprehensive update to the TCSP to modify or establish new land use designations, land uses, development standards, and conceptual guidelines that would apply to future development within the TCSP area. As part of this effort, the City of Santee would also make modifications to the Arts & Entertainment District and provide objective design standards and conceptual designs for strategic Housing Element sites within the TCSP. See Figure 1, *Regional Location*, and Figure 2, *Project Boundaries*, for illustrations of the location and regional context of the project. A more detailed description of each of the proposed project components is described below.

Town Center Specific Plan

Amendments to the TCSP would incorporate relevant updates to the plan's vision, land use permissions, and development standards. As part of the updates, new text and graphics would be developed and organized into a series of chapters, such as: Introduction, Land Use and Urban Form, Mobility and Beautification, Infrastructure and Public Facilities, Implementation, and Administration. Text and concepts that remain relevant to the vision and goals of the TCSP would be maintained and incorporated into the updated TCSP document format and structure.

The amended TCSP would incorporate updated allowable and permitted land uses and development standards tailored to the project area. The updated TCSP would include graphics that illustrate the planned land use concepts and the plan's vision at key sites. As part of the TCSP, the circulation network exhibits of the plan would be updated, including the bicycle, pedestrian, and transit network maps, and street cross sections. The TCSP would include concepts for key improvements in the public right-of-way to enhance circulation within the project area. The TCSP would incorporate concepts to illustrate wayfinding and branding signage at important locations within the public right-of-way and public trails, such as signs tailored for pedestrian, bicyclists and transit users, signs designed to direct vehicular traffic and refer to parking areas, as well as iconic gateway structures that enhance the identity and sense of place in the project area.

The TCSP would also outline fundamental elements for the administration of the plan, such as the process for future specific plan amendments, and the development review, permit, and approval process for projects within the TCSP area. Additionally, the TCSP would address the relationship between the TCSP document and other planning documents, as well as consistency with the General Plan. The TCSP would also include a section describing how to use the document and guide reviewers and applicants through the path for review and approval of proposals within the TCSP area.

Finally, the TCSP amendment would also incorporate an adjustment to the Specific Plan boundaries to include additional sites such as the shopping center located at the northwest corner of Mission Gorge Road and Cuyamaca Road, and the shopping center located west of Cuyamaca Road, between Mission Creek Drive and River Park Drive. As a result of the boundary adjustment, the TCSP area would expand from 609.70 to 651.42 acres[1]. Increasing a total of 41.72 acres.

Arts & Entertainment Overlay District

The TCSP would include an amendment to the AEOD. As discussed above, the City adopted the AEOD in 2019, with the intent of encouraging the development of an Arts & Entertainment district within a significant portion of the TCSP. The update would

[1] The original Town Center Specific Plan published in 1986 cited the TCSP area as 706 acres, however amendments to the plan have reduced the Specific Plan total acreage. Additionally, the original acreage was based on an estimate, due to improved geographic information software over time, the number of reported acres in the TCSP has changed as the accuracy of the data has increased.

incorporate the vision, guidelines, and development standards specific to the AEOD as a subsection of the Land Use and Urban Form chapter of the TCSP. This section of the TCSP would also incorporate tailored land use designations that support uses related to art and culture, entertainment, commercial recreation, visitor, and civic uses.

The update to the vision and development standards for the AEOD would aim to enhance connections to the San Diego River, strengthen the sense of place by creating an attraction for residents and visitors to gather, and public space concepts that would incorporate streetscape concepts with features such as landscaping, water elements, shade, lighting, and wayfinding. The concepts would also aim to create a central destination within the TCSP area, with a strong emphasis on connecting Arts & Entertainment to the natural environment.

Additionally, the update would incorporate an adjustment to the AEOD boundaries to include additional sites such as the open space designated areas along the San Diego River, areas north of the San Diego River, south of Riverwalk Drive, west of River Park Drive, east of Cuyamaca Street, and west of Magnolia Avenue. As a result of the boundary adjustments, the AEOD area would expand from 172.49[2] to 341.72 acres, increasing by a total of 169.23 acres. See Figures 2 and 3 for more details.

Four Strategic Housing Element Sites (2021-2029 Sixth Cycle)

The City Council adopted the Housing Element (2021-2029 Sixth Cycle) on May 11, 2022. The Housing Element (HE) was prepared in compliance with State housing law as determined by the California Department of Housing and Community Development (HCD) on December 6, 2022. The HE included a Sites Inventory map and table (figure C-1 and table C-1 of the HE), that included a series of sites that are currently undeveloped or underutilized. The identified sites provide an opportunity for the City to meet its Regional Housing Needs Allocation (RHNA) housing production goals. Four strategic undeveloped housing sites identified in the Sites Inventory are located within the boundary of the TCSP and the AEOD. The sites are identified as 16A, 16B, 20A, and 20B. Sites 16A and 16B are undeveloped sites located just north of Mission Gorge Road and east of Riverview Parkway in the Santee Town Center. The area surrounding the sites is primarily developed with Santee Trolley Square immediately west of the site, the Las Colinas Detention Facility to the east, and open space associated with the San Diego River to the north. A portion of Site 16A is located within the Airport Safety Zone 4 as designated in the Gillespie Field Land Use Compatibility Plan (ALUCP). Sites 20A and 20B are undeveloped sites located just west of Magnolia Avenue, south of Riverview Parkway, and east of Edgemoor Drive. Sites 20A and 20B surround the Historic Edgemoor Polo or Dairy Barn. To the west of Site 20A is the Las Colinas Detention Facility, to the east is a gated 55+ manufactured home community. Site 20B is bordered by single-family residential homes to the south, multifamily residential to the east, and Las Colinas and

[2] The 2019 Art and Entertainment Overlay District refers to 155 acres; however, current GIS data shows 172 acres for the same area.

Riverview Office Park to the west. A portion of the site is located within the Gillespie Field ALUCP Airport Safety Zone 4. The sites are proposed to be developed with residential uses.

The HE Implementation Program identified specific sites that would require to be rezoned to allow for residential uses, and/or to allow for the estimated housing capacity included in the HE. The Housing Element proposed zoning changes for sites 16A, 16B, 20A, and 20B. As part of the realization of the Housing Element Implementation Program, the City analyzed and approved the re-zone of the four above-mentioned sites and adopted the rezoning on October 26, 2022. The zoning for sites 16A, 16B, 20A, and 20B as a result of the HE Implementation Program can be found in Table 1, *Housing Element Sites Zoning.*

Table 1, Housing Element Sites Zoning

Site	Size (acres)	Current Zoning	Current Density
16A	11.11	Residential (TC-R-30)	Minimum of 30 du/ac, Maximum of 36 du/ac
16B	8.61	Residential (TC-R-14)	Minimum of 14 du/ac, Maximum of 22 du/ac
20A	7.75	Residential (TC-R-22)	Minimum of 22 du/ac, Maximum of 30 du/ac
20B	10.00	Residential (TC-R-30)	Minimum of 30 du/ac, Maximum of 36 du/ac

To further advance the housing production in Santee, City staff applied for a Housing Acceleration Program (HAP) grant from the San Diego Association of Governments (SANDAG). The grant application was awarded to the City. The HAP grant provides funding for project-level analysis of HE sites 16A, 16B, 20A, and 20B. The amended TCSP will include graphics and data that illustrate site planning and development concepts for each of these sites based on the maximum allowable density allowed by zoning. The EIR will analyze these sites at a project-level of detail.

Discretionary Actions: Discretionary actions associated with the project include a General Plan Amendment GPA2023-1, Town Center Specific Plan Amendment TCSPA2023-1, Rezone 2023-1, Zoning Ordinance Amendment ZA2023-2, Environmental Impact Report AEIS2023-2.

Project Alternatives: The EIR will evaluate a reasonable range of project alternatives, including the required No Project Alternative.

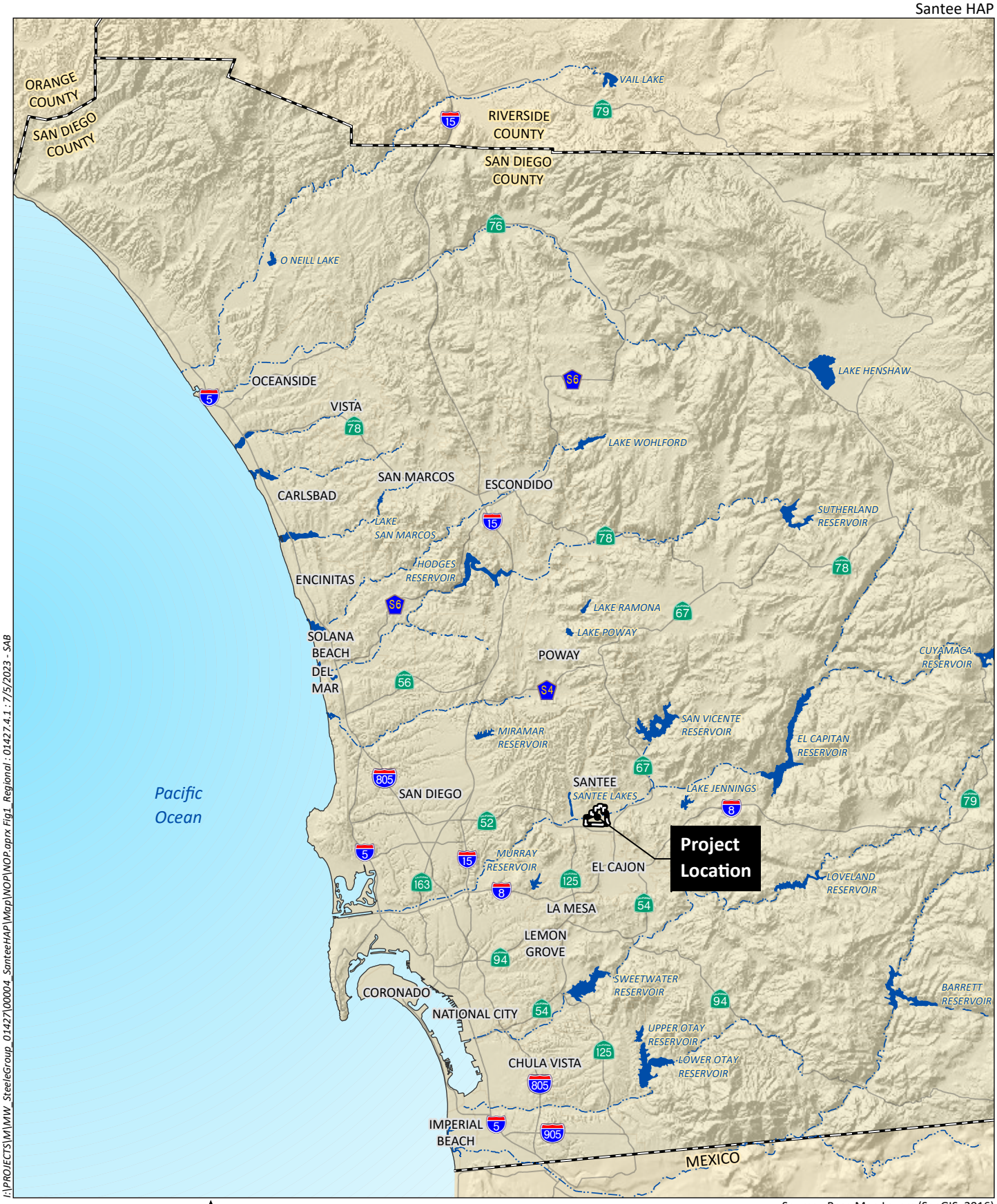
Potential Environmental Effects: The EIR will describe the reasonably foreseeable and potentially significant adverse effects of the proposed project (both direct and indirect) at a programmatic level for the TCSP and the AEOD and at a project level for the four Housing Sites. The EIR also will evaluate the cumulative impacts of the project when considered in conjunction with other related past, present, and reasonably foreseeable future projects. The City anticipates that the proposed project could result in potentially

significant environmental impacts in the following topic areas, which will be further evaluated in the EIR:

- Aesthetics/Visual
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire
- Cumulative Effects
- Growth Inducing Effects

As environmental documentation for this project is completed, it will be available for review at the City's Planning & Building Department located in Building 4 at Santee City Hall, 10601 Magnolia Avenue, Santee, CA 92071, and online at:

https://www.cityofsanteeca.gov/services/project-environmental-review



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

- Proposed Santee Town Center SP (651.42 ac)
- Proposed Art & Entertainment Boundary (341.72 ac)
- Property16A (11.04 ac)
- Property16B (8.65 ac)
- Property 20A (7.76 ac)
- Property 20B (9.92 ac)

0 850 Feet

Source: Aerial (SanGIS, 2023)

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Project Boundaries

Figure 2

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

October 12, 2023

11-SD-52, 67
PM VAR
Santee Town Center Specific Plan Update
NOP/SCH# 2023090032

Mr. Michael Coyne
Principal Planner
City of Santee
Department of Development Services
10601 Magnolia Avenue
Santee, CA 92701

Dear Mr. Coyne:

Thank you for including the California Department of Transportation (Caltrans) in the Notice of Preparation (NOP)for a Draft Program Environmental Impact Report (Draft PEIR) for the Town Center Specific Plan Update, located near State Routes 52 (SR-52) and 67 (SR-67), in the city of Santee. The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with Caltrans' mission and state planning priorities.

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans is committed to prioritizing projects that are equitable and provide meaningful benefits to historically underserved communities, to ultimately improve transportation accessibility and quality of life for people in the communities we serve. We look forward to working with the City of Santee in areas where the City and Caltrans have joint jurisdiction to improve the transportation network and connections

between various modes of travel, with the goal of improving the experience of those who use the transportation system.

Caltrans has the following comments:

Traffic Impact Study

- A Vehicle Miles of Travel (VMT) based Traffic Impact Study (TIS) should be provided for this project. Please use the Governor's Office of Planning and Research Guidance to identify VMT related impacts.[1]
- The TIS may also need to identify the proposed project's near-term and long-term safety or operational issues, on or adjacent any existing or proposed State facilities.
- The Draft PEIR should include language that any proposed developments will complete a Local Mobility Analysis as required per the City of Santee regulations.

State Route Design Corridor

There are several Caltrans improvements to SR-52 west of the Town Center that are currently in the planning stage:

- Convert the existing two-way bike path on the north side of SR-52 to a 4.3-mile long westbound truck climbing lane from Mast Boulevard to the summit.
- Restripe westbound SR-52 from 2 lanes to 3 lanes from SR-125 to Mast Boulevard.
- Relocate the existing 4.6-mile long two-way bike path on the north side of SR-52 to the south side including one 10-foot wide light weight cantilevered separated bike path on two existing bridges, respectively.
- Restripe eastbound SR-52 from 2 lanes to 3 lanes from Mast Boulevard to east of the San Diego River Bridge, eliminating the lane drop at Mast Boulevard and maintaining three eastbound through lanes to SR-125.
- Widen the westbound on-ramp from Mast Boulevard to SR-52 to a two-lane ramp.

Another feature being considered is to convert the westbound #1 lane to a High Occupancy Vehicle (HOV) or managed lane and these alternatives will be further studied.

[1] California Governor's Office of Planning and Research (OPR) 2018. "Technical Advisory on Evaluating Transportation Impacts in CEQA." https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

There are several Caltrans improvements to SR-67 east of the Town Center that are currently in the planning stage:

- Modifications to the SR-67 and Riverford Road interchange are necessary to improve local and regional traffic, facilitate transit services, and improve trail, bicycle and pedestrian connectivity.
- The widening of the existing Bradley Avenue bridge from a two-lane structure to six lanes with new shoulders, and sidewalks.
- The SR-67 Highway Improvements Project proposes operational and safety improvements to travel lanes, shoulders, medians, traffic signals, and emergency access lanes in San Diego County through the City of Poway and unincorporated communities from Mapleview Street in Lakeside to Highland Valley/Dye Road in Ramona.

Complete Streets and Mobility Network

Caltrans views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian and transit modes as integral elements of the transportation network. Caltrans supports improved transit accommodation through the provision of Park and Ride facilities, improved bicycle and pedestrian access and safety improvements, signal prioritization for transit, bus on shoulders, ramp improvements, or other enhancements that promotes a complete and integrated transportation network. Early coordination with Caltrans, in locations that may affect both Caltrans and the City of Santee, is encouraged.

To reduce greenhouse gas emissions and achieve California's Climate Change targets, Caltrans is implementing Complete Streets and Climate Change policies into State Highway Operations and Protection Program (SHOPP) projects to meet multi-modal mobility needs. Caltrans looks forward to working with the City to evaluate potential Complete Streets projects.

Bicycle, pedestrian, and public transit access during construction is important. Mitigation to maintain bicycle, pedestrian, and public transit access during construction is in accordance with Caltrans' goals and policies.

Land Use and Smart Growth

Caltrans recognizes there is a strong link between transportation and land use. Development can have a significant impact on traffic and congestion on State transportation facilities. In particular, the pattern of land use can affect both local vehicle miles traveled and the number of trips. Caltrans supports collaboration with

local agencies to work towards a safe, functional, interconnected, multi-modal transportation network integrated through applicable "smart growth" type land use planning and policies.

The City should continue to coordinate with Caltrans to implement necessary improvements at intersections and interchanges where the agencies have joint jurisdiction.

Climate Action

Caltrans supports the City's efforts to reduce GHG emissions as per SB 32, SB 743, SB 375, SB 379 and various Executive orders. As an environmentally conscious agency, Caltrans strives to work with partner agencies in order to reduce GHG emissions and adapt to the impacts of climate change on the state highway system. Caltrans looks forward to reviewing the proposed policies, plans and projects contained in the future Draft PEIR. For additional information regarding Caltrans' policies, plans, guidance and strategies related to climate change impacts please refer to documents such as, but not limited to, Caltrans Climate Change Vulnerability Assessment, Caltrans Climate Change Adaptation Priorities Report, Caltrans Climate Change Adaptation Strategies Report, Caltrans Climate Change Communication Guide and Caltrans GHG Emissions Mitigation Report.

System Planning

The Coast, Canyons, and Trails Comprehensive Multimodal Corridor Plan (CMCP) should be reviewed and incorporated in the development of the Santee Town Center Specific Plan Update. The final document and appendices are located here: SANDAG - SR 52 Coast, Canyons, and Trails. Particular attention should be given to the transportation solution strategies listed in Appendix D. There are numerous strategies listed in the document, including:

- Mobility hub enhancements at Santee Town Center
  - Microtransit (Strategy ID TM06)
  - EV charging stations (MH16)
  - Lockers for safe retail deliveries (MH32)
  - Multilingual wayfinding, real-time information, and interactive kiosks (MH39)
  - Parking for shared rideables (MH47)
  - Pedestrian enhancements within ½ mile of a major mobility hub node: complete missing sidewalks and signalized intersection crossing enhancements such as continental crosswalks, advance stop bars, pedestrian countdown signal heads, LPIs, and signage (MH56)

- Flexible fleet enhancements at Santee Transit Center
  - Rideshare services (FF18)
  - Mobile retail services (FF19)
  - Micromobility shared rideables (FF20)

- Bus route improvements
  - Route 832 – Santee Town Center to North Santee (TR24)
  - Route 834 – Santee Town Center to West Santee (TR25)

- New rapid bus routes
  - Rapid 870 – El Cajon to Torrey Pines via Santee (TR15, TR16, TR17)
  - Rapid 880 – El Cajon to UC San Diego via Santee (TR18, TR19)
  - Rapid 890 – El Cajon to Sorrento Mesa via Santee (TR20, TR21, TR22)

- Active transportation
  - Class I bike paths along the San Diego River (CC122), Fanita Pkwy (CC134), and portions of Mission Gorge Rd (CC123) and Mast Blvd (CC135)
  - San Diego River Trail Grade Separated (Class I) Crossing (CC136)
  - Class II bike lanes along arterials such as Cottonwood Ave. (CC132), Magnolia Ave (CC124), and portions of Prospect Ave. (CC131)
  - Class III bike route along Mission Greens Road (CC133)
  - Pedestrian hybrid beacons at the San Diego River and Cuyamaca St (CC158), Forester Creek Trail and Mission Gorge Road (CC159), and Forester Creek Trail and Prospect Ave. (CC160)

- Intelligent Transportation Systems (ITS) improvements
  - Mission Gorge Road and Cuyamaca Street - Convert general purpose lanes or shoulder/parking to flex lanes to be dynamically reserved for transit, shuttles, rideshare, carshare, and/or electric vehicles to relieve congestion and improve travel times (CC19, NO37, CC20, NO38)
  - Mast Blvd, Mission Gorge Road, and Magnolia Avenue - Install smart intersection technology to give priority to transit, freight, and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users (NO05, NO06, NO17)
  - Physical signage and ITS infrastructure in Santee should be implemented to support flexible curb usage and accommodate for changing demand (NO25)

The San Vicente CMCP study area includes a portion of the City of Santee, but the CMCP document does not feature any projects relevant to the Santee Town Center Specific Plan. The final document and appendices are located here: SANDAG - SR 67 San Vicente.

The SANDAG 2021 Regional Plan (available here: SANDAG - Final 2021 Regional Plan) recommends the following projects near Santee Town Center:

- San Diego River Trail - Mast Park to Lakeside baseball park (Project ID AT061)
- Complete Corridors Regional Arterials on Mast Blvd and Magnolia Ave
- Rapid 870 – El Cajon to UTC via Santee, SR 52, I-805 (TL50)
- Rapid 890 – El Cajon to Sorrento Mesa via Santee, SR 52, I-805 (TL51)
- LRT 530 – Green Line Santee to Downtown; double/third tracking and grade separations (TL16, TL17)

Environmental

Caltrans welcomes the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA), as we have some discretionary authority of a portion of the project that is in Caltrans' Right-of-Way (R/W) through the form of an encroachment permit process. We look forward to the coordination of our efforts to ensure that Caltrans can adopt the alternative and/or mitigation measure for our R/W. We would appreciate meeting with you to discuss the elements of the Environmental Document that Caltrans will use for our subsequent environmental compliance.

An encroachment permit will be required for any work within the Caltrans' R/W prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits. Specifically, CEQA determination or exemption. The supporting documents must address all environmental impacts within the Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.

We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans' R/W that includes impacts to the natural environment, infrastructure including but not limited to highways, roadways, structures, intelligent transportation systems elements, on-ramps and off-ramps, and appurtenant features including but not limited to fencing, lighting, signage, drainage, guardrail, slopes and landscaping. Caltrans is interested in any additional mitigation measures identified for the project's draft Environmental Document.

Should future projects based upon the changes enacted from the General Plan have elements and/or mitigation measures that affect Caltrans' R/W, Caltrans would welcome the opportunity to be a Responsible Agency under CEQA.

Broadband

Caltrans recognizes that teleworking and remote learning lessen the impacts of traffic on our roadways and surrounding communities. This reduces the amount of VMT and decreases the amount of greenhouse gas (GHG) emissions and other pollutants. The availability of affordable and reliable, high-speed broadband is a key component in supporting travel demand management and reaching the state's transportation and climate action goals.

Right-of-Way

- Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.
- Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

If you have any questions, please contact Mark McCumsey at (619) 985-4957 or by email at mark.mccumsey@dot.ca.gov.

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development and Intergovernmental Review

U.S. FISH AND WILDLIFE SERVICE
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, California 92123

In Reply Refer To:
FWS/CDFW-2023-0128792-CEQA_EIR-SD

October 16, 2023
Sent Electronically

Michael Coyne
Principal Planner
City of Santee
10601 Magnolia Avenue
Santee, California 92071

Subject: Comments on the Notice of Preparation of an Environmental Impact Report for the Santee Town Center Specific Plan Update (SCH #2023090032)

Dear Michael Coyne:

The U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Wildlife (Department), hereafter collectively referred to as the Wildlife Agencies, have reviewed the above-referenced Notice of Preparation (NOP) for the Santee Town Center Specific Plan Update (Project) dated September 5, 2023. Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect biological resources.

The primary concern and mandate of the Service is the protection of fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and threatened and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), including habitat conservation plans (HCP) developed under section 10(a)(l) of the Act. The Department is a Trustee Agency with jurisdiction over natural resources affected by the project [California Environmental Quality Act (CEQA) Guidelines §15386] and is a Responsible Agency under CEQA Guidelines Section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and Game Code §2050 *et seq.*) and Fish and Game Code Section 1600 *et seq.* The Department also administers the Natural Community Conservation Planning (NCCP) Program, a California regional habitat conservation planning program. The City of Santee (City) participates in the NCCP program through their enrollment in the County of San Diego Subregional Multiple Species Conservation Program (MSCP) and the development of their MSCP Subarea Plan (subarea plan).

The City is preparing a Program Environmental Impact Report (EIR) addressing a comprehensive update to the Santee Town Center Specific Plan (TCSP). Proposed updates to the TCSP would modify or establish new land use designations, land uses, development standards, and conceptual

guidelines for future development in a core area of the City along the San Diego River. The update is also anticipated to expand the TCSP boundaries to incorporate designated open space areas along the San Diego River.

The Wildlife Agencies offer the following comments and recommendations to assist the City in adequately identifying and/or mitigating the Project's significant, direct and indirect impacts on fish and wildlife (biological) resources and to ensure the Project is consistent with ongoing regional conservation planning efforts.

1. Consistency with the Draft Subarea Plan: The Wildlife Agencies are currently working with the City on the development of the City's subarea plan. Compliance with approved habitat plans, such as the MSCP, is required by CEQA. Specifically, section 15125(d) of the CEQA Guidelines requires that an EIR discuss any inconsistencies between a proposed Project and applicable general plans and regional plans, including habitat conservation plans and natural community conservation plans. We encourage the City to carefully evaluate the consistency of the proposed Project with the draft subarea plan and request that the draft Program EIR includes an assessment of the Project's consistency with the draft subarea plan. In particular, the NOP describes proposed changes to the Arts and Entertainment Overlay District (AEOD) that may encourage impacts within or near the San Diego River. The San Diego River has habitat that supports important populations of wildlife, including federally listed bird species. In addition, much of the area along the San Diego River within the proposed AEOD is included in the draft subarea plan's open space network either as protected open space, San Diego River conservation opportunity area, or City-owned preserve. Any proposed changes should not lead to new, unanticipated direct or indirect impacts or otherwise compromise the conservation goals developed in the draft subarea plan for this habitat and the species it supports.

2. Biological Baseline Assessment: The DEIR should provide a complete assessment of the flora and fauna within the project area, with particular emphasis upon identifying endangered, threatened, sensitive, locally unique species, including any proposed Covered Species under the draft subarea plan, and sensitive habitats. Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. CDFW's California Natural Diversity Data Base[1] (CNDDB) in Sacramento should be consulted to obtain current information on any previously reported sensitive species and habitat. Sensitive species with potential to occur within the Project area include: San Diego ambrosia (*Ambrosia pumila*), willowy monardella [*Monardella viminea* (*M. linoides* subsp. *v.*)], western spadefoot toad (*Spea hammondii*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), and least Bell's vireo (*Vireo bellii pusillus*). Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, should be conducted. Acceptable species-specific survey procedures should be developed in consultation with the Wildlife Agencies, as needed.

[1] https://wildlife.ca.gov/Data/BIOS.

3. Biological Direct, Indirect, and Cumulative Impacts: To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DEIR:

    a. Specific acreages of habitat types that will be impacted due to Project-related activities. Details should be provided on whether impacts will be temporary or permanent.

    b. Potential adverse impacts from lighting, noise, human activity, invasive species, and drainage. Mitigation measures proposed to alleviate such impacts in onsite undeveloped areas and onto adjacent lands should be included.

    c. Indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with an NCCP or HCP). Impacts on, and maintenance of, wildlife corridors, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR.

    d. Cumulative effects on biological resources. This analysis should be developed as described under CEQA Guidelines, section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

4. Sensitive Bird Species: We recommend that measures be taken to avoid Project-related impacts to nesting birds, such as tricolored blackbird (*Agelaius tricolor*) and western burrowing owl (*Athene cunicularia hypugaea*). Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Code of Federal Regulations, Title 50, § 10.13). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of native birds and their active nests including raptors and other migratory nongame birds (as listed under the MBTA). Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 15 through August 31 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, surveys by a qualified biologist with experience in conducting breeding bird surveys should be conducted to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300 feet of the disturbance area (within 500 feet for raptors). Project personnel, including all contractors working onsite, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

The following comments (5 and 6) are specific to the Department:

5. Wetlands and Riparian Habitats: The Department has regulatory authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of any river, stream, or lake or use material from a river, stream, or lake. For any such activities, the Project applicant (or "entity") must provide written notification to the Department pursuant to section 1600 *et seq.* of the Fish and Game Code. Based on this notification and other information, the Department determines whether a Lake and Streambed Alteration Agreement (LSAA) with the applicant is required prior to conducting the proposed activities. The Department's issuance of a LSAA for a Project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. To minimize additional requirements by the Department pursuant to section 1600 *et seq.* and/or under CEQA, the Program EIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSAA. Please visit the Department's Lake and Streambed Alteration Program[2] (ca.gov) for more information (CDFW 2021).

6. Crotch's Bumble Bee: The California Fish and Game Commission accepted a petition to list the Crotch's bumble bee (*Bombus crotchii*) as endangered under CESA, determining the listing "may be warranted" and advancing the species to the candidacy stage of the CESA listing process. The Department considers adverse impacts to a species protected by CESA, for the purposes of CEQA, to be significant without mitigation. Therefore, we recommend the Project area be assessed to determine the potential for Crotch's bumble bee to occur onsite. Crotch's bumble bees primarily nest in late February through late October underground in abandoned small mammal burrows (Williams *et al*. 2014; Hatfield *et al*. 2018). Overwintering sites utilized by Crotch's bumble bee queens include soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams *et al*. 2014).

   The Department recommends that a qualified entomologist familiar with the species' behavior and life history should conduct surveys within 1 year prior to vegetation removal and/or ground disturbance to determine the presence/absence of Crotch's bumble bee. If bumble bees are detected, the qualified entomologist should notify the Department immediately to avoid take and ensure compliance with CESA. The Department has published a Survey Considerations document for CESA Candidate Bumble Bees.[3] This document describes factors such as evaluating potential for presence, habitat assessment, and survey methods.

We appreciate the opportunity to comment on this NOP. The comments and recommendations provided are based on our knowledge of listed, sensitive, and declining vegetation communities

[2] https://wildlife.ca.gov/Conservation/Environmental-Review/LSA.
[3] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline.

in the City. If you have questions or comments regarding this letter, please contact Eric Porter[4] of the Service at 760-431-9440, or Heather Schmalbach[5] of the Department.

Sincerely,

JONATHAN SNYDER
Digitally signed by JONATHAN SNYDER
Date: 2023.10.16 14:25:36 -07'00'

Jonathan D. Snyder
Assistant Field Supervisor
U.S. Fish and Wildlife Service

DocuSigned by:
David Mayer
D700B4520375406...

David Mayer
Environmental Program Manager
California Department of Fish and Wildlife

cc:
State Clearinghouse,[6] Sacramento.
David Mayer,[7] CDFW.
Karen Drewe,[8] CDFW.
Melanie Burlaza,[9] CDFW.
Jonathan D. Snyder,[10] USFWS.

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LITERATURE CITED

[CDFW] California Department of Fish and Wildlife. 2021. Lake and Streambed Alteration Program. Available from: https://wildlife.ca.gov/Conservation/LSA.

Goulson, D. 2010. Bumblebees: behavior, ecology, and conservation. Oxford University Press, New York.

Hatfield, R., S. Jepsen, S. Foltz Jordan, M. Blackburn, A. Code. 2018. A Petition to the State of California Fish and Game Commission to List Four Species of Bumblebees as Endangered Species.

Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. 2014. Bumble bees of North America: An Identification guide. Princeton University Press, Princeton, New Jersey.

From: Michael Coyne
Sent: Wednesday, October 11, 2023 12:21 PM
To: 'Lubich, Marcus'
Cc: Tylke, Melanie; Shorb, Elyce; Yara Fisher; Marni Borg
Subject: RE: NOP of DPEIR for Santee Town Center Specific Plan Update I County Comments

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Thank you for your comments.

Michael Coyne, AICP
Principal Planner
Planning & Building Department
(619) 258-4100 x 160
mcoyne@cityofsanteeca.gov

City of Santee
10601 Magnolia Ave.
Santee, CA 92071
CityofSanteeCA.gov

From: Lubich, Marcus <Marcus.Lubich@sdcounty.ca.gov>
Sent: Wednesday, October 11, 2023 12:12 PM
To: Michael Coyne <mcoyne@CityofSanteeCa.gov>
Cc: Tylke, Melanie <Melanie.Tylke@sdcounty.ca.gov>; Shorb, Elyce <Elyce.Shorb@sdcounty.ca.gov>
Subject: NOP of DPEIR for Santee Town Center Specific Plan Update I County Comments

Micheal,

Please find County of San Diego Department of General Services comments below on the NOP of a Draft PEIR for the Santee Town Center Specific Plan Update.

- Housing Element Sites 20A and 20B are owned by the County and the Draft PEIR should analyze project alternatives in which the County develops the property differently than the currently proposed options. Other project alternatives should consider civic uses since this is County-owned property that has yet to be declared surplus property. The NOP does not recognize County ownership of key properties being studied in detailed and a project alternative not subject to the TCSP regulations should be analyzed for the County.
- Since the draft TCSP and PEIR are proposing retail village, performing arts, and dance studio on the Polo Barn site, which is in a FEMA floodplain, the PEIR should analyze the

impacts of locating structures within the floodplain/floodway and identify appropriate mitigation measures.

Don’t hesitate to contact me with any questions.

Thank you,

Marcus Lubich, MPA
Project Manager l Asset Management Division
Cell: 858-414-4593

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
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(916) 373-3710
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NAHC.ca.gov

September 5, 2023

Michael Coyne
City of Santee
10601 Magnolia Avenue
Santee, CA 92071

Governor's Office of Planning & Research

September 11 2023

STATE CLEARINGHOUSE

Re: 2023090032, Santee Town Center Specific Plan Update Project, San Diego County

Dear Mr. Coyne:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.

b. The lead agency contact information.

c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).

d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project**.**

b. Recommended mitigation measures**.**

c. Significant effects**.** (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.

b. Significance of the tribal cultural resources.

c. Significance of the project's impacts on tribal cultural resources.

d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse

Appendix B

Air Quality Technical Report

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Santee Town Center Specific Plan Update

Air Quality Technical Report

July 2024 | 01427.00004.001

Prepared for:

M.W. Steele Group
1805 Newton Avenue, Suite A
San Diego, CA 92113

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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LIST OF APPENDICES

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Acronyms and Abbreviations

AAM	Annual Arithmetic Mean
AAQS	Ambient Air Quality Standards
ADT	average daily trips
AEN	Arts and Entertainment Neighborhood
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor Parcel Number
Attainment Plan	2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
City	City of Santee
CO	carbon monoxide
County	County of San Diego
DPM	diesel particulate matter
GHG	greenhouse gas
H_2S	hydrogen sulfide
HAP	Housing Acceleration Program
HCD	California Department of Housing and Community Development
HE	Housing Element
LOS	Level of Service
mg/m^3	milligrams per cubic meter
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment

Acronyms and Abbreviations (cont.)

Pb	lead
PM	particulate matter
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
ppm	parts per million
RAQS	Regional Air Quality Strategy
RHNA	Regional Housing Needs Allocation
ROG	reactive organic gas
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SDG&E	San Diego Gas and Electric
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SO_X	sulfur oxides
SR	State Route
TAC	toxic air contaminant
TCSP	Town Center Specific Plan
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

EXECUTIVE SUMMARY

This report presents an assessment of potential air quality impacts associated with the City of Santee (City) Town Center Specific Plan (TCSP) Amendment Project (project). The report evaluates the potential for criteria air pollutant emission impacts during the construction and operation of the project. The project proposes updates to the existing TCSP and to the Santee Arts and Entertainment Neighborhood (AEN). It also proposes conceptual planning and objective design standards for four large strategic Housing Elements (HE) within the TCSP area. The HE sites include Properties 16A, 16B, 20A, and 20B as delineated in the Sixth Cycle Housing Element EIR. The overall TCSP is approximately 651.42 acres, of which 341.72 acres are within the AEN, 11.04 acres are within HE Property 16A, 8.65 acres are within HE Property 16B, 7.76 acres are within Property 20A, and 9.92 acres are within Property 20B. The entire TCSP is located in the City of Santee, bordered by North Magnolia Avenue to the east, Mast Boulevard to the north, and Mission Gorge Road to the south. The western border of the TCSP runs through the San Diego River approximately 0.43-mile west of Cuyamaca Street and 0.27-mile east of Carlton Hills Boulevard.

Future development within the TCSP area would not result in an increase in development or an increase in traffic generation over what would occur under buildout of the adopted zoning and land use designations and would therefore not conflict with the San Diego County Ozone Attainment Plan or Regional Air Quality Strategy. Criteria pollutant and precursor pollutant emissions generated during project construction activities would not exceed the San Diego County Air Pollution Control District (SDAPCD) thresholds. Long-term operational emissions of criteria pollutants and precursors associated with the four HE sites would not exceed the SDAPCD thresholds, and the impacts would be less than significant. However, the long-term operational emissions of criteria pollutants and precursors generated by full buildout of the TCSP would result in exceedances to SDAPCD's daily screening thresholds for VOC, CO, PM_{10}, and $PM_{2.5}$. With implementation of mitigation measure AQ–1 requiring the use of electric landscaping equipment, VOC, CO, PM_{10}, $PM_{2.5}$ emissions would be reduced, but remain above their respective thresholds resulting in a significant and unavoidable operational impact.

Construction and operation of the project would not expose sensitive receptors to substantial concentrations of toxic air contaminants, including diesel particulate matter emissions from the use of construction equipment. The project's contribution to area traffic would not result in carbon monoxide hotspots. Project residents would not be exposed to substantial pollutant concentrations based on the proposed project location. Impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

Neither construction activities nor long-term operation of the project would be a source of objectionable odors that would adversely affect a significant number of persons, and odor impacts would be less than significant.

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1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report analyzes potential air quality impacts associated with the City of Santee (City) Town Center Specific Plan (TCSP) Amendment Project (project) and includes an assessment of potential impacts associated with project construction and project operation. The project proposes to update the City of Santee General Plan, modify the Arts and Entertainment Neighborhood (AEN), and provide objective design standards and contextual designs for four strategic Housing Element (HE) sites within the TCSP. Analysis within this report was prepared to support impact analysis pursuant to the California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations).

1.2 PROJECT LOCATION

The project area is located in the City of Santee, in the eastern portion of the County of San Diego, north of State Route (SR) 52 and west of SR 67 (Figure 1, *Regional Location*). The proposed project area extends across over 1,000 Assessor's Parcel Numbers (APNs), within the TCSP Area in the central portion of the City, bounded by Mission Gorge Road to the south, Mast Boulevard to the north, and Magnolia Avenue to the east (Figure 2, *Aerial Photograph*). Cuyamaca Street runs north-south through the western portion of the project area, forming segments of the western project boundary, and the San Diego River runs through the central northern portion of the project area (Figure 2). The topography of the project area is bisected by the San Diego River, which originates within the Santa Ysabel Open Space Preserve East and flows west and southwest and ultimately reaches the Pacific Ocean.

The overall project area consists of 651.42 acres, which includes the proposed AEN (341.72 acres) and four HE Properties: Lot 16A is 11.04 acres, Lot 16B is 8.65 acres, Lot 20A is 7.76 acres, and Lot 20B is 9.92 acres.

1.3 PROJECT DESCRIPTION

The proposed project consists of a comprehensive update to the TCSP to modify or establish new land use designations, land uses, development standards, and conceptual guidelines that would apply to future development within the TCSP area. As part of this effort, the City would also make modifications to the AEN and provide objective design standards and conceptual designs for strategic HE sites within the TCSP. A more detailed description of each of the proposed project components is described below.

1.3.1 Town Center Specific Plan

Amendments to the TCSP would incorporate relevant updates to the plan's vision, land use permissions, and development standards. As part of the updates, new text and graphics would be developed and organized into a series of chapters, such as: Introduction, Land Use and Urban Form, Mobility and Beautification, Infrastructure and Public Facilities, Implementation, and Administration. Text and concepts that remain relevant to the vision and goals of the TCSP would be maintained and incorporated into the updated TCSP document format and structure.

The amended TCSP would incorporate updated allowable and permitted land uses and development standards tailored to the project area. The updated TCSP would include graphics that illustrate the planned land use concepts and the plan's vision at key sites. As part of the TCSP, the circulation network exhibits of the plan would be updated, including the bicycle, pedestrian, and transit network maps, and street cross sections. The TCSP would include concepts for key improvements in the public right-of-way to enhance circulation within the project area. The TCSP would incorporate concepts to illustrate wayfinding and branding signage at important locations within the public right-of-way and public trails, such as signs tailored for pedestrian, bicyclists and transit users, signs designed to direct vehicular traffic and refer to parking areas, as well as iconic gateway structures that enhance the identity and sense of place in the project area.

The TCSP would also outline fundamental elements for the administration of the plan, such as the process for future specific plan amendments, and the development review, permit, and approval process for projects within the TCSP area. Additionally, the TCSP would address the relationship between the TCSP document and other planning documents, as well as consistency with the General Plan. The TCSP would also include a section describing how to use the document and guide reviewers and applicants through the path for review and approval of proposals within the TCSP area.

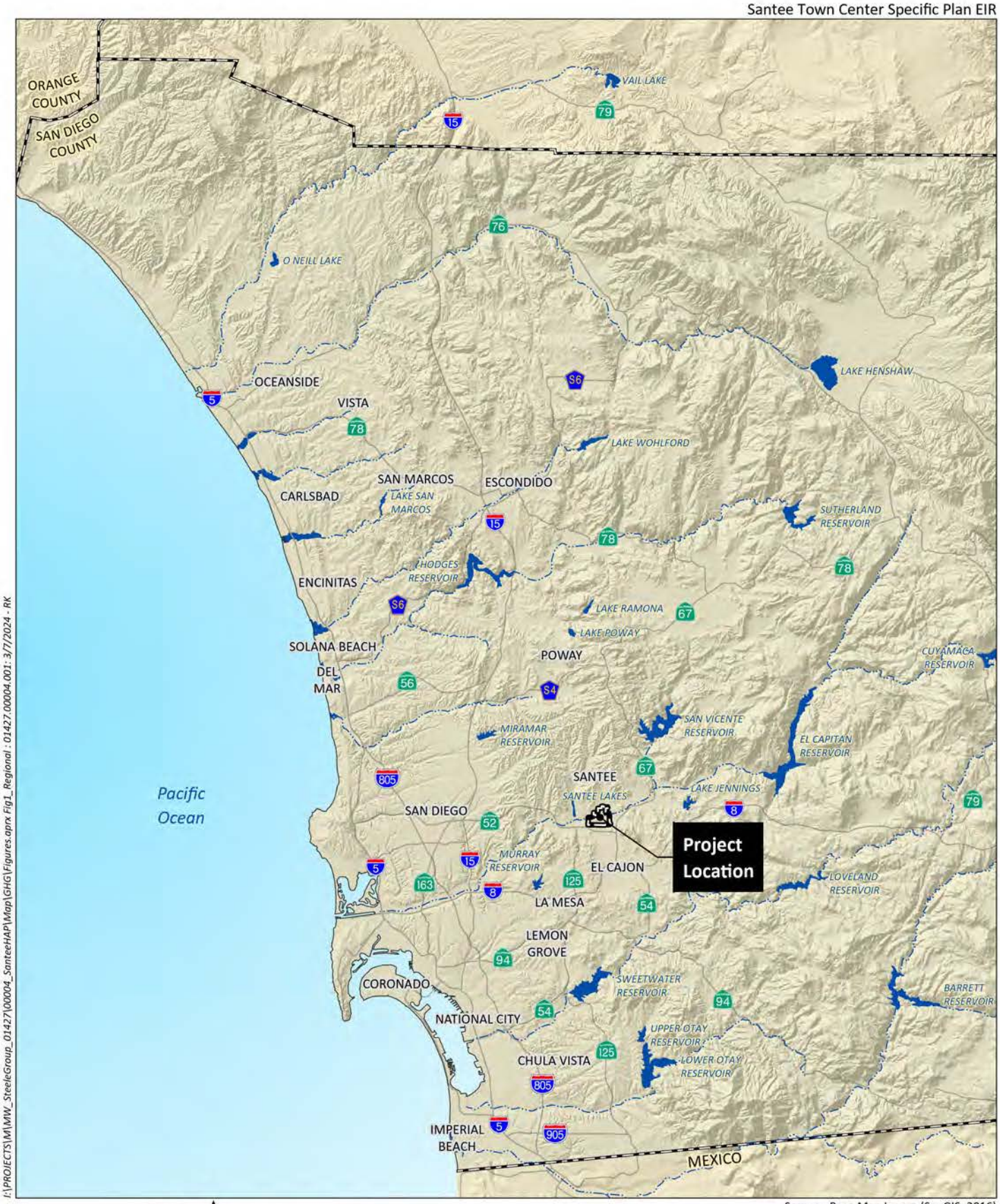
Finally, the TCSP amendment would also incorporate an adjustment to the Specific Plan boundaries to include additional sites such as the shopping center located at the northwest corner of Mission Gorge Road and Cuyamaca Road, and the shopping center located west of Cuyamaca Road, between Mission Creek Drive and River Park Drive. As a result of the boundary adjustment, the TCSP area would expand from 609.70 to 651.42 acres,[1] increasing by 41.72 acres.

1.3.2 Arts and Entertainment Neighborhood

The TCSP would include an amendment to the AEN. The City adopted the AEN in 2019 with the intent of encouraging the development of an Arts & Entertainment Neighborhood within a significant portion of the TCSP. The update would incorporate the vision, guidelines, and development standards specific to the AEN as a subsection of the Land Use and Urban Form chapter of the TCSP. This section of the TCSP would also incorporate tailored land use designations that support uses related to art and culture, entertainment, commercial recreation, visitor, and civic uses.

The update to the vision and development standards for the AEN would aim to enhance connections to the San Diego River, strengthen the sense of place by creating an attraction for residents and visitors to gather, and public space concepts that would incorporate streetscape concepts with features such as landscaping, water elements, shade, lighting, and wayfinding. The concepts would also aim to create a central destination within the TCSP area, with a strong emphasis on connecting Arts & Entertainment to the natural environment.

[1] The original Town Center Specific Plan published in 1986 cited the TCSP area as 706 acres, however amendments to the plan have reduced the Specific Plan total acreage. Additionally, the original acreage was based on an estimate; due to improved geographic information software over time, the number of reported acres in the TCSP has changed as the accuracy of the data has increased.



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

- Proposed Santee Town Center Specific Plan
- Proposed Arts and Entertainment Neighborhood
- Site 16A
- Site 16B
- Site 20A
- Site 20B

0 850 Feet

Source: Aerial (SanGIS, 2023)

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HELIX Environmental Planning

Aerial Photograph

Figure 2

Additionally, the update would incorporate an adjustment to the AEN boundaries to include additional sites such as the open space designated areas along the San Diego River, areas north of the San Diego River, south of Riverwalk Drive, west of River Park Drive, east of Cuyamaca Street, and west of Magnolia Avenue. As a result of the boundary adjustments, the AEN area would expand from 172.49[2] to 341.72 acres, increasing by a total of 169.23 acres.

1.3.3 Four Strategic Housing Element Sites (2021-2029 Sixth Cycle)

The City Council adopted the Housing Element (2021-2029 Sixth Cycle) on May 11, 2022. The HE was prepared in compliance with State housing law as determined by the California Department of Housing and Community Development (HCD) on December 6, 2022. The HE included a Sites Inventory map and table (Figure C-1 and Table C-1 of the HE), that included a series of sites that are currently undeveloped or underutilized. The identified sites provide an opportunity for the City to meet its Regional Housing Needs Allocation (RHNA) housing production goals. Four strategic undeveloped housing sites identified in the Sites Inventory are located within the boundary of the TCSP and the AEN. The sites are identified as 16A, 16B, 20A, and 20B. Sites 16A and 16B are undeveloped sites located just north of Mission Gorge Road and east of Riverview Parkway in the Santee Town Center. The area surrounding the sites is primarily developed with Santee Trolley Square immediately west of the site, the Las Colinas Detention Facility to the east, and open space associated with the San Diego River to the north. A portion of Site 16A is located within the Airport Safety Zone 4 as designated in the Gillespie Field Airport Land Use Compatibility Plan (ALUCP). Sites 20A and 20B are undeveloped sites located just west of Magnolia Avenue, south of Riverview Parkway, and east of Edgemoor Drive. Sites 20A and 20B surround the Historic Edgemoor Polo or Dairy Barn. To the west of Site 20A is the Las Colinas Detention Facility, to the east is a gated 55+ manufactured home community. Site 20B is bordered by single-family residential homes to the south, multifamily residential to the east, and Las Colinas and Riverview Office Park to the west. A portion of the site is located within the Gillespie Field ALUCP Airport Safety Zone 4. The sites are proposed to be developed with residential uses.

The HE Implementation Program identified specific sites that would require rezoning to allow for residential uses, and/or to allow for the estimated housing capacity included in the HE. The HE proposed zoning changes for sites 16A, 16B, 20A, and 20B. As part of the realization of the Housing Element Implementation Program, the City analyzed and approved the re-zone of the four above-mentioned sites and adopted the rezoning on October 26, 2022. The zoning for sites 16A, 16B, 20A, and 20B as a result of the HE Implementation Program can be found in Table 1, *Housing Element Sites Zoning.*

Table 1
HOUSING ELEMENT SITES ZONING

Site	Size (acres)	Current Zoning	Current Density (dwelling units per acre)
16A	11.11	Residential (TC-R-30)	30 to 36
16B	8.61	Residential (TC-R-14)	14 to 22
20A	7.75	Residential (TC-R-22)	22 to 30
20B	10.00	Residential (TC-R-30)	30 to 36

[2] The 2019 Art and Entertainment Overlay District refers to 155 acres; however, current GIS data shows 172 acres for the same area.

To further advance the housing production in Santee, City staff applied for a Housing Acceleration Program (HAP) grant from the San Diego Association of Governments (SANDAG), which was awarded. The HAP grant provides funding for project-level analysis of HE sites 16A, 16B, 20A, and 20B. The amended TCSP will include graphics and data that illustrate site planning and development concepts for each of these sites based on the maximum allowable density allowed by zoning.

1.3.4 Construction Best Management Practices

The project would incorporate best management practices (BMPs) required by law during construction to reduce emissions of fugitive dust. For example, the San Diego County Air Pollution Control District (SDAPCD) Rule 55 – Fugitive Dust Control regulates visible dust/dirt beyond the property line of a project. SDAPCD Rule 55 requires the following (SDAPCD 2009):

(1) **Airborne Dust Beyond the Property Line:** No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

(2) **Track-Out/Carry-Out:** Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

(i) be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation:

(a) track-out grates or gravel beds at each egress point;

(b) wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and

(c) for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and

(ii) be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM_{10}- (particulate matter less than 10 microns) efficient street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

The control measures listed below are the BMPs that are required by applicable law that the project would incorporate for dust control and are included in the modeling:

- A minimum of two applications of water shall be applied during grading between dozer/grader passes;
- Paving, chip sealing, or chemical stabilization of internal roadways shall be applied after completion of grading;
- Grading shall be terminated if winds exceed 25 miles per hour (mph);
- All exposed surfaces shall maintain a minimum soil moisture of 12 percent;

- Dirt storage piles shall be stabilized by chemical binders, tarps, fencing, or other erosion control; and
- Vehicle speeds shall be limited to 15 mph on unpaved roads.

2.0 REGULATORY SETTING

The project site is located within the San Diego Air Basin (SDAB). Air quality in the SDAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the SDAPCD at the regional level.

2.1 AIR POLLUTANT DESCRIPTORS AND TERMINOLOGY

2.1.1 Criteria Air Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the public. In general, criteria air pollutants include the following compounds:

- Ozone (O_3)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- Particulate matter (PM), which is further subdivided:
  - Coarse PM, 10 microns or less in diameter (PM_{10})
  - Fine PM, 2.5 microns or less in diameter ($PM_{2.5}$)
- Sulfur dioxide (SO_2)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO_2, PM_{10}, $PM_{2.5}$, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO_2, PM_{10}, and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gases ([ROGs] also known as volatile organic compounds [VOCs])[3] and nitrogen oxides (NO_X).

Specific adverse health effects on individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables such as cumulative concentrations, local meteorology and atmospheric conditions, and the number and characteristics of exposed individuals (e.g., age, gender). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO_2 are, therefore, the product of emissions generated by numerous sources throughout a region. Emissions of criteria pollutants from vehicles traveling to or from the project site (mobile emissions) are distributed nonuniformly in location and time throughout the region,

[3] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

wherever the vehicles may travel. As such, specific health effects from these criteria pollutant emissions cannot be meaningfully correlated to the incremental contribution from a project.

The following specific descriptions of health effects for each air pollutant associated with project construction and operation are based on information available through the USEPA (2024a) and CARB (2024a).

Ozone. Ozone is considered a photochemical oxidant, which is a chemical that is formed when VOCs and NO_X, both by-products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

Reactive Organic Gases. ROGs (also known as VOCs) are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but by reactions of ROGs to form secondary pollutants such as ozone.

Carbon Monoxide. CO is a product of fuel combustion. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision.

Nitrogen Dioxide. NO_2 is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen monoxide with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.

Respirable Particulate Matter and Fine Particulate Matter. PM_{10} refers to particulate matter (PM) with an aerodynamic diameter of 10 microns or less. $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs. Diesel particulate matter (DPM) is classified as a carcinogen by CARB.

Sulfur Dioxide. SO_2 is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Lead in the atmosphere occurs as particulate matter. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure.

Lead is also classified as a probable human carcinogen. Because emissions of lead are found only in projects that are permitted by the local air district, lead is not an air pollutant of concern for the proposed project.

2.1.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs may be carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe, and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as DPM. Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2024a). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2024a).

2.2 FEDERAL REGULATIONS

2.2.1 Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to the health and welfare of the general public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants. The CAA allows states to adopt ambient air quality standards (AAQS) and other regulations provided they are at least as stringent as federal standards. Table 2, *Ambient Air Quality Standards*, shows the federal and state AAQS for these pollutants.

Table 2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	9 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	–	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles	**No Federal Standards**	**No Federal Standards**
Sulfates	24 Hour	25 µg/m^3	**No Federal Standards**	**No Federal Standards**
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	**No Federal Standards**	**No Federal Standards**
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	**No Federal Standards**	**No Federal Standards**

Source: CARB 2016 and USEPA 2024b

[1] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect public health.

[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information of the data presented in this table can be found at the CARB website (www.arb.ca.gov).

O_3 = ozone; ppm = parts per million; µg/m^3 = micrograms per cubic meter; PM_{10} = large particulate matter; AAM = Annual Arithmetic Mean; $PM_{2.5}$ = fine particulate matter; CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; km= kilometer; – = No Standard.

Areas that do no meet the AAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. The air quality attainment status of the SDAB is shown in Table 3, *San Diego Air Basin Attainment Status*. On July 2, 2021, the SDAB was re-classified as a severe- nonattainment area for the 8-hour NAAQS for ozone (USEPA 2024c). The SDAB is an attainment area or unclassified for the NAAQS for all other criteria pollutants including PM_{10} and $PM_{2.5}$. On February 7, 2024, the USEPA announced a final rule to lower the annual arithmetic mean (AAM) primary NAAQS for $PM_{2.5}$ from 12 to 9 µg/m^3. The new final rule retains the existing 24-hour primary NAAQS for $PM_{2.5}$ of 35 µg/m^3 and the existing

AAM secondary NAAQS for $PM_{2.5}$ of 15.0 µg/m^3 (USEPA 2024b). As of this analysis, attainment classification for the 2024 primary AAM PM2.5 NAAQS has not been completed.

Table 3
SAN DIEGO AIR BASIN ATTAINMENT STATUS

Criteria Pollutant	Federal Designation	State of California Designation
Ozone (1-hour)	No Federal Standard	Nonattainment
Ozone (8-hour)	Nonattainment	Nonattainment
Coarse Particulate Matter (PM_{10})	Unclassifiable[1]	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment[2]	Nonattainment[3]
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Lead	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility Reducing Particles	No Federal Standard	Unclassified

Source: SDAPCD 2024a

[1] At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

[2] The Federal attainment designation for the $PM_{2.5}$ NAAQS reflects the designation for the 2012 NAAQS. As of this analysis, attainment classification for the 2024 primary AAM $PM_{2.5}$ NAAQS has not been completed.

[3] While data collected does meet the requirements for designation of attainment with federal $PM_{2.5}$ standards, the data completeness requirements for state $PM_{2.5}$ standards substantially exceed federal requirements and mandates and have historically not been feasible for most air districts to adhere to given local resources.

2.3 STATE REGULATIONS

2.3.1 California Clean Air Act

CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the seven criteria air pollutants listed above through the California Clean Air Act of 1988 (CCAA), and has also established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H_2S), vinyl chloride and visibility-reducing particles (see Table 2). Areas that do not meet the CAAQS for a particular pollutant are considered to be “nonattainment areas” for that pollutant. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (1-hour and 8-hour), PM_{10}, and $PM_{2.5}$ (SDAPCD 2024a). The current state attainment status designations for the SDAB are provided in Table 3, above.

CARB is the state regulatory agency with the authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The SDAPCD is responsible for developing and implementing the rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, developing of air quality management plans, and adopting and enforcing air pollution regulations for San Diego County (County).

2.3.2 State Implementation Plan

The CAA requires areas with unhealthy levels of ozone, inhalable PM, CO, NO_2, and SO_2 to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain the NAAQS. The 1990 amendments to the CAA set deadlines for attainment based on the severity of an area's air pollution problem.

SIPs are not single documents—they are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting), district rules, state regulations and federal controls. Many of California's SIPs rely on a core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards the SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all the items that are included in the California SIP (CARB 2024b). At any one time, several California submittals are pending USEPA approval.

2.3.3 California Energy Code

California Code of Regulations Title 24 Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results primarily in off-site greenhouse gas (GHG) emissions.

2.3.4 Toxic Air Contaminants

The Health and Safety Code (Section 39655[a]) defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the CAA (42 United States Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

2.3.5 California Health and Safety Code

The State of California Health and Safety Code Section 41700 prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. Health and Safety Code Section 41705 states that these regulations do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals; operations that produce, manufacture, or handle compost; or operations that compost green material or animal waste products derived from agricultural operations.

2.4 LOCAL REGULATIONS

2.4.1 Attainment Plan

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The regional air quality plan for San Diego County for attainment of the NAAQS is SDAPCD's *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (Attainment Plan; SDAPCD 2020). The Attainment Plan, which would be a revision to the SIP, outlines SDAPCD's plans and control measures designed to attain the NAAQS for ozone. For attainment of the CAAQS, the SDAPCD must prepare an updated State Ozone Attainment Plan to identify possible new actions to further reduce emissions. Initially adopted in 1992, the Regional Air Quality Strategy (RAQS) identifies measures to reduce emissions from sources regulated by the SDAPCD, primarily stationary sources such as industrial operations and manufacturing facilities. The RAQS is periodically updated to reflect updated information on air quality, emission trends, and new feasible control measures, and was last updated in 2023 (SDAPCD 2023). These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan, RAQS, and SIP.

2.4.2 San Diego Air Pollution Control District Rules and Regulations

Future development pursuant to the project would be required to comply with SDAPCD Rules and Regulations which require the incorporation of BMPs during construction to reduce emissions of fugitive dust.

Rule 50 (Visible Emissions)

Particulate matter pollution impacts the environment by decreasing visibility (haze). These particles vary greatly in shape, size, and chemical composition, and come from a variety of natural and manufactured sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of $PM_{2.5}$. These fine particles, caused largely by combustion of fuel, can travel hundreds of miles causing visibility impairment.

Visibility reduction is probably the most apparent symptom of air pollution. Visibility degradation is caused by the absorption and scattering of light by particles and gases in the atmosphere before it reaches the observer. As the number of fine particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range. Light absorption by gases and particles is sometimes the cause of discolorations in the atmosphere but usually does not contribute very significantly to visibility degradation. Scattering by particulates impairs visibility much more readily. SDAPCD Rule 50 (Visible Emissions) sets emission limits based on the apparent density or opacity of the emissions using the Ringelmann scale (SDAPCD 1997).

Rule 51 (Nuisance)

SDAPCD Rule 51 (Nuisance) states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance

to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of the rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowls or animals (SDAPCD 1976).

Rule 55 (Fugitive Dust Control)

SDAPCD Rule 55 (Fugitive Dust Control) requires action be taken to limit dust from construction and demolition activities from leaving the property line. Similar to Rule 50 (Visible Emissions), Rule 55 (Fugitive Dust Control) places limits on the amount of visible dust emissions in the atmosphere beyond the property line. It further stipulates that visible dust on roadways as a result of track-out/carry-out shall be minimized through implementation of control measures and removed at the conclusion of each workday using street sweepers (SDAPCD 2009).

Rule 67.0.1 (Architectural Coatings)

SDAPCD Rule 67.0.1 (Architectural Coatings) requires residential interior/exterior flat coatings to be less than or equal to 50 grams per liter VOC content and interior/exterior non-flat coatings to be less than or equal to 50 grams per liter VOC content. Coatings used for markings within parking areas are required to contain less than or equal to 100 grams per liter VOC content (SDAPCD 2021).

3.0 EXISTING CONDITIONS

The southern and northern portions of the project area are developed lands associated with commercial office buildings, residential development, and recreational activities (parks and baseball fields). The center of the project area is bisected by the San Diego River. The San Diego River flows through the eastern boundary of the project area and continues in an eastward direction until it exits the project area and continues in a mostly westward direction. An unnamed tributary to the San Diego River flows through the northern boundary of the project area and continues generally in a southward direction until it meets the San Diego River.

3.1 CLIMATE/METEOROLOGY

The climate in southern California, including the SDAB, is controlled largely by the large-scale meteorological condition that dominates the west coast of the United States: a seasonally semi-permanent high-pressure cell centered over the northeastern Pacific Ocean, called the Pacific high, which keeps most storms from affecting the California coast. Areas within 30 miles of the coast in the San Diego region, including the project area, experience moderate temperatures and comfortable humidity.

Temperature inversion layers (inversions; layers of warmer air over colder air) affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SDAB generally occur during inversions. During the summer, worsened air quality conditions in the SDAB are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons (VOCs) and NO_X react under the strong, abundant sunlight in the San Diego region, creating smog. Light,

daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, declines in air quality are created due to CO and NO_X emissions. High NO_X levels usually occur during autumn or winter, on days with summer-like conditions.

The predominant wind direction in the vicinity of the project is from the west and the average wind speed is approximately six mph (Iowa Environmental Mesonet 2024). The annual average maximum temperature in the project area is approximately 78 degrees Fahrenheit (°F), and the annual average minimum temperature is approximately 52°F. Total precipitation in the project area averages approximately 12 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center 2016).

3.2 EXISTING AIR QUALITY

The SDAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The El Cajon-Lexington Elementary School Monitoring Station, located at 533 First Street in El Cajon, approximately four miles south of the project site is representative of the climatological and topographical conditions at the project area. No monitoring station in San Diego County has PM_{10} monitoring data for the sampled period. Air quality data are shown on Table 4, *Air Quality Monitoring Data.*

Table 4
AIR QUALITY MONITORING DATA

Pollutant Standard	2020	2021	2022
Ozone (O_3) – El Cajon-Lexington Elementary Station			
Maximum concentration 1-hour period (ppm)	0.094	0.088	0.100
Maximum concentration 8-hour period (ppm)	0.083	0.077	0.088
Days above 1-hour state standard (>0.09 ppm)	0	0	1
Days above 8-hour state/federal standard (>0.070 ppm)	14	3	2
Fine Particulate Matter ($PM_{2.5}$) – El Cajon-Lexington Elementary Station			
Maximum 24-hour concentration (µg/m^3)	38.2	30.2	26.4
Measured Days above 24-hour federal standard (>35 µg/m^3)	2	0	0
Annual average (µg/m^3)	11.6	10.4	*
Exceed state and federal annual standard (12 µg/m^3)	No	No	*
Nitrogen Dioxide (NO_2) – El Cajon-Lexington Elementary Station			
Maximum 1-hour concentration (ppm)	0.044	0.038	0.036
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
Annual average (ppm)	0.008	0.006	0.008
Exceed annual federal standard (0.053 ppm)	No	No	No
Exceed annual state standard (0.030 ppm)	No	No	No

Source: CARB 2024c.
ppm = parts per million; µg/m^3 = micrograms per cubic meter, * = insufficient data available.

3.3 SENSITIVE RECEPTORS

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers.

4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.1 CRITERIA POLLUTANT EMISSIONS

Air emissions from mobile, area, and energy sources were calculated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air quality management and pollution control districts (CAPCOA 2022).

In brief, CalEEMod is a computer model that estimates criteria air pollutant and GHG emissions from mobile (i.e., vehicular) sources, area sources (fireplaces, woodstoves, and landscape maintenance equipment), energy use (electricity and natural gas used in space heating, ventilation, and cooling; lighting; and plug-in appliances), water use and wastewater generation, and solid waste disposal. Emissions are estimated based on land use information input to the model by the user. In various places the user can input additional information and/or override the default assumptions to account for project- or location-specific parameters. For this assessment, the default parameters were relied upon unless otherwise described below. The CalEEMod output files are included as Appendix A to this report.

4.1.1 Construction Emissions

The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

The modeling recognizes the project must conform with SDAPCD Rule 67, as described in Section 2.4.2, limiting the VOC content of architectural coatings to 50 grams per liter and paved area coatings to 100 grams per liter. The modeling also recognizes that the project must perform fugitive dust control in accordance with the SDAPCD Rule 55 and the BMPs described in Section 1.3.4, specifically watering exposed areas twice per day, enforcing a 15-mph speed limit on unpaved surfaces, and maintaining a minimum moisture content of 12 percent for unpaved roads.

4.1.1.1 Housing Element Sites

Construction emissions for HE sites 16A, 16B, 20A, and 20B were estimated based on the timeline provided by the project applicant, which assumes construction would begin in January 2025 and last approximately 18 months. It should be noted that there are currently no plans being reviewed nor projects entitled by the City for these sites. Construction activities would include site preparation, grading, building construction, architectural coatings, and paving. Construction is assumed to occur six days per week with equipment operating up to eight hours per day. Architectural coatings are assumed to occur concurrently with the last five months of building construction. The construction schedule assumed in the modeling is shown in Table 5, *Housing Element Sites Anticipated Construction Schedule.*

Table 5
HOUSING ELEMENT SITES ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period Start	Construction Period End	Number of Working Days
Site Preparation	1/1/2025	1/23/2025	20
Grading	1/24/2025	3/17/2025	45
Building Construction	3/18/2025	5/28/2026	375
Architectural Coatings	1/1/2026	7/8/2026	162
Paving	5/29/2026	7/8/2026	35

Construction would require the use of heavy off-road equipment. Construction equipment estimates are based on default values in CalEEMod, Version 2022.1. Table 6, *Housing Element Sites Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 6
HOUSING ELEMENT SITES CONSTRUCTION EQUIPMENT ASSUMPTIONS

Equipment	Horsepower	Number	Hours/Day
Site Preparation			
Rubber Tired Dozers	367	3	8
Tractors/Loaders/Backhoes	84	4	8
Grading			
Excavators	36	2	8
Graders	148	1	8
Rubber Tired Dozers	367	1	8
Scrapers	426	2	8
Tractors/Loaders/Backhoes	84	2	8
Building Construction			
Cranes	367	2	4.4
Forklifts	82	4	7.5
Generator Sets	14	2	5
Tractors/Loaders/Backhoes	84	4	6.6
Welders	46	2	5
Architectural Coating			
Air Compressors	37	1	6

Equipment	Horsepower	Number	Hours/Day
Paving			
Pavers	81	2	8
Paving Equipment	89	2	8
Rollers	36	2	8

Source: CalEEMod

Worker commute trips and vendor delivery trips were modeled based on CalEEMod defaults. Worker trips are anticipated to vary between 18 and 1,279 trips per day, depending on construction phase. The CalEEMod default worker, vendor and haul trip distances were used in the model.

4.1.1.2 Remaining Town Center Specific Plan Land Uses

Construction-related activities are temporary, short-term sources of emissions. Sources of construction-related air emissions include construction equipment exhaust; construction-related trips by workers, delivery and hauling truck trips; and fugitive dust from grading activities. The quantity of air pollutants generated by the construction of projects within the proposed TCSP would vary depending upon the number of projects occurring simultaneously and the size of each individual project. Since the proposed TCSP is a land use plan that guides physical development for 20+ years, specific construction details such as the exact number and timing of all development projects are unknown. The intensity of construction activity associated with the proposed TCSP could be the same during each year. It is more likely, however, that some periods of construction (and associated emissions) would be more intense than other periods due to market conditions and population and housing demands.

While neither SDAPCD nor the City of Santee provides additional guidance on construction assumptions for plan-level analyses, some air districts such as the Sacramento Metropolitan Air Quality Management District (SMAQMD) suggest that lead agencies conservatively assume that construction-generated emissions associated with the build-out of a plan should be evaluated assuming 25 percent of the total land uses would be constructed in a single year (SMAQMD 2016). This conservative assumption was used to evaluate the potential construction-related air quality impacts from projects that could occur under the proposed TCSP Amendment. The land uses modeled in the 25 percent scenario are listed in Table 7, *Land Use Profile – First Year of Construction*. Modeling relied upon CalEEMod default activities, fleet mixes, and vehicle trips based on land use type and size.

Table 7
LAND USE PROFILE – FIRST YEAR OF CONSTRUCTION

Lande Use	Acres	Building Size
Retail	132.89	592,258 square feet
Regional Shopping	8.81	24,625 square feet
Civic/Institutional	45.74	187,223 square feet
Office Commercial	24.76	240,206 square feet
Park	59.36	59.36 acres
Residential (TC-R-14)	42.31	793 dwelling units
Residential (TC-R-22)	23.58	867 dwelling units

Note: HE Sites excluded, as they are provided in the analysis described in Section 4.1.1.1.

Given that exhaust emissions from the construction equipment fleet are expected to decrease over time as stricter standards take effect, 25 percent of the construction emissions were conservatively modeled to occur in 2027, following delivery of the HE Sites. Additional details are available in Appendix A. As construction occurs in later years, advancements in engine technology, retrofits, and turnover in the equipment fleet are anticipated to result in lower levels of emissions.

4.1.2 Operational Emissions

4.1.2.1 Area Source Emissions

Area sources typically include emissions from landscaping equipment, the use of consumer products, the reapplication of architectural coatings for maintenance, and hearths. Project emissions associated with area sources were estimated using the CalEEMod default values except for hearths, as the project would not include wood burning stoves or fireplaces, or natural gas fireplaces.

4.1.2.2 Energy Emissions

Development within the project would use electricity for lighting, heating, and cooling. Natural gas and electricity would be supplied by San Diego Gas and Electric (SDG&E). Direct emissions from the burning of natural gas typically results from furnaces, hot water heaters, and kitchen appliances. Electricity generation typically entails the off-site generation of electricity, such as through combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with the off-site or indirect emission of GHGs at the source of electricity generation (power plant). CalEEMod conservatively assumes the use of natural gas appliances based on historical data while newer construction typically includes more electric appliances. Default natural gas and electricity demand quantities from CalEEMod were used in this analysis and the emissions factors for SDG&E provided in CalEEMod were applied to these energy demand values to calculate the resulting emissions.

4.1.2.3 Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with vehicle trip generation and trip length. Based on the project trip generation rate from the Local Transportation Study, the four strategic HE sites would generate 8,520 new average daily trips (ADT) while the remaining TCSP land uses would generate an additional 51,511 ADT (Intersecting Metrics 2024). Default vehicle speeds, trip purpose, and trip distances from CalEEMod were applied to these trips.

4.2 AIR QUALITY SIGNIFICANCE CRITERIA

Thresholds used to evaluate potential air quality and odor impacts are based on applicable criteria in the State's California Environmental Quality Act Guidelines Appendix G. A significant air quality and/or odor impact could occur if the implementation of the proposed project would:

1. Conflict with or obstruct implementation of the Attainment Plan or applicable portions of the SIP;

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is non-attainment under an applicable NAAQS or CAAQS;

3. Expose sensitive receptors to substantial pollutant concentrations; or

4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

To determine whether the project would result in a cumulatively considerable net increase of PM_{10}, $PM_{2.5}$, or the ozone precursors NO_X and VOCs, emissions were evaluated based on the quantitative emission thresholds established by the SDAPCD and SCAQMD. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (SDAPCD 2019). Rule 20.2 does not contain thresholds for VOCs. The SDAPCD and City of Santee do not have thresholds related to VOCs; therefore, this analysis considers guidance provided by the County of San Diego to consider the impact of VOC emissions. The County recommends the use of the SCAQMD (Coachella Valley portion) screening level established for VOCs, as these thresholds are generally stricter emissions thresholds than established by the SDAPCD. Therefore, to evaluate the significance of VOC emissions, this analysis used the SCAQMD daily threshold and its annual equivalent (County 2007).

These screening criteria were used as numeric methods to determine if the project would result in a significant impact to air quality or an adverse effect on human health. The screening thresholds are shown in Table 8, *Screening-level Thresholds for Air Quality Impact Analysis*.

Table 8
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS

Pollutant	Emissions		
	Pounds per Hour	Pounds per Day	Tons per Year
Respirable Particulate Matter (PM_{10})	--	100	15
Fine Particulate Matter ($PM_{2.5}$)	--	67	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	--	3.2	0.6
Volatile Organic Compounds (VOC)	--	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: SDAPCD 2019; County 2007
T-BACT = Toxics-Best Available Control Technology

SDAPCD Rule 51 (Nuisance) prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Impacts from odors are subjective by nature and their measurements are difficult to quantify. As a result, analysis related to this threshold is qualitative and focuses on the nature of the project's uses, existing and potential surrounding uses and location of sensitive receptors. It is generally accepted that the considerable number of persons requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. Odor

complaints from a "considerable" number of persons or businesses in the area would be considered to be a significant, adverse odor impact.

5.0 Impact Analysis

5.1 ISSUE 1: CONSISTENCY WITH THE ATTAINMENT PLAN

The Attainment Plan outlines SDAPCD's plans and control measures designed to attain the NAAQS for ozone. In addition, the SDAPCD relies on the SIP, which includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan relies on information from CARB and SANDAG, including projected growth in the County and mobile, area, and all other source emissions, to project future emissions and determine the strategies necessary for the reduction of stationary source emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by cities and the County. As such, projects that propose development consistent with the growth anticipated by the local general plans would be consistent with the Attainment Plan. If a project proposes development which is less dense than anticipated within the applicable General Plan, the project would likewise be consistent with the Attainment Plan. If a project proposes development that is greater than that anticipated in the applicable General Plan and SANDAG's growth projections upon which the Attainment Plan is based, the project may be in conflict with the Attainment Plan and SIP and may have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the project and the surrounding projects exceed the growth projections used in the Attainment Plan for the specific subregional area.

5.1.1 Town Center Specific Plan

As described above, the Attainment Plan and RAQS outline the steps needed to accomplish attainment of NAAQS and CAAQS by the earliest practicable date. Projects that would be consistent with adopted land use designations would not conflict with the plans. Projects that would not be consistent with the land uses may be inconsistent with the plans and warrant further analysis to determine consistency. If it can be demonstrated that changes in land uses would generate fewer air emissions than land uses that are consistent with adopted land use designations, the changes would not conflict with the Attainment Plan or RAQS.

The project would result in a comprehensive update to the existing TCSP involving expanding the TCSP area by 42 acres, updating the boundaries of the TCSP districts to create five neighborhoods within the TCSP, and identifying potential future residential and non-residential development potential within the TCSP area. Although development regulations and design criteria in the TCSP would replace the current TCSP regulations, development densities and intensities currently allowed throughout the TCSP area would not be increased by the project. As a result, the project would not increase the amount of vehicle traffic expected to be generated in the City. Similarly, the project would not increase the amount of traffic in the City and would not result in an increase in the average VMT per capita. As buildout of the project would not result in an increase in anticipated development or traffic generation over what

would occur under buildout of the adopted zoning and land use designations, the project would not result in an increase in emissions that are not already accounted for in the Attainment Plan or RAQS.

Therefore, buildout of the TCSP would not exceed the assumptions used to develop the Attainment Plan or RAQS, and impacts would be less than significant.

5.1.2 Arts and Entertainment Neighborhood

The TCSP would involve updated development standards and land use allowances with the AEN. However, because there is no change to allowed densities and intensities compared to existing zoning, buildout of the project would not result in traffic generation over what would occur under buildout of the adopted zoning and land use designations. Therefore, the project would not result in an increase in emissions that are not already accounted for in the Attainment Plan and RAQS.

Therefore, buildout of the AEN would not exceed the assumptions used to develop the Attainment Plan or RAQS, resulting in a less than significant impact.

5.1.3 Housing Element Sites

The project assumes the development of Housing Element sites 16A, 16B, 20A, and 20B consistent with the densities and intensities allowed by existing zoning, the 2021-2029 Housing Element, and state density bonus law. When compared to the existing zoning and land use designations, the project would not increase the development potential allowed at the four Housing Element sites, which would also not increase the amount of projected vehicle traffic generated in the City. The project would not increase the projected amount of traffic in the City and would not result in an increase in the average VMT per capita. As buildout of the project would not result in an increase in development or traffic generation over what would occur under buildout of the adopted zoning and land use designations, the project would not result in an increase in emissions that are not already accounted for in the Attainment Plan or RAQS.

Future development within Housing Element sites 16A, 16B, 20A, and 20B would not result in an increase in development or an increase in traffic generation over what would occur under buildout of the adopted zoning and land use designations and would therefore not result in an increase in emissions. Therefore, buildout of Housing Element sites 16A, 16B, 20A, and 20B would not exceed the assumptions used to develop the Attainment Plan or RAQS, resulting in a less than significant impact.

5.2 ISSUE 2: CUMULATIVELY CONSIDERABLE NET INCREASE OF NONATTAINMENT CRITERIA POLLUTANTS

The project would generate criteria pollutants in the short-term during construction and the long-term during operation. To determine whether a project would result in a cumulatively considerable net increase in criteria pollutant emissions for which the project region is in non-attainment under an applicable federal or state AAQS, the project's emissions are evaluated based on the quantitative emission thresholds established by the SDAPCD and applicable law (as shown in Table 8). The SDAB is in non-attainment for ozone (VOCs and NO_X are precursors), PM_{10}, and $PM_{2.5}$.

5.2.1 Construction Criteria Pollutant and Precursor Emissions

Construction emissions are described as "short-term" or temporary in duration; however, they have the potential to represent a significant impact with respect to air quality. Construction of the project would result in the temporary generation of VOC, NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$ emissions. VOC, NO_X, CO, and SO_2 emissions are primarily associated with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive PM dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles.

The project's temporary construction emissions were estimated using CalEEMod as described in Section 4.1 with emissions estimated separately for the four strategic HE sites and the rest of the TCSP. The results of the modeling of the project's construction emissions of criteria pollutants and ozone precursors are shown in Table 9, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the applicable daily thresholds. The complete CalEEMod output is provided in Appendix A to this report.

Table 9
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Source	Pollutant Emissions (pounds/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Four Strategic HE Sites	64.0	31.7	75.0	0.1	12.4	5.2
Town Center Specific Plan	12.0	95.2	121.1	0.2	20.0	10.0
Maximum Daily Emissions	**64.0**	**95.2**	**121.1**	**0.2**	**20.0**	**10.0**
Daily Thresholds	*75*	*250*	*550*	*250*	*100*	*67*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod; SDAPCD 2019; County 2007
HE = Housing Element; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 9, the project's temporary construction-related criteria pollutant and precursor emissions would be below the SDAPCD's emission thresholds, including for those pollutants for which the SDAB is non-attainment (VOC, NO_X, PM_{10}, $PM_{2.5}$). Therefore, the project's construction activities would not result in a cumulatively considerable net increase of criteria pollutant for which the project region is non-attainment under an applicable federal or state AAQS. Construction-related impacts would be less than significant.

5.2.2 Operational Criteria Pollutant and Precursor Emissions

The project's long-term maximum daily operational emissions were estimated using CalEEMod as described in Section 4.2 with emissions estimated separately for the four strategic HE sites and the rest of the TCSP. The results of the modeling of the project's operational emissions of criteria pollutants and precursors are shown in Table 10, *Maximum Daily Operational Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the applicable thresholds. The complete CalEEMod output is provided in Appendix A to this report.

Table 10
MAXIMUM DAILY OPERATIONAL EMISSIONS

Source	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Four Strategic HE Sites						
Mobile	33.1	23.5	219.8	0.5	44.9	11.7
Area	41.5	<0.1	83.9	<0.1	<0.1	<0.1
Energy	0.2	3.8	1.6	<0.1	0.3	0.3
Total Daily HE Site Emissions[1]	**74.8**	**27.2**	**305.4**	**0.5**	**45.2**	**12.0**
Daily Thresholds	*75*	*250*	*550*	*250*	*100*	*67*
Exceed Daily Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***
Town Center Specific Plan						
Mobile	167.0	105.5	1,197.2	3.3	332.0	85.4
Area	114.3	<0.1	224.5	<0.1	0.2	0.1
Energy	0.9	15.3	8.3	0.1	1.2	1.2
Total Daily TCSP Emissions[1]	**282.3**	**120.8**	**1,430.0**	**3.4**	**333.4**	**86.7**
Daily Thresholds	*75*	*250*	*550*	*250*	*100*	*67*
Exceed Daily Thresholds?	***Yes***	***No***	***Yes***	***No***	***Yes***	***Yes***

Source: CalEEMod (Appendix A); SDAPCD 2019; County 2007

[1] Totals may not sum due to rounding.

HE = Housing Element; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 10 the long-term emissions of criteria pollutants and precursors generated by the four strategic HE sites would not exceed the SDAPCD daily screening thresholds, including for those pollutants for which the SDAB is non-attainment (VOC, NO_X, PM_{10}, $PM_{2.5}$). Therefore, the HE sites' operational activities would not 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 AAQS. However, full buildout of the TCSP would result in exceedances to SDAPCD's daily screening thresholds for VOC, CO, PM_{10}, and $PM_{2.5}$.

5.2.3 Mitigation Framework

On-road vehicles represent the primary source of operational emissions. The project includes several transportation projects including adding new multi-use pathways and bike routes to existing roadways as well as identifying roadway connections throughout the TCSP area and AEN. The TCSP identifies improvements along portions of existing Cuyamaca Street and Riverview Parkway, and identifies new roadways including Riverview Parkway, Cottonwood Avenue, Main Street, and Park Center Drive. The roadway improvements on Cuyamaca Street and Riverview Parkway would contribute to the multimodal transportation network by providing new bicycle and pedestrian facilities on those roadways, which would promote non-auto use. Additionally, the proposed roadway connections along Riverview Parkway, Cottonwood Avenue, Main Street, and Park Center Drive would provide direct connections through the TCSP area and AEN, as well as onto major arterial roadways and would improve traffic congestion in the area. The transportation projects identified in the TCSP meet the City's VMT Analysis Guidelines screening criteria of "closing gaps in the transportation network" and/or "adding new or enhanced bicycle or pedestrian facilities on existing streets" and are presumed not to increase vehicle travel. The transportation projects identified in the TCSP are intended to increase pedestrian and bicycle safety and connection within the TCSP area to aid in the reduction of VMT and mobile source emissions.

No specific development proposals are included for the programmatic elements of the project in the TCSP area and AEN, thus rendering the transportation projects' effects on VMT not readily quantifiable. As such, there would be no feasible mitigation to reduce the mobile source emissions.

The following mitigation measure would reduce potential area source emissions of the Project:

AQ-1 Use of electrically powered landscape equipment. Electric receptacles/outlets shall be installed at the exterior of all single-family units, all multi-family buildings (including those with affordable units), and all common area buildings, so that homeowners and landscape contractors hired by the homeowners' association may utilize electrically powered lawnmowers, leaf blowers, and chainsaws. Project plans shall include: (1) all necessary receptacles/outlets; and (2) a note that states "All landscape maintenance contracts provided by the applicable homeowners association must require that landscape contractors use electrically powered lawn mowers, leaf blowers, and chain saws." City staff must verify both requirements prior to approval of the final plans.

5.2.4 Significance After Mitigation

Electric lawn equipment including lawn mowers, leaf blowers, and chain saws are available. When electric landscape equipment is used in place of conventional gas-powered equipment, direct emissions from fossil fuel combustion are eliminated. Implementation of Measure AQ–1 would result in an average reduction of area source related VOC emissions by 20 percent (from 114.3 pounds per day to 91.5 pounds per day) and the virtual elimination of CO and particulate matter emissions. As shown in Table 11, *Maximum Daily Operational Emissions with Mitigation*, with implementation of mitigation measure AQ–1, VOC, CO, PM_{10}, $PM_{2.5}$ emissions would be reduced, but remain above their respective threshold.

Table 11
MAXIMUM DAILY OPERATIONAL EMISSIONS WITH MITIGATION

Source	Pollutant Emissions (pounds/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Town Center Specific Plan						
Mobile	167.0	105.5	1,197.2	3.3	332.0	85.4
Area	91.5	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	0.9	15.3	8.3	0.1	1.2	1.2
Total Daily TCSP Emissions[1]	**259.4**	**120.8**	**1,205.5**	**3.4**	**333.2**	**86.6**
Daily Thresholds	*75*	*250*	*550*	*250*	*100*	*67*
Exceed Daily Thresholds?	***Yes***	***No***	***Yes***	***No***	***Yes***	***Yes***

Source: CalEEMod (Appendix A); SDAPCD 2019; County 2007

[1] Totals may not sum due to rounding.

VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

Impacts related to operational emissions from full buildout of the TCSP would be significant and unavoidable.

5.3 ISSUE 3: IMPACTS TO SENSITIVE RECEPTORS

The third threshold requires the evaluation of whether the project would expose sensitive receptors to substantial pollutant concentrations. Impacts to sensitive receptors are typically analyzed for operational period CO hotspots and exposure to TACs. An analysis of the project's potential to generate these pollutants thereby exposing existing sensitive receptors to these pollutants is provided below.

5.3.1 Localized Carbon Monoxide Hotspots

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions) particularly during peak commute hours and meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals.

A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. If a project increases average delay at signalized intersections operating at level of service (LOS) E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project, a quantitative screening is recommended.

The project includes several transportation projects including adding new multi-use pathways and bike routes to existing roadways as well as identifying roadway connections throughout the TCSP area and AEN. The TCSP identifies improvements along portions of existing Cuyamaca Street and Riverview Parkway, and identifies new roadway connections including Riverview Parkway, Cottonwood Avenue, Main Street, and Park Center Drive. The roadway improvements on Cuyamaca Street and Riverview Parkway would contribute to the multimodal transportation network by providing new bicycle and pedestrian facilities on those roadways, which would promote non-auto use. Additionally, the proposed roadway connections along Riverview Parkway, Cottonwood Avenue, Main Street, and Park Center Drive would provide direct connections through the TCSP area and AEN, as well as onto major arterial roadways and would improve traffic congestion in the area. The transportation projects identified in the TCSP meet the City's VMT screening criteria of "closing gaps in the transportation network" and/or "adding new or enhanced bicycle or pedestrian facilities on existing streets" and are presumed not to increase vehicle travel or intersection delay. Therefore, air quality impacts related to the exposure of sensitive receptors to substantial CO concentrations due to project traffic would be less than significant.

5.3.2 Exposure to Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state as TACs. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program. The state has formally identified more than 200 substances as TACs and is adopting appropriate control measures for their sources. The greatest potential for TAC emissions during construction would be emissions of DPM from heavy equipment operations and heavy-duty trucks. The following measures are required by state law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.

- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. As shown in Table 8, the recommended incremental cancer risk threshold is 10 in a million. "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will develop cancer based on the use of standard OEHHA risk-assessment methodology.

Generation of DPM from construction projects typically occurs in a localized area (e.g., near locations with multiple pieces of heavy construction equipment working in close proximity) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of construction, the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. Concentrations of DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005).

The dose of TACs to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a source of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for evaluation of long duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities.

Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015). Moreover, as shown in Table 9, maximum daily particulate matter (i.e., PM_{10} or $PM_{2.5}$) emissions generated by construction equipment operation and haul-truck trips during construction (exhaust particulate matter, or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, would be well below the SDAPCD screening-level thresholds. Considering this information, and the fact that any concentrated use of heavy construction equipment would occur at various locations throughout the project site only for short durations, construction of the project would not expose sensitive receptors to substantial DPM concentrations, and the impact would be less than significant.

Additionally, CARB has published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as "schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities." The *Air Quality and Land Use Handbook: A Community Health Perspective* is a guide for siting new sensitive land uses. The enumerated facilities or sources include the following:

- High-traffic freeways and roads,
- Distribution centers,
- Rail yards,

- Ports,
- Refineries,
- Chrome plating facilities,
- Dry cleaners, and
- Large gas dispensing facilities.

CARB recommends that sensitive receptors not be located downwind or in proximity to such sources to avoid potential health hazards.

The project would not include any of the previously listed land uses, so it would not expose visitors, residents, or employees of the project to TAC emissions from these sources. Impacts would be less than significant.

5.4 ISSUE 4: ODORS

The fourth threshold requires an analysis of whether the project results in other emissions (such as those leading to odors) adversely affecting a substantial number of people. As discussed in Section 2, the State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Any unreasonable odor discernible at the property line of the project site would be considered a significant odor impact.

The project could produce odors during proposed construction activities from construction equipment exhaust, application of asphalt, and/or the application of architectural coatings; however, compliance with the above referenced nuisance laws during construction would ensure that odor emissions would not adversely affect a substantial number of people. While odors related to construction may be perceptible, as described above, construction emissions would not result in pollutant concentrations that would be hazardous for sensitive receptors. Furthermore, odors emitted during construction would be temporary, short-term, localized to the immediate vicinity of the equipment, and intermittent in nature, and would cease upon the completion of the respective phase of construction. Accordingly, the proposed project would not create objectionable odors affecting a substantial number of people during construction, and impacts would be less than significant.

According to CARB, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, industrial activities, composting, refineries, landfills, recycling facilities, dairies, and fiberglass molding facilities (CARB 2005). Once operational, future development implemented under the project would include residential and associated commercial uses that are generally not a source of objectionable odors. Therefore, project operation would not result in odors affecting a substantial number of people, and impacts would be less than significant.

6.0 List of Preparers

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7.0 REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2022. User Guide for CalEEMod Version 2022.1. April. Available at: https://www.caleemod.com/user-guide.

California Air Resources Board (CARB). 2024a. Overview: Diesel Exhaust and Health. Available at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed February 7.

2024b. California State Implementation Plan, About. Available at: https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/about. Accessed February 24.

2024c. iADAM Air Quality Data Statistics: Top 4 Summary. Available at: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed February 8.

2016. Ambient Air Quality Standards. May 4. Available at: https://ww2.arb.ca.gov/sites/default/files/2020-03/aaqs2_0.pdf.

2005. Air Quality and Land Use Handbook: A Community Health Perspective. April. Available at: https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources.

Intersecting Metrics. 2024. Local Transportation Study – Santee Town Center Specific Plan. March

Iowa Environmental Mesonet. 2024. San Diego Gillespie Windrose Plot. Available at: https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=SEE&network=CA_ASOS. Accessed February 8.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2016. Program Level Analysis of General Plans and Area Plans. Available at http://www.airquality.org/LandUseTransportation/Documents/Ch9ProgramLevelFINAL8-2016.pdf. Accessed February 2024.

San Diego County Air Pollution Control District (SDAPCD). 2024a. Attainment Status. Available at: https://www.sdapcd.org/content/sdapcd/planning/attainment-status.html. Accessed February 7.

2023. 2022 Regional Air Quality Strategy (RAQS). Available at: https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/Att.%20A%20-%202022%20RAQS.pdf.

2021. Rule 67.0.1 Architectural Coatings. February 10. Available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-67.0.1-eff010122.pdf.

San Diego County Air Pollution Control District (SDAPCD) (cont.)

2020. Final Ozone Attainment Plan for San Diego County. Updated October. Available at: https://www.sdapcd.org/content/sdapcd/planning.html.

2019. Rule 20.2 New Source Review Non-Major Stationary Sources. Revised June 26. Available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-20.2.pdf.

2009. Rule 55 Fugitive Dust Control. June 24. Available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-55.pdf.

1997. Rule 50 Visible Emissions. August 13. Available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-50.pdf.

1976. Rule 51 Nuisance. November 8. Available at: https://www.sdapcd.org/content/dam/sdapcd/documents/rules/current-rules/Rule-51.pdf.

San Diego, County of (County). 2007. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Air Quality. March 19.

U.S. Environmental Protection Agency (USEPA). 2024a. Criteria Air Pollutants. Last updated August 9. Available at: https://www.epa.gov/criteria-air-pollutants. Accessed February 7.

2024b. Final Rule to Strengthen the National Air Quality Health Standard for Particulate Matter Fact Sheet. Available at: https://www.epa.gov/system/files/documents/2024-02/pm-naaqs-overview.pdf.

2024c. Federal Register Notices Related to 8-Hour Ozone (2015) Designations and Classifications. Available at: https://www3.epa.gov/airquality/greenbook/jfrnrpt2.html#Ozone_8-hr.2015.San_Diego. Accessed February 7.

Western Regional Climate Center. 2016. Western U.S. Climate Summaries, California, El Cajon (042706). Available at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2706. Accessed February 8, 2024.

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Appendix A

CalEEMod Output

Santee TCSP HE Sites Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Santee TCSP HE Sites
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	City of Santee
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.60
Location	32.84193077423488, -116.9764861508951
County	San Diego
City	Santee
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6529
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Apartments Mid Rise	988	Dwelling Unit	13.8	948,480	94,848	—	2,757	Sites 16A and 20B
Apartments Low Rise	303	Dwelling Unit	5.04	321,180	32,118	—	845	Site 20A
Condo/Townhouse	189	Dwelling Unit	5.57	200,340	20,034	—	527	Site 16B
Other Asphalt Surfaces	571	1000sqft	13.1	0.00	0.00	—	—	Paved area for all 4 site

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.43	64.0	21.7	75.0	0.06	0.59	11.8	12.4	0.55	2.81	3.32	—	18,902	18,902	0.84	1.01	51.1	19,275
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.06	63.9	31.7	68.5	0.06	1.37	11.8	12.4	1.26	3.98	5.23	—	18,244	18,244	0.87	1.04	1.33	18,575
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.16	28.0	20.4	47.8	0.05	0.63	7.66	8.29	0.58	2.01	2.60	—	12,398	12,398	0.58	0.66	14.2	12,624
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.94	5.11	3.72	8.72	0.01	0.11	1.40	1.51	0.11	0.37	0.47	—	2,053	2,053	0.10	0.11	2.35	2,090

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.69	5.87	21.6	68.1	0.06	0.59	10.0	10.6	0.55	2.39	2.94	—	17,067	17,067	0.77	0.94	48.2	17,413
2026	7.43	64.0	21.7	75.0	0.06	0.55	11.8	12.4	0.51	2.81	3.32	—	18,902	18,902	0.84	1.01	51.1	19,275
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.62	5.79	31.7	62.0	0.06	1.37	10.0	10.6	1.26	3.98	5.23	—	16,506	16,506	0.81	0.96	1.25	16,813
2026	7.06	63.9	22.4	68.5	0.06	0.55	11.8	12.4	0.51	2.81	3.32	—	18,244	18,244	0.87	1.04	1.33	18,575
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.16	4.49	20.4	47.8	0.05	0.63	7.66	8.29	0.58	2.01	2.60	—	12,398	12,398	0.58	0.66	14.2	12,624
2026	2.62	28.0	8.59	25.9	0.02	0.22	4.28	4.50	0.21	1.02	1.22	—	6,732	6,732	0.32	0.37	7.98	6,858
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.94	0.82	3.72	8.72	0.01	0.11	1.40	1.51	0.11	0.37	0.47	—	2,053	2,053	0.10	0.11	2.35	2,090
2026	0.48	5.11	1.57	4.72	< 0.005	0.04	0.78	0.82	0.04	0.19	0.22	—	1,115	1,115	0.05	0.06	1.32	1,135

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	44.1	74.8	25.9	305	0.54	0.75	44.5	45.2	0.71	11.3	12.0	689	58,024	58,713	72.7	2.38	185	61,424

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	35.5	66.7	27.2	211	0.51	0.71	44.5	45.2	0.68	11.3	12.0	689	55,488	56,177	72.9	2.50	15.1	58,760
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	39.0	69.9	27.3	252	0.52	0.73	44.3	45.0	0.70	11.2	11.9	689	55,947	56,636	72.8	2.48	85.9	59,282
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.12	12.8	4.99	46.0	0.09	0.13	8.08	8.21	0.13	2.05	2.18	114	9,263	9,377	12.1	0.41	14.2	9,815

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	35.8	33.1	21.3	220	0.51	0.40	44.5	44.9	0.37	11.3	11.7	—	52,308	52,308	2.59	2.06	175	53,163
Area	7.86	41.5	0.81	83.9	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	224	224	0.01	< 0.005	—	225
Energy	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	5,445	5,445	0.89	0.07	—	5,487
Water	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Waste	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Total	44.1	74.8	25.9	305	0.54	0.75	44.5	45.2	0.71	11.3	12.0	689	58,024	58,713	72.7	2.38	185	61,424
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	35.1	32.4	23.5	210	0.49	0.40	44.5	44.9	0.37	11.3	11.7	—	49,997	49,997	2.78	2.19	4.53	50,724
Area	0.00	34.1	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Energy	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	5,445	5,445	0.89	0.07	—	5,487
Water	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Waste	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Total	35.5	66.7	27.2	211	0.51	0.71	44.5	45.2	0.68	11.3	12.0	689	55,488	56,177	72.9	2.50	15.1	58,760
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	34.7	32.0	23.1	209	0.49	0.40	44.3	44.7	0.37	11.2	11.6	—	50,345	50,345	2.72	2.17	75.4	51,135
Area	3.87	37.7	0.40	41.4	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	111	111	< 0.005	< 0.005	—	111
Energy	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	5,445	5,445	0.89	0.07	—	5,487
Water	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Waste	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Total	39.0	69.9	27.3	252	0.52	0.73	44.3	45.0	0.70	11.2	11.9	689	55,947	56,636	72.8	2.48	85.9	59,282
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.33	5.83	4.22	38.1	0.09	0.07	8.08	8.15	0.07	2.05	2.12	—	8,335	8,335	0.45	0.36	12.5	8,466
Area	0.71	6.89	0.07	7.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.3	18.3	< 0.005	< 0.005	—	18.4
Energy	0.08	0.04	0.69	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	—	902	902	0.15	0.01	—	909
Water	—	—	—	—	—	—	—	—	—	—	—	16.5	7.53	24.0	1.70	0.04	—	78.6
Waste	—	—	—	—	—	—	—	—	—	—	—	97.6	0.00	97.6	9.76	0.00	—	342
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.74	1.74
Total	7.12	12.8	4.99	46.0	0.09	0.13	8.08	8.21	0.13	2.05	2.18	114	9,263	9,377	12.1	0.41	14.2	9,815

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.73	1.65	< 0.005	0.07	—	0.07	0.07	—	0.07	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	< 0.005	26.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.67	8.67	< 0.005	< 0.005	0.01	8.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.44	1.44	< 0.005	< 0.005	< 0.005	1.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.39	3.66	3.49	0.01	0.15	—	0.15	0.14	—	0.14	—	814	814	0.03	0.01	—	816
Dust From Material Movement	—	—	—	—	—	—	0.44	0.44	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.67	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	135	135	0.01	< 0.005	—	135
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182

Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	< 0.005	26.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.3	22.3	< 0.005	< 0.005	0.04	22.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.09	3.09	< 0.005	< 0.005	< 0.005	3.22
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.69	3.69	< 0.005	< 0.005	0.01	3.74
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.51	0.51	< 0.005	< 0.005	< 0.005	0.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.41	13.1	16.3	0.03	0.54	—	0.54	0.50	—	0.50	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.41	13.1	16.3	0.03	0.54	—	0.54	0.50	—	0.50	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.14	0.96	8.86	11.1	0.02	0.37	—	0.37	0.34	—	0.34	—	2,034	2,034	0.08	0.02	—	2,041
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.62	2.02	< 0.005	0.07	—	0.07	0.06	—	0.06	—	337	337	0.01	< 0.005	—	338
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.67	4.30	3.26	49.3	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	10,110	10,110	0.47	0.35	37.9	10,265
Vendor	0.34	0.16	5.27	2.45	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,960	3,960	0.17	0.56	10.3	4,141
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.60	4.23	3.63	43.2	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	9,547	9,547	0.52	0.38	0.99	9,673
Vendor	0.33	0.15	5.47	2.52	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,962	3,962	0.17	0.56	0.27	4,133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.09	2.84	2.45	29.8	0.00	0.00	6.09	6.09	0.00	1.43	1.43	—	6,537	6,537	0.33	0.25	11.1	6,633
Vendor	0.23	0.11	3.68	1.68	0.02	0.04	0.68	0.72	0.04	0.19	0.23	—	2,688	2,688	0.12	0.38	3.02	2,807
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.52	0.45	5.43	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,082	1,082	0.06	0.04	1.84	1,098

Vendor	0.04	0.02	0.67	0.31	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	445	445	0.02	0.06	0.50	465
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	1.34	12.3	16.2	0.03	0.47	—	0.47	0.44	—	0.44	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	1.34	12.3	16.2	0.03	0.47	—	0.47	0.44	—	0.44	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.28	5.63	0.01	0.16	—	0.16	0.15	—	0.15	—	1,041	1,041	0.04	0.01	—	1,045
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.78	1.03	< 0.005	0.03	—	0.03	0.03	—	0.03	—	172	172	0.01	< 0.005	—	173
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.48	3.85	2.95	46.1	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	9,905	9,905	0.47	0.35	34.7	10,056
Vendor	0.31	0.13	5.01	2.36	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,886	3,886	0.15	0.56	9.48	4,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.18	3.80	3.33	40.6	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	9,354	9,354	0.49	0.38	0.90	9,479
Vendor	0.30	0.13	5.21	2.40	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,889	3,889	0.15	0.56	0.25	4,060
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.44	1.31	1.15	14.3	0.00	0.00	3.12	3.12	0.00	0.73	0.73	—	3,280	3,280	0.17	0.13	5.20	3,328
Vendor	0.11	0.05	1.80	0.82	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,351	1,351	0.05	0.19	1.43	1,412
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.21	2.60	0.00	0.00	0.57	0.57	0.00	0.13	0.13	—	543	543	0.03	0.02	0.86	551
Vendor	0.02	0.01	0.33	0.15	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	224	224	0.01	0.03	0.24	234
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.68	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	145
Paving	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	139	139	0.01	< 0.005	0.49	142
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.1	49.1	< 0.005	0.01	0.12	51.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.02	12.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.92
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.11	2.11	< 0.005	< 0.005	< 0.005	2.14
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.82
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	57.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	57.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.38	0.50	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.3	59.3	< 0.005	< 0.005	—	59.5
Architectural Coatings	—	25.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.81	9.81	< 0.005	< 0.005	—	9.84
Architectural Coatings	—	4.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.90	0.77	0.59	9.21	0.00	0.00	1.80	1.80	0.00	0.42	0.42	—	1,981	1,981	0.09	0.07	6.93	2,011
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.76	0.67	8.13	0.00	0.00	1.80	1.80	0.00	0.42	0.42	—	1,871	1,871	0.10	0.08	0.18	1,896
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.33	0.29	3.64	0.00	0.00	0.80	0.80	0.00	0.19	0.19	—	838	838	0.04	0.03	1.33	850

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.66	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	139	139	0.01	0.01	0.22	141
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	21.8	20.2	13.0	134	0.31	0.24	27.1	27.3	0.23	6.87	7.10	—	31,857	31,857	1.58	1.26	106	32,377
Apartments Low Rise	7.63	7.07	4.56	46.9	0.11	0.09	9.49	9.58	0.08	2.41	2.49	—	11,165	11,165	0.55	0.44	37.3	11,348
Condo/Townhouse	6.35	5.88	3.79	39.0	0.09	0.07	7.89	7.97	0.07	2.00	2.07	—	9,286	9,286	0.46	0.37	31.0	9,438
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	35.8	33.1	21.3	220	0.51	0.40	44.5	44.9	0.37	11.3	11.7	—	52,308	52,308	2.59	2.06	175	53,163

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	21.4	19.7	14.3	128	0.30	0.24	27.1	27.3	0.23	6.87	7.10	—	30,449	30,449	1.69	1.34	2.76	30,892
Apartments Low Rise	7.49	6.91	5.01	44.8	0.10	0.09	9.49	9.58	0.08	2.41	2.49	—	10,672	10,672	0.59	0.47	0.97	10,827
Condo/Townhouse	6.23	5.75	4.16	37.3	0.09	0.07	7.89	7.97	0.07	2.00	2.07	—	8,876	8,876	0.49	0.39	0.80	9,005
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	35.1	32.4	23.5	210	0.49	0.40	44.5	44.9	0.37	11.3	11.7	—	49,997	49,997	2.78	2.19	4.53	50,724
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.85	3.55	2.57	23.2	0.05	0.04	4.92	4.96	0.04	1.25	1.29	—	5,076	5,076	0.27	0.22	7.60	5,156
Apartments Low Rise	1.35	1.25	0.90	8.14	0.02	0.02	1.72	1.74	0.01	0.44	0.45	—	1,779	1,779	0.10	0.08	2.66	1,807
Condo/Townhouse	1.12	1.04	0.75	6.77	0.02	0.01	1.43	1.45	0.01	0.36	0.38	—	1,480	1,480	0.08	0.06	2.22	1,503
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.33	5.83	4.22	38.1	0.09	0.07	8.08	8.15	0.07	2.05	2.12	—	8,335	8,335	0.45	0.36	12.5	8,466

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	414	414	0.30	0.04	—	432
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	131	131	0.10	0.01	—	137
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.4	96.4	0.07	0.01	—	101
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	641	641	0.47	0.06	—	670
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	414	414	0.30	0.04	—	432
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	131	131	0.10	0.01	—	137
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.4	96.4	0.07	0.01	—	101
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	641	641	0.47	0.06	—	670

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	68.5	68.5	0.05	0.01	—	71.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	21.7	21.7	0.02	< 0.005	—	22.6
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.01	< 0.005	—	16.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	106	106	0.08	0.01	—	111

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Apartments Low Rise	0.12	0.06	1.04	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,317	1,317	0.12	< 0.005	—	1,321
Condo/Townhouse	0.11	0.06	0.98	0.42	0.01	0.08	—	0.08	0.08	—	0.08	—	1,246	1,246	0.11	< 0.005	—	1,249
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	4,804	4,804	0.43	0.01	—	4,818
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Apartments Low Rise	0.12	0.06	1.04	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,317	1,317	0.12	< 0.005	—	1,321
Condo/Townhouse	0.11	0.06	0.98	0.42	0.01	0.08	—	0.08	0.08	—	0.08	—	1,246	1,246	0.11	< 0.005	—	1,249
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	4,804	4,804	0.43	0.01	—	4,818
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	371	371	0.03	< 0.005	—	372
Apartments Low Rise	0.02	0.01	0.19	0.08	< 0.005	0.02	—	0.02	0.02	—	0.02	—	218	218	0.02	< 0.005	—	219
Condo/Townhouse	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	206	206	0.02	< 0.005	—	207
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.69	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	—	795	795	0.07	< 0.005	—	798

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	31.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	7.86	7.44	0.81	83.9	< 0.005	0.04	—	0.04	0.03	—	0.03	—	224	224	0.01	< 0.005	—	225
Total	7.86	41.5	0.81	83.9	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	224	224	0.01	< 0.005	—	225
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	31.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	34.1	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer Products	—	5.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.71	0.67	0.07	7.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.3	18.3	< 0.005	< 0.005	—	18.4
Total	0.71	6.89	0.07	7.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.3	18.3	< 0.005	< 0.005	—	18.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	30.3	96.8	6.84	0.16	—	317
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.4	9.34	29.7	2.10	0.05	—	97.3
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	12.7	5.83	18.5	1.31	0.03	—	60.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	30.3	96.8	6.84	0.16	—	317
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.4	9.34	29.7	2.10	0.05	—	97.3
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	12.7	5.83	18.5	1.31	0.03	—	60.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.0	5.02	16.0	1.13	0.03	—	52.5
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3.38	1.55	4.92	0.35	0.01	—	16.1
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.11	0.96	3.07	0.22	0.01	—	10.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.5	7.53	24.0	1.70	0.04	—	78.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	0.00	121	12.1	0.00	—	422
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	75.3	0.00	75.3	7.52	0.00	—	263
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	0.00	121	12.1	0.00	—	422
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	75.3	0.00	75.3	7.52	0.00	—	263
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	65.2	0.00	65.2	6.52	0.00	—	228
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	69.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	12.5	0.00	12.5	1.25	0.00	—	43.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	97.6	0.00	97.6	9.76	0.00	—	342

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.30	2.30
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.43	1.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.30	2.30
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.43	1.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.38	0.38
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.74	1.74

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Site Preparation	Site Preparation	1/1/2025	1/23/2025	6.00	20.0	—
Grading	Grading	1/24/2025	3/17/2025	6.00	45.0	—
Building Construction	Building Construction	3/18/2025	5/28/2026	6.00	375	—
Paving	Paving	5/29/2026	7/8/2026	6.00	35.0	—
Architectural Coating	Architectural Coating	1/1/2026	7/8/2026	6.00	162	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	2.00	4.38	367	0.29
Building Construction	Forklifts	Diesel	Average	4.00	7.50	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	5.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	4.00	6.56	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	5.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	1.00	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	1.00	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,066	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	158	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—

Architectural Coating	Worker	213	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	2,976,750	992,250	0.00	0.00	34,258

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	30.0	0.00	—
Grading	—	—	135	0.00	—
Paving	0.00	0.00	0.00	0.00	13.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Apartments Low Rise	—	0%
Condo/Townhouse	—	0%
Other Asphalt Surfaces	13.1	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	540	0.03	< 0.005
2026	0.00	45.1	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	5,187	5,187	5,187	1,893,255	38,359	38,359	38,359	14,000,900
Apartments Low Rise	1,818	1,818	1,818	663,570	13,444	13,444	13,444	4,907,198
Condo/Townhouse	1,512	1,512	1,512	551,880	11,181	11,181	11,181	4,081,234
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	988
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	303
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	189
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
2976750	992,250	0.00	0.00	34,258

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	3,350,179	45.1	0.0330	0.0040	6,993,495
Apartments Low Rise	1,058,452	45.1	0.0330	0.0040	4,110,320
Condo/Townhouse	780,448	45.1	0.0330	0.0040	3,886,734
Other Asphalt Surfaces	0.00	45.1	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	34,711,478	1,732,407
Apartments Low Rise	10,645,322	586,638
Condo/Townhouse	6,640,151	365,923
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	731	—
Apartments Low Rise	224	—
Condo/Townhouse	140	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4	annual days of extreme heat
Extreme Precipitation	3.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.98	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	45.1
AQ-DPM	25.7
Drinking Water	10.9
Lead Risk Housing	17.5
Pesticides	0.00
Toxic Releases	25.6
Traffic	48.6
Effect Indicators	—
CleanUp Sites	37.8
Groundwater	40.8
Haz Waste Facilities/Generators	84.7
Impaired Water Bodies	77.3

Solid Waste	9.67
Sensitive Population	—
Asthma	35.6
Cardio-vascular	30.2
Low Birth Weights	18.6
Socioeconomic Factor Indicators	—
Education	43.4
Housing	19.8
Linguistic	10.4
Poverty	16.6
Unemployment	28.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	66.11061209
Employed	1.296034903
Median HI	58.75785962
Education	—
Bachelor's or higher	47.36301809
High school enrollment	17.87501604
Preschool enrollment	14.26921596
Transportation	—
Auto Access	76.73553189
Active commuting	33.56858719
Social	—

2-parent households	27.65302194
Voting	75.72180162
Neighborhood	—
Alcohol availability	42.80764789
Park access	24.26536635
Retail density	59.4636212
Supermarket access	60.82381625
Tree canopy	8.135506224
Housing	—
Homeownership	43.19260875
Housing habitability	69.11330681
Low-inc homeowner severe housing cost burden	75.55498524
Low-inc renter severe housing cost burden	83.49801104
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	59.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	1.7
Cognitively Disabled	36.6
Physically Disabled	78.7

Heart Attack ER Admissions	49.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	83.1
English Speaking	76.6
Foreign-born	6.0
Outdoor Workers	58.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	55.9
Traffic Density	49.3
Traffic Access	51.5
Other Indices	—
Hardship	31.7
Other Decision Support	—
2016 Voting	76.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	18.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on acreage and total dwelling units provided in Town Center Specific Plan Buildout Summary (9-7-2023 Draft)
Construction: Construction Phases	Sites are vacant, no demo required. Building Construction phase working days reduced by 25% to achieve target buildout in 2026. Architectural coating phase adjusted to overlap second half of Building Construction and Paving.
Construction: Off-Road Equipment	Building construction equipment/hours increased by 25% due to shortened schedule.
Operations: Vehicle Data	Trip generation provided by Intersecting Metrics.
Operations: Hearths	No hearths installed.

Santee TCSP Program Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Santee TCSP Program Construction
Construction Start Date	1/1/2027
Lead Agency	City of Santee
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.60
Location	32.84514001277044, -116.97668753144887
County	San Diego
City	Santee
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6529
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Strip Mall	148	1000sqft	33.2	148,060	0.00	—	—	—

Regional Shopping Center	6.16	1000sqft	2.20	6,160	0.00	—	—	—
Government (Civic Center)	46.8	1000sqft	11.4	46,810	0.00	—	—	—
Office Park	60.0	1000sqft	6.19	60,050	0.00	—	—	—
City Park	14.8	Acre	14.8	0.00	0.00	0.00	—	—
Condo/Townhouse	198	Dwelling Unit	10.6	209,880	0.00	—	552	—
Apartments Low Rise	217	Dwelling Unit	5.90	230,020	0.00	—	605	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.2	12.0	94.8	121	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,438	26,438	1.09	0.65	20.6	26,679
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.2	12.0	95.2	119	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,172	26,172	1.12	0.66	0.53	26,397
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.1	8.56	68.1	84.9	0.14	2.64	11.6	14.3	2.43	4.70	7.13	—	18,743	18,743	0.79	0.46	6.38	18,907

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.85	1.56	12.4	15.5	0.03	0.48	2.13	2.61	0.44	0.86	1.30	—	3,103	3,103	0.13	0.08	1.06	3,130

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	14.2	12.0	94.8	121	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,438	26,438	1.09	0.65	20.6	26,679
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	14.2	12.0	95.2	119	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,172	26,172	1.12	0.66	0.53	26,397
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	10.1	8.56	68.1	84.9	0.14	2.64	11.6	14.3	2.43	4.70	7.13	—	18,743	18,743	0.79	0.46	6.38	18,907
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.85	1.56	12.4	15.5	0.03	0.48	2.13	2.61	0.44	0.86	1.30	—	3,103	3,103	0.13	0.08	1.06	3,130

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	1.58	14.2	13.3	0.02	0.57	—	0.57	0.52	—	0.52	—	2,450	2,450	0.10	0.02	—	2,459
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.60	2.43	< 0.005	0.10	—	0.10	0.10	—	0.10	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.05	0.04	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	137	137	0.01	< 0.005	0.44	139
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.11	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.54	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	0.01	0.01	131
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	< 0.005	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.4	93.4	< 0.005	< 0.005	0.14	94.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	< 0.005	0.03	35.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.5	15.5	< 0.005	< 0.005	0.02	15.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.94
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63	3.05	28.0	28.3	0.05	1.17	—	1.17	1.08	—	1.08	—	5,298	5,298	0.21	0.04	—	5,316

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63	3.05	28.0	28.3	0.05	1.17	—	1.17	1.08	—	1.08	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.60	2.18	20.0	20.2	0.03	0.84	—	0.84	0.77	—	0.77	—	3,788	3,788	0.15	0.03	—	3,801
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.40	3.65	3.69	0.01	0.15	—	0.15	0.14	—	0.14	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.04	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	160	160	0.01	0.01	0.52	162
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.63	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	151	151	0.01	0.01	0.01	153
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	109	109	0.01	< 0.005	0.16	110
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	18.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.51	2.11	18.3	19.5	0.04	0.75	—	0.75	0.69	—	0.69	—	4,718	4,718	0.19	0.04	—	4,734
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.38	3.34	3.56	0.01	0.14	—	0.14	0.13	—	0.13	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.82	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.59	186
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.1	72.1	< 0.005	0.01	0.16	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.72	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.2	72.2	< 0.005	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	125	125	0.01	< 0.005	0.18	126
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	20.6	20.6	< 0.005	< 0.005	0.03	20.9
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.72	9.25	0.02	0.24	—	0.24	0.22	—	0.22	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.23	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.47	1.35	0.94	15.7	0.00	0.00	3.23	3.23	0.00	0.76	0.76	—	3,494	3,494	0.16	0.13	11.3	3,547
Vendor	0.16	0.07	2.64	1.25	0.01	0.03	0.56	0.59	0.03	0.15	0.18	—	2,095	2,095	0.08	0.29	4.68	2,190
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.45	1.31	1.18	13.8	0.00	0.00	3.23	3.23	0.00	0.76	0.76	—	3,300	3,300	0.18	0.13	0.29	3,344
Vendor	0.15	0.07	2.74	1.27	0.01	0.03	0.56	0.59	0.03	0.15	0.18	—	2,097	2,097	0.08	0.29	0.12	2,187
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.93	0.84	9.96	0.00	0.00	2.30	2.30	0.00	0.54	0.54	—	2,381	2,381	0.12	0.09	3.50	2,414
Vendor	0.11	0.05	1.94	0.90	0.01	0.02	0.40	0.42	0.02	0.11	0.13	—	1,499	1,499	0.06	0.21	1.45	1,564
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.15	1.82	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	394	394	0.02	0.01	0.58	400
Vendor	0.02	0.01	0.35	0.17	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.03	0.24	259
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.97	7.12	0.01	0.21	—	0.21	0.20	—	0.20	—	1,081	1,081	0.04	0.01	—	1,084
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.91	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	179	179	0.01	< 0.005	—	180
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	137	137	0.01	< 0.005	0.44	139
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.11	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.54	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	0.01	0.01	131

Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	< 0.005	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.4	93.4	< 0.005	< 0.005	0.14	94.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	< 0.005	0.03	35.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.5	15.5	< 0.005	< 0.005	0.02	15.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.94
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.59	0.80	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.19	3.13	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	699	699	0.03	0.03	2.27	709
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.24	2.75	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	660	660	0.04	0.03	0.06	669
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.17	1.99	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	476	476	0.02	0.02	0.70	483
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	78.8	78.8	< 0.005	< 0.005	0.12	79.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2027	12/31/2027	5.00	261	—
Site Preparation	Site Preparation	1/1/2027	12/31/2027	5.00	261	—
Grading	Grading	1/1/2027	12/31/2027	5.00	261	—
Building Construction	Building Construction	1/1/2027	12/31/2027	5.00	261	—
Paving	Paving	1/1/2027	12/31/2027	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2027	12/31/2027	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	2.00	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	3.00	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	382	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	87.2	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	76.5	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Strip Mall	0.00	0%
Regional Shopping Center	0.00	0%
Government (Civic Center)	0.00	0%
Office Park	0.00	0%
City Park	0.00	0%
Condo/Townhouse	—	0%
Apartments Low Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	589	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4	annual days of extreme heat
Extreme Precipitation	3.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.98	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	45.1
AQ-DPM	25.7
Drinking Water	10.9
Lead Risk Housing	17.5
Pesticides	0.00
Toxic Releases	25.6
Traffic	48.6
Effect Indicators	—
CleanUp Sites	37.8
Groundwater	40.8
Haz Waste Facilities/Generators	84.7
Impaired Water Bodies	77.3
Solid Waste	9.67
Sensitive Population	—
Asthma	35.6
Cardio-vascular	30.2
Low Birth Weights	18.6
Socioeconomic Factor Indicators	—
Education	43.4
Housing	19.8

Linguistic	10.4
Poverty	16.6
Unemployment	28.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	66.11061209
Employed	1.296034903
Median HI	58.75785962
Education	—
Bachelor's or higher	47.36301809
High school enrollment	17.87501604
Preschool enrollment	14.26921596
Transportation	—
Auto Access	76.73553189
Active commuting	33.56858719
Social	—
2-parent households	27.65302194
Voting	75.72180162
Neighborhood	—
Alcohol availability	42.80764789
Park access	24.26536635
Retail density	59.4636212
Supermarket access	60.82381625
Tree canopy	8.135506224

Housing	—
Homeownership	43.19260875
Housing habitability	69.11330681
Low-inc homeowner severe housing cost burden	75.55498524
Low-inc renter severe housing cost burden	83.49801104
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	59.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	1.7
Cognitively Disabled	36.6
Physically Disabled	78.7
Heart Attack ER Admissions	49.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	83.1
English Speaking	76.6
Foreign-born	6.0
Outdoor Workers	58.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	55.9
Traffic Density	49.3
Traffic Access	51.5
Other Indices	—
Hardship	31.7
Other Decision Support	—
2016 Voting	76.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	18.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of SP construction occurs in one year. Residences in Sites 16A, 16B, 20A, and 20B not included.
Construction: Construction Phases	Default construction activities assumed to occur over one year.

Santee TCSP Program 2035 Operations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Santee TCSP Program 2035 Operations
Operational Year	2035
Lead Agency	City of Santee
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.60
Location	32.845263451000434, -116.97647155078744
County	San Diego
City	Santee
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6529
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Strip Mall	592	1000sqft	133	592,258	59,225	—	—	—

Regional Shopping Center	24.6	1000sqft	8.81	24,625	2,462	—	—	—
Government (Civic Center)	187	1000sqft	45.7	187,223	18,722	—	—	—
Office Park	240	1000sqft	24.8	240,206	24,020	—	—	—
City Park	59.4	Acre	59.4	0.00	59.4	59.4	—	—
Condo/Townhouse	982	Dwelling Unit	50.9	1,040,920	104,092	—	2,740	—
Apartments Low Rise	1,170	Dwelling Unit	31.3	1,240,200	124,020	—	3,264	—
Apartments Mid Rise	988	Dwelling Unit	21.1	948,480	94,848	—	2,757	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	207	282	113	1,430	3.36	3.15	330	333	3.00	83.7	86.7	2,751	363,224	365,975	294	13.5	399	377,736
Mit.	183	259	111	1,206	3.35	2.99	330	333	2.88	83.7	86.6	2,751	362,615	365,366	294	13.5	399	377,125
% Reduced	12%	8%	2%	16%	< 0.5%	5%	—	< 0.5%	4%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
Mit.	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	189	265	119	1,232	3.19	3.05	324	327	2.91	82.2	85.1	2,751	346,040	348,791	294	13.9	186	360,470
Mit.	177	254	118	1,121	3.19	2.97	324	327	2.86	82.2	85.1	2,751	345,739	348,490	294	13.9	186	360,169
% Reduced	6%	4%	1%	9%	< 0.5%	3%	—	< 0.5%	2%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	34.5	48.3	21.7	225	0.58	0.56	59.2	59.7	0.53	15.0	15.5	455	57,291	57,746	48.7	2.30	30.8	59,680
Mit.	32.3	46.3	21.5	205	0.58	0.54	59.2	59.7	0.52	15.0	15.5	455	57,241	57,697	48.7	2.30	30.8	59,630
% Reduced	6%	4%	1%	9%	< 0.5%	3%	—	< 0.5%	2%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Area	24.4	114	2.03	224	0.01	0.16	—	0.16	0.12	—	0.12	0.00	663	663	0.03	0.01	—	665
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713

Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	207	282	113	1,430	3.36	3.15	330	333	3.00	83.7	86.7	2,751	363,224	365,975	294	13.5	399	377,736
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	175	161	103	1,113	3.09	1.76	324	326	1.64	82.2	83.9	—	314,741	314,741	13.8	12.5	158	318,966
Area	12.0	103	1.00	111	0.01	0.08	—	0.08	0.06	—	0.06	0.00	327	327	0.01	< 0.005	—	328
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	189	265	119	1,232	3.19	3.05	324	327	2.91	82.2	85.1	2,751	346,040	348,791	294	13.9	186	360,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808
Area	2.19	18.8	0.18	20.2	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	54.1	54.1	< 0.005	< 0.005	—	54.3
Energy	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	5,001	5,001	0.64	0.05	—	5,032
Water	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449
Waste	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63

Total	34.5	48.3	21.7	225	0.58	0.56	59.2	59.7	0.53	15.0	15.5	455	57,291	57,746	48.7	2.30	30.8	59,680

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,260	30,260	3.87	0.30	—	30,447
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	183	259	111	1,206	3.35	2.99	330	333	2.88	83.7	86.6	2,751	362,615	365,366	294	13.5	399	377,125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	175	161	103	1,113	3.09	1.76	324	326	1.64	82.2	83.9	—	314,741	314,741	13.8	12.5	158	318,966
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,233	30,233	3.86	0.30	—	30,419
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	177	254	118	1,121	3.19	2.97	324	327	2.86	82.2	85.1	2,751	345,739	348,490	294	13.9	186	360,169
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808
Area	0.00	16.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	5,005	5,005	0.64	0.05	—	5,036
Water	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449
Waste	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63
Total	32.3	46.3	21.5	205	0.58	0.54	59.2	59.7	0.52	15.0	15.5	455	57,241	57,697	48.7	2.30	30.8	59,630

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.9	83.6	49.4	621	1.71	0.93	173	174	0.87	44.0	44.9	—	173,908	173,908	6.88	6.24	195	176,133
Regional Shopping Center	7.77	7.35	3.25	37.0	0.09	0.05	8.73	8.78	0.05	2.21	2.26	—	8,965	8,965	0.48	0.40	9.80	9,104

Governm (Civic Center)	6.90	6.35	3.74	47.1	0.13	0.07	13.2	13.2	0.07	3.34	3.40	—	13,194	13,194	0.52	0.47	14.8	13,363
Office Park	14.7	13.6	8.01	101	0.28	0.15	28.1	28.3	0.14	7.14	7.28	—	28,213	28,213	1.12	1.01	31.6	28,574
City Park	1.05	0.97	0.57	7.17	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	2,008	2,008	0.08	0.07	2.25	2,034
Condo/T ownhous e	23.4	21.6	12.1	150	0.40	0.22	41.0	41.2	0.21	10.4	10.6	—	41,233	41,233	1.70	1.52	46.0	41,775
Apartme nts Low Rise	20.9	19.3	10.8	134	0.36	0.20	36.6	36.8	0.19	9.29	9.48	—	36,845	36,845	1.52	1.36	41.1	37,329
Apartme nts Mid Rise	15.4	14.3	8.00	99.2	0.27	0.15	27.1	27.2	0.14	6.86	7.00	—	27,224	27,224	1.12	1.00	30.4	27,582
Total	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.2	82.8	54.3	582	1.63	0.93	173	174	0.87	44.0	44.9	—	166,103	166,103	7.25	6.60	5.05	168,257
Regional Shopping Center	7.72	7.28	3.59	36.7	0.08	0.05	8.73	8.78	0.05	2.21	2.26	—	8,576	8,576	0.52	0.42	0.25	8,714
Governm ent (Civic Center)	6.84	6.29	4.12	44.2	0.12	0.07	13.2	13.2	0.07	3.34	3.40	—	12,602	12,602	0.55	0.50	0.38	12,765
Office Park	14.6	13.4	8.81	94.5	0.26	0.15	28.1	28.3	0.14	7.14	7.28	—	26,947	26,947	1.18	1.07	0.82	27,296
City Park	1.04	0.96	0.63	6.72	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	1,918	1,918	0.08	0.08	0.06	1,943
Condo/T ownhous e	23.2	21.4	13.3	142	0.39	0.22	41.0	41.2	0.21	10.4	10.6	—	39,390	39,390	1.80	1.61	1.19	39,917

Apartments Low Rise	20.7	19.1	11.9	127	0.35	0.20	36.6	36.8	0.19	9.29	9.48	—	35,198	35,198	1.61	1.44	1.07	35,669
Apartments Mid Rise	15.3	14.1	8.81	93.7	0.26	0.15	27.1	27.2	0.14	6.86	7.00	—	26,008	26,008	1.19	1.06	0.79	26,355
Total	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	16.2	14.9	9.76	106	0.30	0.17	31.5	31.7	0.16	7.99	8.15	—	27,696	27,696	1.18	1.08	13.9	28,061
Regional Shopping Center	1.37	1.29	0.62	6.30	0.01	0.01	1.47	1.47	0.01	0.37	0.38	—	1,327	1,327	0.08	0.07	0.65	1,350
Government (Civic Center)	0.88	0.81	0.53	5.77	0.02	0.01	1.71	1.72	0.01	0.43	0.44	—	1,501	1,501	0.06	0.06	0.75	1,521
Office Park	2.63	2.42	1.58	17.3	0.05	0.03	5.11	5.14	0.03	1.30	1.32	—	4,493	4,493	0.19	0.18	2.26	4,552
City Park	0.19	0.17	0.11	1.23	< 0.005	< 0.005	0.36	0.37	< 0.005	0.09	0.09	—	320	320	0.01	0.01	0.16	324
Condo/Townhouse	4.17	3.85	2.39	25.9	0.07	0.04	7.45	7.49	0.04	1.89	1.93	—	6,568	6,568	0.29	0.26	3.29	6,657
Apartments Low Rise	3.73	3.44	2.14	23.1	0.06	0.04	6.65	6.69	0.03	1.69	1.72	—	5,869	5,869	0.26	0.24	2.94	5,948
Apartments Mid Rise	2.75	2.54	1.58	17.1	0.05	0.03	4.92	4.94	0.03	1.25	1.27	—	4,336	4,336	0.19	0.17	2.17	4,395
Total	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.9	83.6	49.4	621	1.71	0.93	173	174	0.87	44.0	44.9	—	173,908	173,908	6.88	6.24	195	176,133
Regional Shopping Center	7.77	7.35	3.25	37.0	0.09	0.05	8.73	8.78	0.05	2.21	2.26	—	8,965	8,965	0.48	0.40	9.80	9,104
Government (Civic Center)	6.90	6.35	3.74	47.1	0.13	0.07	13.2	13.2	0.07	3.34	3.40	—	13,194	13,194	0.52	0.47	14.8	13,363
Office Park	14.7	13.6	8.01	101	0.28	0.15	28.1	28.3	0.14	7.14	7.28	—	28,213	28,213	1.12	1.01	31.6	28,574
City Park	1.05	0.97	0.57	7.17	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	2,008	2,008	0.08	0.07	2.25	2,034
Condo/Townhouse	23.4	21.6	12.1	150	0.40	0.22	41.0	41.2	0.21	10.4	10.6	—	41,233	41,233	1.70	1.52	46.0	41,775
Apartments Low Rise	20.9	19.3	10.8	134	0.36	0.20	36.6	36.8	0.19	9.29	9.48	—	36,845	36,845	1.52	1.36	41.1	37,329
Apartments Mid Rise	15.4	14.3	8.00	99.2	0.27	0.15	27.1	27.2	0.14	6.86	7.00	—	27,224	27,224	1.12	1.00	30.4	27,582
Total	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.2	82.8	54.3	582	1.63	0.93	173	174	0.87	44.0	44.9	—	166,103	166,103	7.25	6.60	5.05	168,257
Regional Shopping Center	7.72	7.28	3.59	36.7	0.08	0.05	8.73	8.78	0.05	2.21	2.26	—	8,576	8,576	0.52	0.42	0.25	8,714
Government (Civic Center)	6.84	6.29	4.12	44.2	0.12	0.07	13.2	13.2	0.07	3.34	3.40	—	12,602	12,602	0.55	0.50	0.38	12,765

Office Park	14.6	13.4	8.81	94.5	0.26	0.15	28.1	28.3	0.14	7.14	7.28	—	26,947	26,947	1.18	1.07	0.82	27,296
City Park	1.04	0.96	0.63	6.72	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	1,918	1,918	0.08	0.08	0.06	1,943
Condo/Townhouse	23.2	21.4	13.3	142	0.39	0.22	41.0	41.2	0.21	10.4	10.6	—	39,390	39,390	1.80	1.61	1.19	39,917
Apartments Low Rise	20.7	19.1	11.9	127	0.35	0.20	36.6	36.8	0.19	9.29	9.48	—	35,198	35,198	1.61	1.44	1.07	35,669
Apartments Mid Rise	15.3	14.1	8.81	93.7	0.26	0.15	27.1	27.2	0.14	6.86	7.00	—	26,008	26,008	1.19	1.06	0.79	26,355
Total	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	16.2	14.9	9.76	106	0.30	0.17	31.5	31.7	0.16	7.99	8.15	—	27,696	27,696	1.18	1.08	13.9	28,061
Regional Shopping Center	1.37	1.29	0.62	6.30	0.01	0.01	1.47	1.47	0.01	0.37	0.38	—	1,327	1,327	0.08	0.07	0.65	1,350
Government (Civic Center)	0.88	0.81	0.53	5.77	0.02	0.01	1.71	1.72	0.01	0.43	0.44	—	1,501	1,501	0.06	0.06	0.75	1,521
Office Park	2.63	2.42	1.58	17.3	0.05	0.03	5.11	5.14	0.03	1.30	1.32	—	4,493	4,493	0.19	0.18	2.26	4,552
City Park	0.19	0.17	0.11	1.23	< 0.005	< 0.005	0.36	0.37	< 0.005	0.09	0.09	—	320	320	0.01	0.01	0.16	324
Condo/Townhouse	4.17	3.85	2.39	25.9	0.07	0.04	7.45	7.49	0.04	1.89	1.93	—	6,568	6,568	0.29	0.26	3.29	6,657
Apartments Low Rise	3.73	3.44	2.14	23.1	0.06	0.04	6.65	6.69	0.03	1.69	1.72	—	5,869	5,869	0.26	0.24	2.94	5,948
Apartments Mid Rise	2.75	2.54	1.58	17.1	0.05	0.03	4.92	4.94	0.03	1.25	1.27	—	4,336	4,336	0.19	0.17	2.17	4,395
Total	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,426	2,426	0.47	0.06	—	2,455
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,444	1,444	0.28	0.03	—	1,461
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,885	1,885	0.37	0.04	—	1,907
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,899	1,899	0.37	0.04	—	1,922
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,557	1,557	0.30	0.04	—	1,576
Total	—	—	—	—	—	—	—	—	—	—	—	—	11,165	11,165	2.17	0.26	—	11,298
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,426	2,426	0.47	0.06	—	2,455

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,444	1,444	0.28	0.03	—	1,461
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,885	1,885	0.37	0.04	—	1,907
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,899	1,899	0.37	0.04	—	1,922
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,557	1,557	0.30	0.04	—	1,576
Total	—	—	—	—	—	—	—	—	—	—	—	—	11,165	11,165	2.17	0.26	—	11,298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	402	402	0.08	0.01	—	406
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	16.7	16.7	< 0.005	< 0.005	—	16.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	239	239	0.05	0.01	—	242
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	307	307	0.06	0.01	—	310
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	312	312	0.06	0.01	—	316

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	314	314	0.06	0.01	—	318
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	258	258	0.05	0.01	—	261
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,848	1,848	0.36	0.04	—	1,870

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,434	2,434	0.47	0.06	—	2,463
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,446	1,446	0.28	0.03	—	1,464
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,856	1,856	0.36	0.04	—	1,878
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,897	1,897	0.37	0.04	—	1,920
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.37	0.05	—	1,937
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,570	1,570	0.31	0.04	—	1,588

Total	—	—	—	—	—	—	—	—	—	—	—	—	11,218	11,218	2.18	0.26	—	11,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,426	2,426	0.47	0.06	—	2,455
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,444	1,444	0.28	0.03	—	1,461
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,885	1,885	0.37	0.04	—	1,907
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,899	1,899	0.37	0.04	—	1,922
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,557	1,557	0.30	0.04	—	1,576
Total	—	—	—	—	—	—	—	—	—	—	—	—	11,165	11,165	2.17	0.26	—	11,298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	402	402	0.08	0.01	—	407
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	16.7	16.7	< 0.005	< 0.005	—	16.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	239	239	0.05	0.01	—	242

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	307	307	0.06	0.01	—	311
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	313	313	0.06	0.01	—	317
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	316	316	0.06	0.01	—	319
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	259	259	0.05	0.01	—	262
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2
Government (Civic Center)	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2
Government (Civic Center)	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Strip Mall	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	136	136	0.01	< 0.005	—	136
Regional Shopping Center	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.65	5.65	< 0.005	< 0.005	—	5.67
Government (Civic Center)	0.03	0.02	0.29	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	318	318	0.03	< 0.005	—	319
Office Park	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	408	408	0.04	< 0.005	—	409
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.11	0.05	0.93	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,072	1,072	0.09	< 0.005	—	1,074
Apartments Low Rise	0.09	0.04	0.73	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	—	842	842	0.07	< 0.005	—	844
Apartments Mid Rise	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	371	371	0.03	< 0.005	—	372
Total	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	3,153	3,153	0.28	0.01	—	3,161

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2

Government	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2
Government (Civic Center)	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101

Apartme Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	136	136	0.01	< 0.005	—	136
Regional Shopping Center	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.65	5.65	< 0.005	< 0.005	—	5.67
Governm ent (Civic Center)	0.03	0.02	0.29	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	318	318	0.03	< 0.005	—	319
Office Park	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	408	408	0.04	< 0.005	—	409
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/T ownhous e	0.11	0.05	0.93	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,072	1,072	0.09	< 0.005	—	1,074
Apartme nts Low Rise	0.09	0.04	0.73	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	—	842	842	0.07	< 0.005	—	844
Apartme nts Mid Rise	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	371	371	0.03	< 0.005	—	372
Total	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	3,153	3,153	0.28	0.01	—	3,161

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	24.4	22.9	2.03	224	0.01	0.16	—	0.16	0.12	—	0.12	—	663	663	0.03	0.01	—	665
Total	24.4	114	2.03	224	0.01	0.16	—	0.16	0.12	—	0.12	0.00	663	663	0.03	0.01	—	665
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.19	2.06	0.18	20.2	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Total	2.19	18.8	0.18	20.2	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	54.1	54.1	< 0.005	< 0.005	—	54.3

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	16.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425
Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425

Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.9	23.3	37.3	1.43	0.03	—	83.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	0.58	0.97	1.55	0.06	< 0.005	—	3.46
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	11.8	19.6	31.4	1.21	0.03	—	70.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	13.5	22.5	36.1	1.39	0.03	—	80.9
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	10.9	18.8	29.8	1.13	0.03	—	66.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	13.0	22.5	35.5	1.34	0.03	—	78.7
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.0	18.9	29.9	1.13	0.03	—	66.4
Total	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425
Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425
Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.9	23.3	37.3	1.43	0.03	—	83.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	0.58	0.97	1.55	0.06	< 0.005	—	3.46
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	11.8	19.6	31.4	1.21	0.03	—	70.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	13.5	22.5	36.1	1.39	0.03	—	80.9
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	10.9	18.8	29.8	1.13	0.03	—	66.0

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	13.0	22.5	35.5	1.34	0.03	—	78.7
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.0	18.9	29.9	1.13	0.03	—	66.4
Total	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012
Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631

Apartme Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Governm ent (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012
Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/T ownhous e	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	55.5	0.00	55.5	5.55	0.00	—	194
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.07

Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	95.2	0.00	95.2	9.52	0.00	—	333
Office Park	—	—	—	—	—	—	—	—	—	—	—	19.9	0.00	19.9	1.99	0.00	—	69.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.46	0.00	0.46	0.05	0.00	—	1.59
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	64.8	0.00	64.8	6.48	0.00	—	227
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.71	0.00	—	270
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	65.2	0.00	65.2	6.52	0.00	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012

Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012
Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631

Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	55.5	0.00	55.5	5.55	0.00	—	194
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.07
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	95.2	0.00	95.2	9.52	0.00	—	333
Office Park	—	—	—	—	—	—	—	—	—	—	—	19.9	0.00	19.9	1.99	0.00	—	69.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.46	0.00	0.46	0.05	0.00	—	1.59
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	64.8	0.00	64.8	6.48	0.00	—	227
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.71	0.00	—	270
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	65.2	0.00	65.2	6.52	0.00	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.23	1.23
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.23	1.23

Apartment Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipme Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Strip Mall	29,613	29,613	29,613	10,808,709	245,789	245,789	245,789	89,712,877
Regional Shopping Center	2,955	2,955	2,955	1,078,575	11,061	12,364	12,364	4,173,039
Government (Civic Center)	2,247	0.00	0.00	585,742	18,648	0.00	0.00	4,861,689
Office Park	4,804	4,804	4,804	1,753,504	39,874	39,874	39,874	14,554,178
City Park	342	342	342	124,798	2,838	2,838	2,838	1,035,834
Condo/Townhouse	7,856	7,856	7,856	2,867,440	58,096	58,096	58,096	21,205,141
Apartments Low Rise	7,020	7,020	7,020	2,562,300	51,914	51,914	51,914	18,948,586
Apartments Mid Rise	5,187	5,187	5,187	1,893,255	38,359	38,359	38,359	14,000,900

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Strip Mall	29,613	29,613	29,613	10,808,709	245,789	245,789	245,789	89,712,877
Regional Shopping Center	2,955	2,955	2,955	1,078,575	11,061	12,364	12,364	4,173,039

Government (Civic Center)	2,247	0.00	0.00	585,742	18,648	0.00	0.00	4,861,689
Office Park	4,804	4,804	4,804	1,753,504	39,874	39,874	39,874	14,554,178
City Park	342	342	342	124,798	2,838	2,838	2,838	1,035,834
Condo/Townhouse	7,856	7,856	7,856	2,867,440	58,096	58,096	58,096	21,205,141
Apartments Low Rise	7,020	7,020	7,020	2,562,300	51,914	51,914	51,914	18,948,586
Apartments Mid Rise	5,187	5,187	5,187	1,893,255	38,359	38,359	38,359	14,000,900

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	982
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1170
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	988
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	982
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1170
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	988
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

—	—	—	—	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Strip Mall	5,220,493	170	0.0330	0.0040	2,562,947
Regional Shopping Center	217,059	170	0.0330	0.0040	106,563
Government (Civic Center)	3,106,885	170	0.0330	0.0040	5,995,447
Office Park	3,986,114	170	0.0330	0.0040	7,692,123
City Park	0.00	170	0.0330	0.0040	0.00
Condo/Townhouse	4,055,026	170	0.0330	0.0040	20,194,567
Apartments Low Rise	4,087,093	170	0.0330	0.0040	15,871,531
Apartments Mid Rise	3,350,179	170	0.0330	0.0040	6,993,495

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Strip Mall	5,220,493	170	0.0330	0.0040	2,562,947
Regional Shopping Center	217,059	170	0.0330	0.0040	106,563
Government (Civic Center)	3,106,885	170	0.0330	0.0040	5,995,447
Office Park	3,986,114	170	0.0330	0.0040	7,692,123
City Park	0.00	170	0.0330	0.0040	0.00
Condo/Townhouse	4,055,026	170	0.0330	0.0040	20,194,567
Apartments Low Rise	4,087,093	170	0.0330	0.0040	15,871,531
Apartments Mid Rise	3,350,179	170	0.0330	0.0040	6,993,495

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Strip Mall	43,870,043	885,068
Regional Shopping Center	1,824,036	36,793
Government (Civic Center)	37,193,742	279,785
Office Park	42,692,713	358,959
City Park	0.00	1,971
Condo/Townhouse	34,500,680	1,901,250
Apartments Low Rise	41,105,698	2,265,236
Apartments Mid Rise	34,711,478	1,732,407

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Strip Mall	43,870,043	885,068
Regional Shopping Center	1,824,036	36,793
Government (Civic Center)	37,193,742	279,785
Office Park	42,692,713	358,959
City Park	0.00	1,971
Condo/Townhouse	34,500,680	1,901,250
Apartments Low Rise	41,105,698	2,265,236
Apartments Mid Rise	34,711,478	1,732,407

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Strip Mall	622	—
Regional Shopping Center	25.9	—
Government (Civic Center)	1,067	—
Office Park	223	—
City Park	5.10	—
Condo/Townhouse	726	—
Apartments Low Rise	865	—
Apartments Mid Rise	731	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Strip Mall	622	—
Regional Shopping Center	25.9	—

Government (Civic Center)	1,067	—
Office Park	223	—
City Park	5.10	—
Condo/Townhouse	726	—
Apartments Low Rise	865	—
Apartments Mid Rise	731	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Government (Civic Center)	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government (Civic Center)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Government (Civic Center)	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government (Civic Center)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4	annual days of extreme heat
Extreme Precipitation	3.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth

Wildfire	7.98	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	45.1
AQ-DPM	25.7
Drinking Water	10.9
Lead Risk Housing	17.5
Pesticides	0.00
Toxic Releases	25.6
Traffic	48.6

Effect Indicators	—
CleanUp Sites	37.8
Groundwater	40.8
Haz Waste Facilities/Generators	84.7
Impaired Water Bodies	77.3
Solid Waste	9.67
Sensitive Population	—
Asthma	35.6
Cardio-vascular	30.2
Low Birth Weights	18.6
Socioeconomic Factor Indicators	—
Education	43.4
Housing	19.8
Linguistic	10.4
Poverty	16.6
Unemployment	28.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	66.11061209
Employed	1.296034903
Median HI	58.75785962
Education	—
Bachelor's or higher	47.36301809
High school enrollment	17.87501604

Preschool enrollment	14.26921596
Transportation	—
Auto Access	76.73553189
Active commuting	33.56858719
Social	—
2-parent households	27.65302194
Voting	75.72180162
Neighborhood	—
Alcohol availability	42.80764789
Park access	24.26536635
Retail density	59.4636212
Supermarket access	60.82381625
Tree canopy	8.135506224
Housing	—
Homeownership	43.19260875
Housing habitability	69.11330681
Low-inc homeowner severe housing cost burden	75.55498524
Low-inc renter severe housing cost burden	83.49801104
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	59.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0

Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	1.7
Cognitively Disabled	36.6
Physically Disabled	78.7
Heart Attack ER Admissions	49.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	83.1
English Speaking	76.6
Foreign-born	6.0
Outdoor Workers	58.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	55.9
Traffic Density	49.3

Traffic Access	51.5
Other Indices	—
Hardship	31.7
Other Decision Support	—
2016 Voting	76.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	18.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land Uses and acreages based on Town Center Specific Plan Buildout Summary (9-7-2023 Draft).
Operations: Vehicle Data	Trip generation rates provided by Intersecting Metrics

Operations: Hearths	No hearths

Appendix C

Biological Technical Report

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Santee Town Center Specific Plan Update

DRAFT Biological Technical Report

August 2024 | 01427.00004.001

Prepared for:

M.W. Steele Group
1805 Newton Avenue, Suite A
San Diego, CA 92113

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

AEN	Arts & Entertainment Neighborhood
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
BMPs	best management practices
BRCA	Biological Resource Core Area
BTR	Biological Technical Report
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG Code	California Fish and Game Code
City	City of Santee
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EIR	Environmental Impact Report
FC	federally listed candidate
FE	federally listed endangered
FESA	Federal Endangered Species Act
ft	feet
FT	federally listed threatened
GIS	Geographic Information System
GPS	Global Positioning System
HAP	Housing Acceleration Program
HCP	Habitat Conservation Plan
HE	Housing Element
HELIX	HELIX Environmental Planning, Inc.
HLP	Habitat Loss Permit
lf.	linear feet
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCCP	Natural Communities Conservation Planning
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service

project	Town Center Specific Plan Update
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SANDAG	San Diego Association of Governments
SanGIS	San Diego Geographic Information Source
SDG&E	San Diego Gas & Electric
SDMMP	San Diego Management and Monitoring Program
SR	State Route
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
TCSP	Town Center Specific Plan Update
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WEAP	Worker Environmental Awareness Program
WL	Watch List

1.0 INTRODUCTION

At the request of the M.W. Steele Company, HELIX Environmental Planning, Inc. (HELIX) completed this Biological Technical Report (BTR) for the Town Center Specific Plan Update (project), which is proposed in the City of Santee (City), San Diego County (County), California. The project proposes a technical update to the Santee Town Center Specific Plan Amendment Final Master Environmental Impact Report ([EIR]; City 2006), an amendment to the Arts & Entertainment Neighborhood (AEN), and a project-level environmental analysis of four sites within the Town Center Specific Plan (TCSP) boundary.

The purpose of this report is to document the existing biological resources identified as present or potentially present within the project area; identify potential biological resource impacts resulting from the proposed project; and recommend measures to avoid, minimize, and/or mitigate significant impacts consistent with federal, state, and local rules and regulations, including the California Environmental Quality Act (CEQA). This report provides the biological resources documentation necessary for review under CEQA by the City and other responsible agencies for the project.

Figures and other supporting information are provided as enclosures attached to this report.

1.1 PROJECT LOCATION

The project area is located in the City of Santee, in the eastern portion of the County of San Diego, north of State Route (SR) 52 and west of SR 67 (Figure 1, *Regional Location*). The project area is situated within Section 27 of Township 15 South, Range 1 West on the U.S. Geological Survey (USGS) 7.5-minute El Cajon quadrangle topographic map (Figure 2, *USGS Topography*). The project area is situated on 1,068 Assessor Parcel Numbers in the central portion of the City, bounded by Mission Gorge Road to the south, Mast Boulevard to the north, Red River Trail Place to the west, and North Magnolia Avenue to the east (Figure 3, *Aerial Photograph*). The topography of the project area is bisected by the San Diego River. The San Diego River flows through the eastern boundary of the project area and continues in an eastward direction where it exits the project area and continues in a mostly westward direction. The San Diego River originates within the Santa Ysabel Open Space Preserve East, 28 miles east of the project area, flowing west and southwest, and ultimately reaches the Pacific Ocean 16 miles west of the project area. An unnamed tributary to the San Diego River flows through the northern boundary of the project area and continues generally in a southward direction until it meets the San Diego River. The unnamed tributary occurs as a previously re-channelized and restored natural bottom drainage and is a major conveyance of stormwater for the existing development north of the San Diego River.

Within the Final Multiple Species Conservation Program Plan (MSCP), the project area occurs within the City of Santee MSCP Subarea Plan subregion (County 1998). The Mission Trails/Kearny Mesa/East Elliot/Santee Biological Resource Core Area (BRCA), as identified in the Final MSCP Plan, surrounds the northern and western portions of the City and overlaps a small portion of the western project area (Figure 4, *Regional Designations and Conserved Lands*).

The project area occurs approximately 17 miles inland from the coast, is located outside the Coastal Overlay Zone, and is not within any lands identified as critical habitat by the U.S. Fish and Wildlife Service (USFWS). The surrounding area contains USFWS-designated critical habitat for Hermes copper butterfly (*Lycaena hermes*), least Bell's vireo (*Vireo bellii pusillus*), and coastal California gnatcatcher (*Polioptila californica californica*). Critical habitat for coastal California gnatcatcher is located 0.3 mile

northeast of the project area. Hermes copper butterfly critical habitat occurs approximately 0.4 mile northwest of the project area. Critical habitat for least Bell's vireo is located approximately 0.4 mile west of the project area. The project area occurs outside the USFWS Recommended Survey Area for Quino checkerspot butterfly and inside the Hermes copper butterfly exempt from take area. Conserved lands managed by the City occur along the San Diego River and at the intersection of Riverwalk Drive and Park Center Drive. Conserved lands managed by the San Diego Habitat Conservancy occur north of residential development along Town Center Parkway (Figure 4).

1.2 PROJECT DESCRIPTION

The proposed project consists of a comprehensive update to the TCSP to modify or establish new land use designations, land uses, development standards, and conceptual guidelines that would apply to future development within the TCSP area. As part of this effort, the City would also make modifications to the AEN and provide objective design standards and conceptual designs for strategic Housing Element sites within the TCSP.

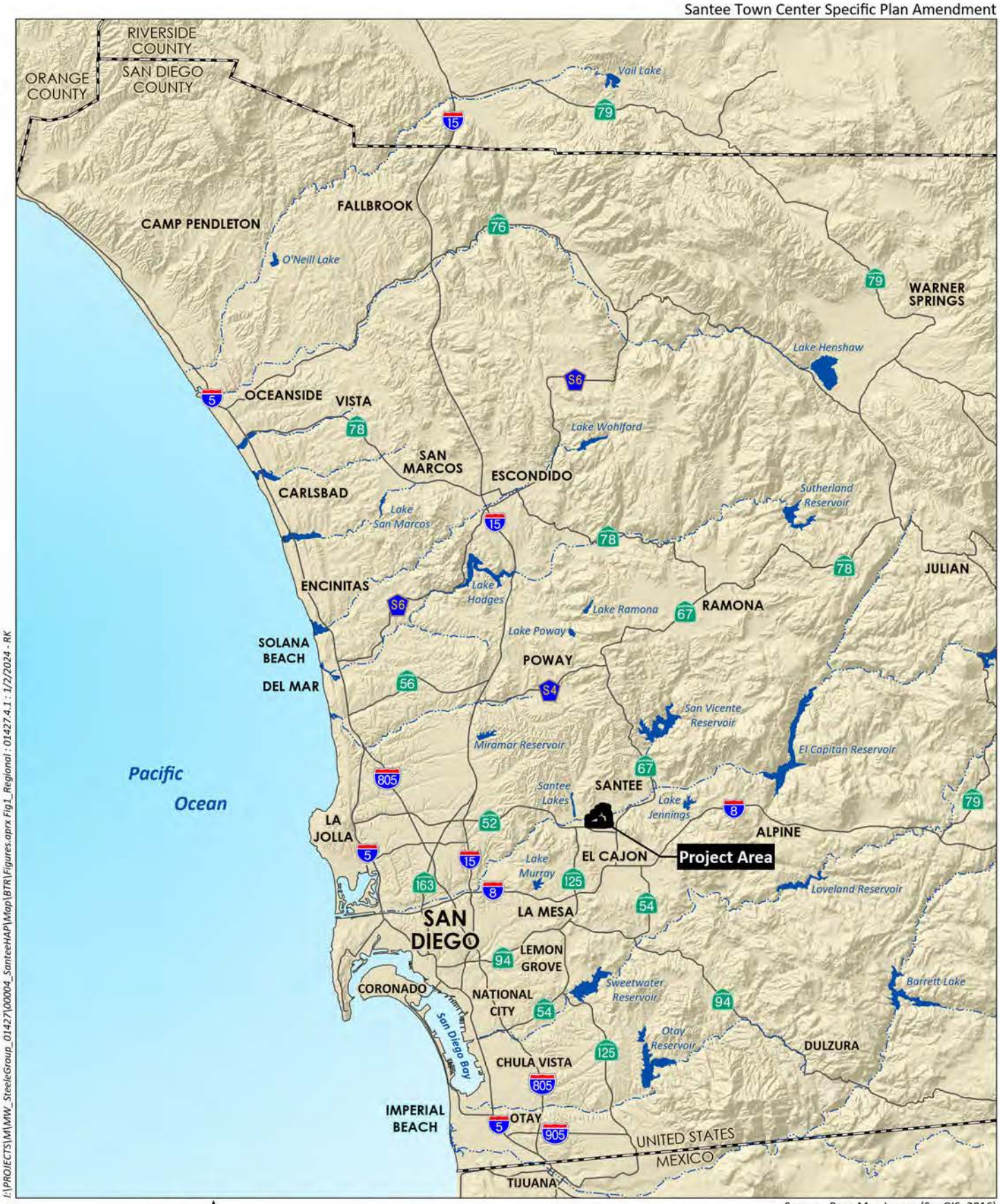
Town Center Specific Plan

Amendments to the TCSP would incorporate relevant updates to the plan's vision, land use permissions, and development standards. As part of the updates, new text and graphics would be developed and organized into a series of chapters, such as: Introduction, Land Use and Urban Form, Mobility and Beautification, Infrastructure and Public Facilities, Implementation, and Administration. Text and concepts that remain relevant to the vision and goals of the TCSP would be maintained and incorporated into the updated TCSP document format and structure.

The amended TCSP would incorporate updated allowable and permitted land uses and development standards tailored to the project area. The updated TCSP would include graphics that illustrate the planned land use concepts and the plan's vision at key sites. As part of the TCSP, the circulation network exhibits of the plan would be updated, including the bicycle, pedestrian, and transit network maps and the street cross sections. The TCSP would include concepts for key improvements in the public right-of-way to enhance circulation within the project area. The TCSP would incorporate concepts to illustrate wayfinding and branding signage at important locations within the public right-of-way and public trails, such as signs tailored for pedestrians, bicyclists, and transit users, and signs designed to direct vehicular traffic and refer to parking areas, as well as iconic gateway structures that enhance the identity and sense of place in the project area.

The TCSP would also outline fundamental elements for the administration of the plan, such as the process for future specific plan amendments, and the development review, permit, and approval process for projects within the TCSP area. Additionally, the TCSP would address the relationship between the TCSP document and other planning documents, as well as consistency with the General Plan. The TCSP would also include a section describing how to use the document and guide reviewers and applicants through the path for review and approval of proposals within the TCSP area.

Finally, the TCSP amendment would also incorporate an adjustment to the Specific Plan boundaries to include additional sites, such as the shopping center located at the northwest corner of Mission Gorge Road and Cuyamaca Road and the shopping center located west of Cuyamaca Road, between Mission



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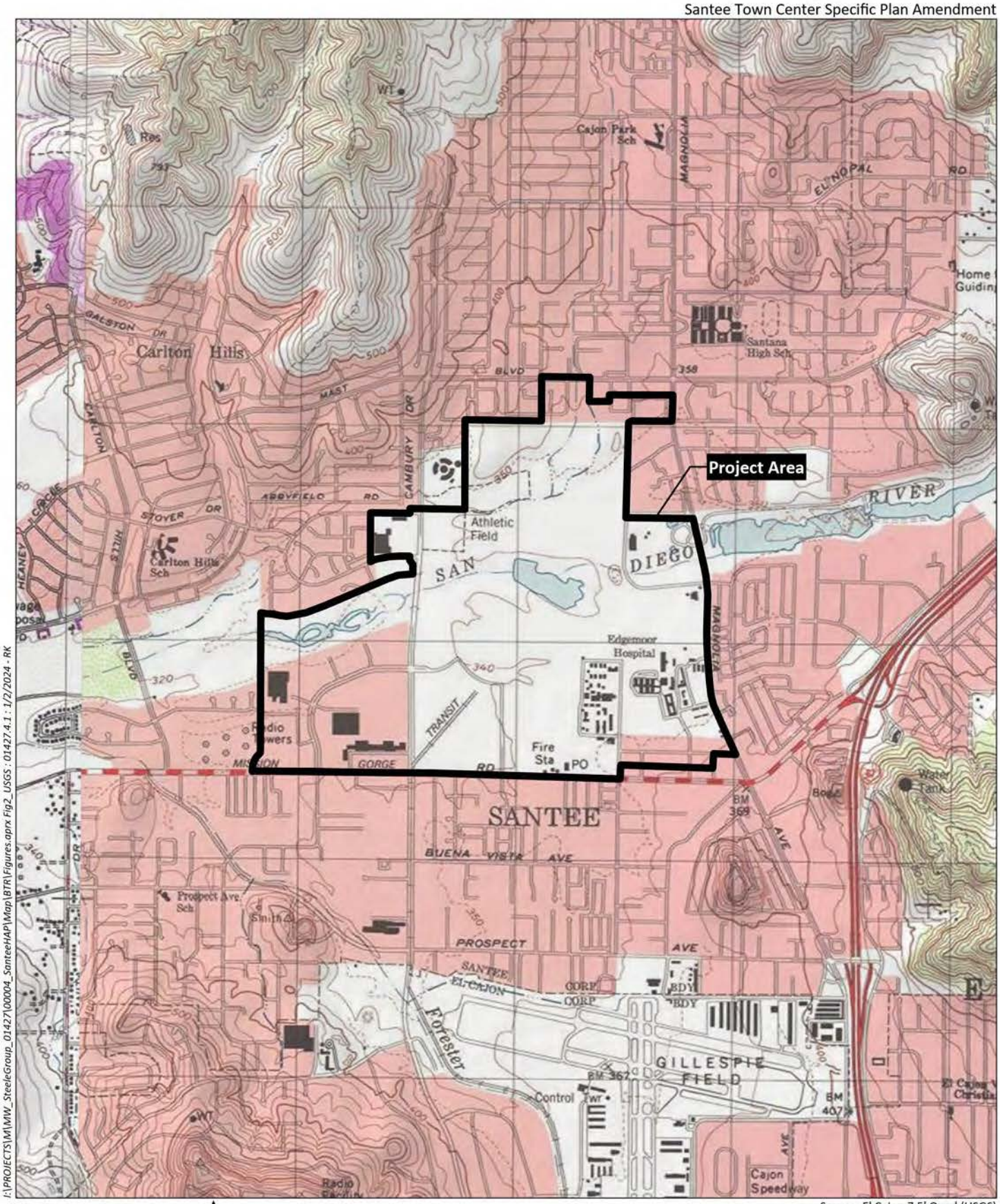
Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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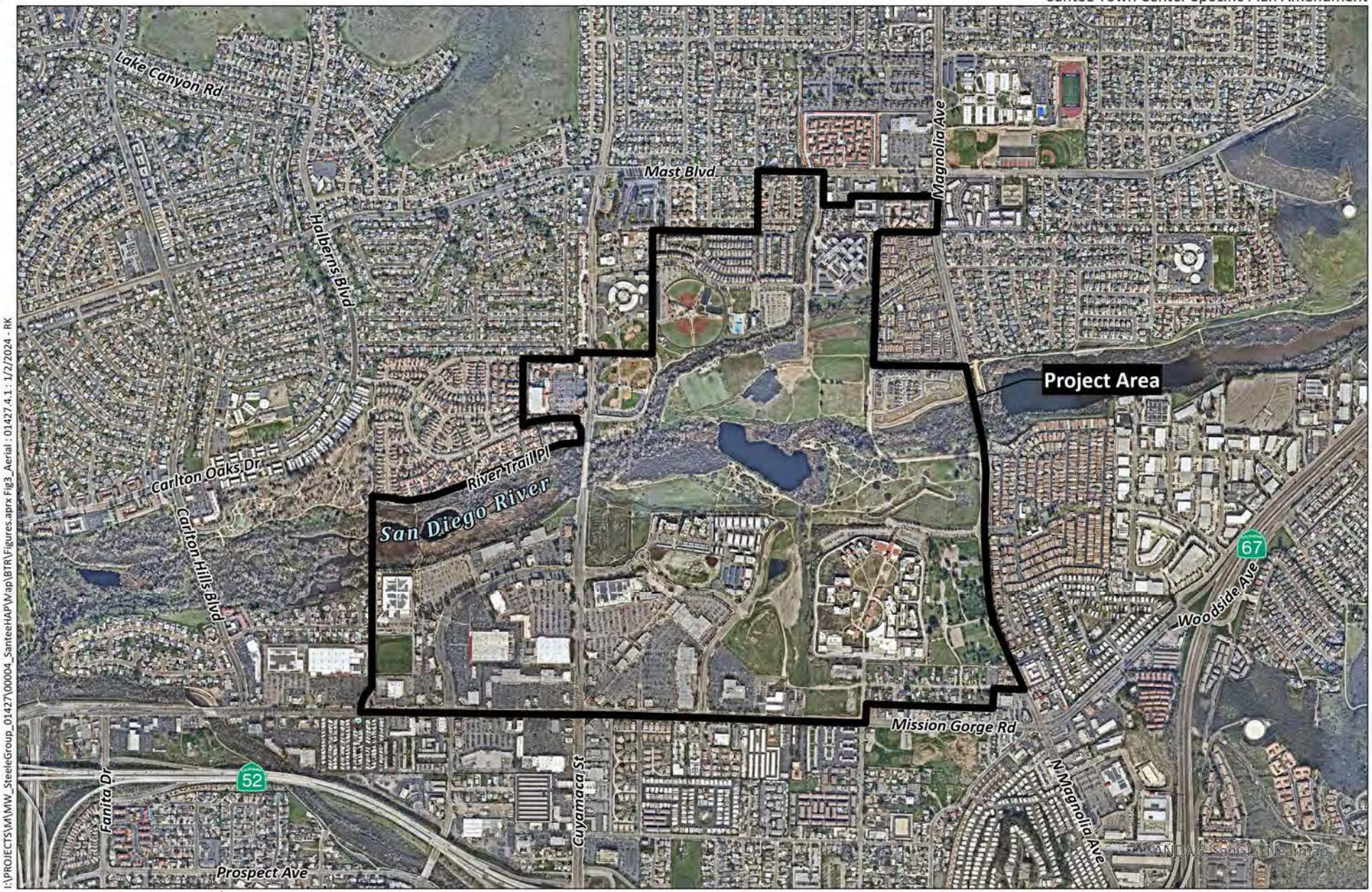
0 2,000 Feet

Source: El Cajon 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2



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Source: Aerial (SanGIS, 2023)

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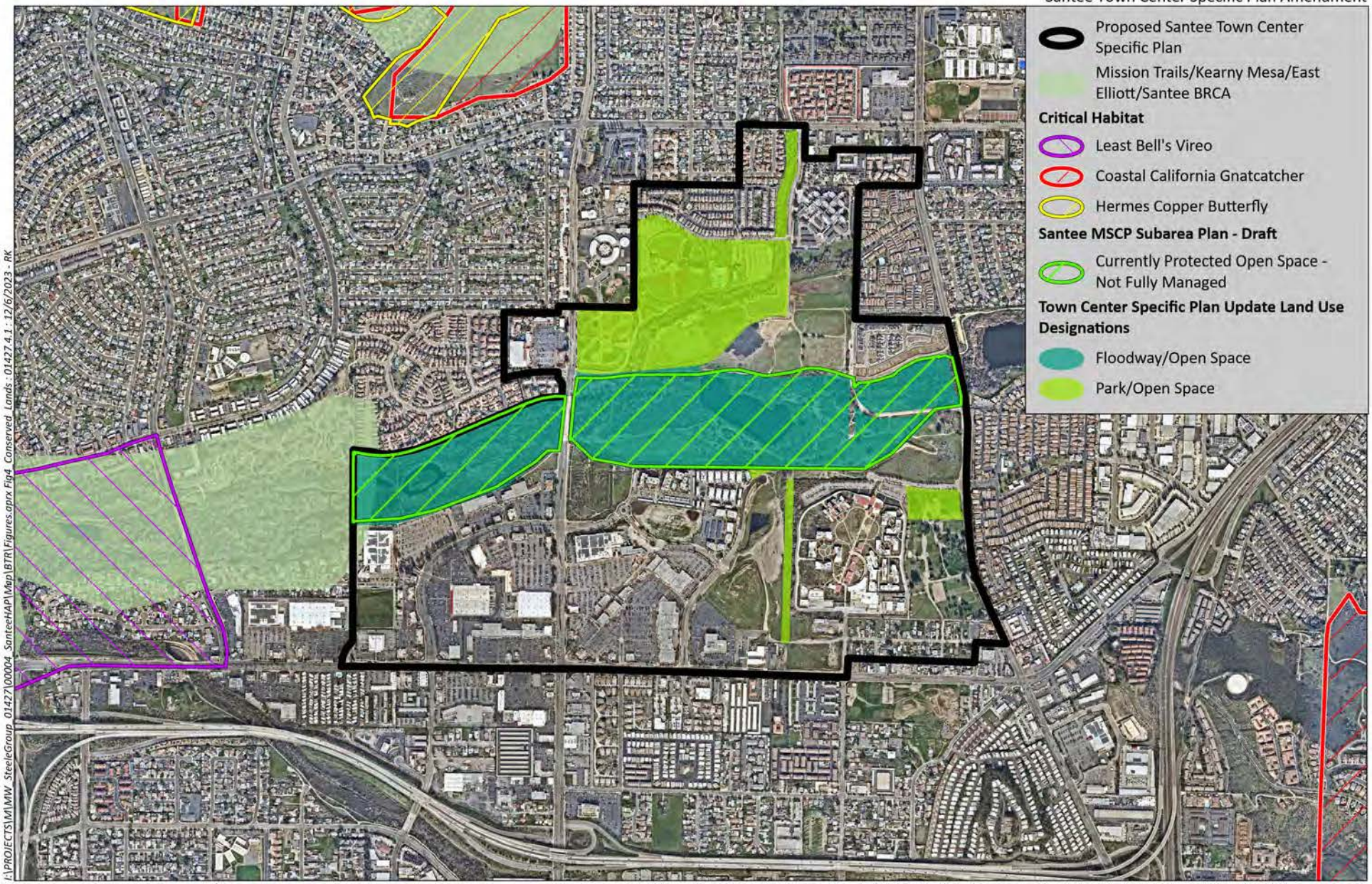
Aerial Photograph

Figure 3

Santee Town Center Specific Plan Amendment



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Source: Aerial Photo (SanGIS 2023); Conserved Lands (SANDAG Technical Services - GIS 2018); Critical Habitat (U.S. Fish and Wildlife Service 2022)

HELIX Environmental Planning

Regional Designations and Conserved Lands

Figure 4

Creek Drive and River Park Drive. As a result of the boundary adjustment, the TCSP area would expand from 609.70 to 651.42 acres[1], increasing by a total of 41.72 acres.

Arts & Entertainment Neighborhood

The TCSP would include an amendment to the AEN. As discussed above, the City adopted the AEN in 2019 with the intent of encouraging the development of an Arts & Entertainment district within a significant portion of the TCSP. The update would incorporate the vision, guidelines, and development standards specific to the AEN as a subsection of the Land Use and Urban Form chapter of the TCSP. This section of the TCSP would also incorporate tailored land use designations that support uses related to art and culture, entertainment, commercial recreation, visitor, and civic uses.

The update to the vision and development standards for the AEN would aim to enhance connections to the San Diego River, strengthen the sense of place by creating an attraction for residents and visitors to gather, and public space concepts that would incorporate streetscape concepts with features such as landscaping, water elements, shade, lighting, and wayfinding. The concepts would also aim to create a central destination within the TCSP area, with a strong emphasis on connecting Arts & Entertainment to the natural environment.

Additionally, the update would incorporate an adjustment to the AEN boundaries to include additional sites such as the open space designated areas along the San Diego River, areas north of the San Diego River, south of Riverwalk Drive, west of River Park Drive, east of Cuyamaca Street, and west of Magnolia Avenue. As a result of the boundary adjustments, the AEN area would expand from 172.49[2] to 341.72 acres, increasing by a total of 169.23 acres.

The AEN incorporates the Trolley Square shopping center, Town Center Park East, Sportsplex USA, Rio Seco School, and the four Housing Element sites 16A, 16B, 20A, and 20B. In addition to the four Housing Element sites, the AEN includes civic uses, a San Diego River Bridge, and an entertainment commercial site referred to as the Town Center Core. The San Diego River Bridge would connect areas north and south of the San Diego River, beginning at the southern edge of Town Center Park East and ending just north of Housing Element Site 16A. The San Diego River Bridge would support passive and active recreation and provide multi-modal connections within the TCSP area. Also, access to major recreational facilities such as the Town Center Community Park, the Sportsplex, and the YMCA and Aquatics Center, located north of the San Diego River, would be accessible to residents south of the San Diego River. Lookouts across the bridge would create opportunities for art installations, interpretive signage, and seating.

Four Strategic Housing Element Sites (2021-2029 Sixth Cycle)

The City Council adopted the Housing Element (2021-2029 Sixth Cycle) on May 11, 2022. The Housing Element (HE) was prepared in compliance with State housing law as determined by the California Department of Housing and Community Development on December 6, 2022. The HE included a Sites Inventory map and table (figure C-1 and table C-1 of the HE), which included a series of sites that are

[1] The original Town Center Specific Plan published in 1986 cited the TCSP area as 706 acres, however amendments to the plan have reduced the Specific Plan total acreage. Additionally, the original acreage was based on an estimate, due to improved geographic information software over time, the number of reported acres in the TCSP has changed as the accuracy of the data has increased.

[2] The 2019 Art and Entertainment Overlay District refers to 155 acres; however, current GIS data shows 172 acres for the same area.

currently undeveloped or underutilized. The identified sites provide an opportunity for the City to meet its Regional Housing Needs Allocation housing production goals. Four strategic undeveloped housing sites identified in the Sites Inventory are located within the boundary of the TCSP and the AEOD. The sites are identified as 16A, 16B, 20A, and 20B. Sites 16A and 16B are undeveloped sites located just north of Mission Gorge Road and east of Riverview Parkway in the Santee Town Center. The area surrounding the sites is primarily developed, with Santee Trolley Square immediately west of the site, the Las Colinas Detention Facility to the east, and open space associated with the San Diego River to the north. A portion of Site 16A is located within the Airport Safety Zone 4 as designated in the Gillespie Field Airport Land Use Compatibility Plan (ALUCP). Sites 20A and 20B are undeveloped sites located just west of Magnolia Avenue, south of Riverview Parkway, and east of Edgemoor Drive. Sites 20A and 20B surround the Historic Edgemoor Polo or Dairy Barn. To the west of Site 20A is the Las Colinas Detention Facility, and to the east is a gated 55+ manufactured home community. Site 20B is bordered by single-family residential homes to the south, multifamily residential to the east, and Las Colinas and Riverview Office Park to the west. A portion of the site is located within the Gillespie Field ALUCP Airport Safety Zone 4. The sites are proposed to be developed for residential uses.

The HE Implementation Program identified specific sites that would need to be rezoned to allow for residential uses, and/or to allow for the estimated housing capacity included in the HE. The HE proposed zoning changes for sites 16A, 16B, 20A, and 20B. As part of the realization of the Housing Element Implementation Program, the City analyzed and approved the re-zone of the four above-mentioned sites and adopted the rezoning on October 26, 2022.

To further advance the housing production in Santee, City staff applied for a Housing Acceleration Program (HAP) grant from the San Diego Association of Governments (SANDAG). The grant application was awarded to the City. The HAP grant provides funding for project-level analysis of HE sites 16A, 16B, 20A, and 20B. The amended TCSP will include graphics and data that illustrate site planning and development concepts for each of these sites based on the maximum allowable density allowed by zoning. The EIR will analyze these sites at a project level of detail.

2.0 METHODS

2.1 LITERATURE REVIEW

HELIX conducted a thorough review of maps, federal and state databases, and literature pertaining to biological resources known to occur within the vicinity of the project area before conducting field surveys for the project. HELIX also reviewed recent and historical aerial imagery (Google Earth, historicalaerials.com), USGS topographic maps, soils maps (U.S. Department of Agriculture [USDA] 2023), and other relevant maps of the project area and the immediate surrounding vicinity. Queries for special-status species and sensitive biological resources databases were also conducted, including, but not limited to: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2023a-c), USFWS species records (USFWS 2023), USFWS Information for Planning and Consultation system (USFWS 2023); San Diego Management and Monitoring Program (SDMMP 2023), and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2023). Additionally, HELIX reviewed the *Cottonwood and Park Project Biological Technical Report* (Dudek 2024), the *Riverview Parkway Project USACE Aquatic Resources Delineation Report* (REC Consultants, Inc. 2022a), the *Riverview Parkway CDFW Jurisdictional Delineation Report* (REC

Consultants, Inc. 2022b), and the *Restoration/Revegetation Plan for the Riverview Parkway Project* (REC Consultants, Inc. 2023).

2.2 BIOLOGICAL SURVEYS

2.2.1 General Biological Survey

HELIX biologists Benjamin Rosenbaum and Jonathan Mercado conducted a general biological survey of the project area on July 25, 2023, to map existing vegetation communities, document the locations of special-status species, identify and map potential jurisdictional resources (i.e., wetlands, waters, and riparian vegetation), and evaluate the potential for other sensitive biological resources and special-status species to occur within the project area and immediate vicinity (Table 1, *Biological Survey for the Project*). The survey was conducted on foot with the aid of binoculars. Detected biological resources were mapped directly in the field on a 1"=200' scale aerial photograph with an overlay of the project area. Animal identifications were made in the field by direct, visual observation, or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. Plant and animal species observed or otherwise detected during the survey were recorded (Appendix A, *Plant Species Observed*, and Appendix B, *Animal Species Observed or Detected*). The survey incorporated a 100-foot buffer surrounding the project area for the understanding of adjacency context only, which is referred to in this report as the project study area; however, for purposes of this report, the project area is the primary focus of the report analysis and discussion. Areas beyond and outside of the project area are discussed as applicable.

Table 1
BIOLOGICAL SURVEY FOR THE PROJECT

Survey Date	Personnel	Conditions
July 25, 2023	Benjamin Rosenbaum Jonathan Mercado	79-96 °F; wind 0-5 mph; 5-15% clouds

2.2.2 Jurisdictional Delineation

The project area was examined by HELIX biologists for evidence of potential jurisdictional waters and wetlands during the general biological survey. Potential jurisdictional waters and wetlands would be regulated under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or CDFW.

A jurisdictional delineation review area was established within a portion of the AEN and was examined for evidence of potential jurisdictional waters and wetlands in 2021 (REC Consultants, Inc. 2022a-b).

2.3 SURVEY LIMITATIONS

Not all plant species would have bloomed during the survey period, and it is possible that detection of some special-status plant species may not have been possible due to the timing of the focused plant surveys and variable seasonal conditions (e.g., rainfall and temperatures) that influence growth and flowering. Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive

accounts of all species that utilize the study area, as species that are nocturnal, secretive, or seasonally restricted may not have been observed or detected. Those species that are of special status and have the potential to occur within the project are addressed in Appendix C, *Special-Status Plant Species Potential to Occur*, and Appendix D, *Special Status Wildlife Species Potential to Occur*. An explanation of status codes for plant and animal species is included in Appendix E, *Explanation of Status Codes for Plant and Animal Species*.

2.4 NOMENCLATURE

Nomenclature used in this report generally comes from Holland (1986), Oberbauer et al. (2008), Jepson eFlora (2023), and Baldwin et al. (2012) for plants; Society for the Study of Amphibians and Reptiles (2023) for reptiles and amphibians, American Ornithological Society (2023) for birds; and Bradley et al. (2014) for mammals. Plant species status is from the CNPS' Rare Plant Inventory (CNPS 2023) and CDFW (2023a). Animal species status is from the CDFW (2023b). Soils information was taken from the Natural Resources Conservation Service (NRCS; USDA 2023).

3.0 EXISTING CONDITIONS

3.1 GENERAL LAND USES

The southern and northern portions of the project area are developed lands associated with commercial office buildings, residential development, and recreational activities (parks and baseball fields). The center of the project area is bisected by the San Diego River. The San Diego River flows through the eastern boundary of the project area, continuing in an eastward direction until it exits the project area, and then continues in a mostly westward direction. An unnamed tributary to the San Diego River flows through the northern boundary of the project area and continues generally in a southward direction until it meets the San Diego River.

3.2 TOPOGRAPHY AND SOILS

Elevations within the project area vary from 320 feet above mean sea level (amsl) along the San Diego River where it flows through the center of the project area to 380 feet amsl in the northern portion of the project area. There is little topographic variety within much of the study area aside from the lower in elevation San Diego River, which flows through the center of the site in an east-west direction.

A total of nine soil mapping units in nine soil series are shown within the project area (Figure 5, *Soils*): Grangeville fine sandy loam, 0 to 2 percent slopes (GoA); Placentia sandy loam, thick surface, 2 to 9 percent slopes (PfC); Ramona sandy loam, 9 to 15 percent (RaD2); Redding gravelly loam, 2 to 9 percent slopes (RdC); Riverwash (Rm); Salinas clay 0 to 2 percent slopes (ScA); Tujunga sand, 0 to 5 percent slopes (TuB); Visalia sandy loam, 0 to 2 percent slopes (VaA); and Water (W). Grangeville fine sandy loam and Riverwash make up the largest areas of soil map units in the project area and coincide with the location of the San Diego River and developed areas to the south of the San Diego River.

3.3 VEGETATION COMMUNITIES

A total of 18 vegetation communities or land use types occur within the project area: southern riparian forest, southern arroyo willow riparian forest, southern riparian scrub (including disturbed and

Proposed Santee Town Center Specific Plan

Soils

- CnG2 - Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent s lopes, eroded
- DaC - Diablo clay, 2 to 9 percent slopes
- DoE - Diablo-Olivenhain complex, 9 to 30 percent slopes
- FaB - Fallbrook sandy loam, 2 to 5 percent slopes
- GoA - Grangeville fine sandy loam, 0 to 2 percent slopes
- GrC - Greenfield sandy loam, 5 to 9 percent slopes
- LsE,Linne clay loam, 9 to 30 percent slopes
- PfC - Placentia sandy loam, thick surface, 2 to 9 percent slopes
- RaB - Ramona sandy loam, 2 to 5 percent slopes
- RaC - Ramona sandy loam, 5 to 9 percent slopes
- RaD2,Ramona sandy loam, 9 to 15 percent slopes, eroded
- RdC - Redding gravelly loam, 2 to 9 percent slopes
- RhC - Redding-Urban land complex, 2 to 9 percent slopes
- RhE - Redding-Urban land complex, 9 to 30 percent slopes
- Rm - Riverwash
- SbA - Salinas clay loam, 0 to 2 percent slopes
- ScA - Salinas clay, 0 to 2 percent slopes
- SvE - Stony land
- TuB - Tujunga sand, 0 to 5 percent slopes
- VaA - Visalia sandy loam, 0 to 2 percent slopes
- VaD - Visalia sandy loam, 9 to 15 percent slopes
- VsE - Vista coarse sandy loam, 15 to 30 percent slopes
- VsG - Vista coarse sandy loam, 30 to 65 percent slopes
- W - Water

0 800 Feet

Source: Aerial Photo (SanGIS 2023); Soils (U.S. Department of Agriculture, Natural Resources Conservation Service 2005)

HELIX Environmental Planning

Soils

Figure 5

restored), southern willow scrub, tamarisk scrub, arrowweed scrub, open water, Diegan coastal sage scrub (including disturbed), Diegan coastal sage scrub: Baccharis-dominated (including disturbed), non-native grassland, eucalyptus woodland, artificial detention basin, disturbed habitat, and developed lands (Table 2, *Existing Vegetation Communities/Land Use Types Within the Project Area*; Figure 6, *Vegetation and Sensitive Resources*).

Table 2
EXISTING VEGETATION COMMUNITIES/LAND USE TYPES WITHIN THE PROJECT AREA[1,2]

Vegetation Community	Santee Town Center SPA	Arts & Entertainment Neighborhood	Property 16A	Property 16B	Property 20A	Property 20B
Wetland Habitats						
Southern Riparian Forest (61300)	0.42	--	--	--	--	--
Southern Arroyo Willow Riparian Forest (61320)	85.31	43.19	--	--	--	--
Southern Riparian Scrub (63300)	0.84	--	--	--	--	--
Southern Riparian Scrub – Disturbed (63300)	0.68	--	--	--	--	--
Southern Riparian Scrub – Restoration (63300)	0.89	0.14	--	--	--	--
Southern Willow Scrub (63320)	0.96	0.96	0.19	--	--	--
Tamarisk Scrub (63810)	3.98	3.98	--	--	--	--
Arrowweed Scrub (63820)	2.06	0.10	--	--	--	--
Open Water (64100)	11.06	8.68	--	--	--	--
Subtotal	*106.20*	*57.05*	*0.19*	--	--	--
Upland Habitats						
Diegan Coastal Sage Scrub (32500)	0.3	--	--	--	--	--
Diegan Coastal Sage Scrub, Disturbed (32500)	15.7	15.7	--	--	--	--
Diegan Coastal Sage Scrub: Baccharis-dominated (32530)	6.6	6.6	--	--	--	--
Diegan Coastal Sage Scrub: Baccharis-dominated, Disturbed (32530)	0.9	0.9	--	--	--	--
Non-native Grassland (42200)	5.1	0.9	--	--	--	--
Eucalyptus Woodland (79100)	1.7	1.3	--	--	--	--
Artificial Detention Basin (N/A)	2.0	2.0	1.3	--	--	--
Disturbed Habitat (11300)	128.4	98.2	9.5	8.5	5.9	7.9
Developed (12000)	384.6	155.2	<0.1 (0.02)	0.1	1.8	2.0
Subtotal	*545.3*	*280.8*	*10.8*	*8.6*	*7.7*	*9.9*
TOTAL	**651.50**	**337.85**	**10.99**	**8.6**	**7.7**	**9.9**

1 Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008)
2 Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, total reflects rounding.

3.3.1 Wetlands

3.3.1.1 Southern Riparian Forest (Holland Code 61300)

Southern riparian woodlands and forests are composed of winter-deciduous trees that require water near the soil surface. Willow (*Salix* spp.), cottonwood (*Populus* spp.), and western sycamore (*Platanus racemosa*) form a dense, medium-height woodland or forest in moist canyons and drainage bottoms. Associated understory species include mule fat (*Baccharis salicifolia*), stinging nettle (*Urtica dioica* ssp. *holosericea*), and wild grape (*Vitis girdiana*; Beauchamp 1986).

There is 0.42 acre of southern riparian forest mapped within the project area. Southern riparian forest is found in the northern portion of the project area along an unnamed tributary to the San Diego River (Figure 6).

3.3.1.2 Southern Arroyo Willow Riparian Forest (Holland Code 61320)

Southern arroyo willow riparian forest is an open to dense riparian community that is dominated by arroyo willow (*Salix lasiolepis*). Arroyo willow requires moist, bare mineral soil for germination and establishment. This community occurs along large stream courses where there is an abundant supply of water at or near the surface for most of the year. Though southern arroyo willow riparian woodland may not differ in floristic composition from some riparian scrub communities, it does so in physiognomy. The absence of large, frequent disturbances, usually in the form of floods, allows the component tree species to attain a sizable height.

There are 85.31 acres of southern arroyo willow riparian forest mapped within the project area. Southern arroyo willow riparian forest is found along the San Diego River and an unnamed tributary to the San Diego River (Figure 6).

3.3.1.3 Southern Riparian Scrub – including disturbed and restoration (Holland Code 63300)

Southern riparian scrub is a generic term for several shrub dominated communities that occur along drainages and/or riparian corridors, including southern willow scrub, mule fat scrub, and tamarisk scrub. Disturbed southern riparian scrub contains many of the same shrub species as undisturbed southern riparian scrub but is sparser and has a higher proportion of non-native perennial and annual species. Southern riparian scrub - restoration contains many of the same shrub species as naturally occurring southern riparian scrub but is less mature, artificially irrigated, and maintained.

There are 0.84 acre of southern riparian scrub, 0.68 acre of disturbed southern riparian scrub, and 0.89 acre of southern riparian scrub restoration within the project area. Southern riparian scrub (including disturbed and restoration) is found along the fringes of the San Diego River and within an unnamed tributary to the San Diego River (Figure 6).

3.3.1.4 Southern Willow Scrub (Holland Code 63320)

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat, and with scattered emergent cottonwood and western sycamores. This vegetation community occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest.

There is 0.96 acre of southern willow scrub mapped within the project area. Southern willow scrub is found within an unnamed drainage east of Riverview Parkway (Figure 6).

3.3.1.5 Tamarisk Scrub (Holland Code 63810)

Tamarisk scrub is typically composed of shrubs and/or small trees of exotic tamarisk species (*Tamarix* spp.) but may also contain willows, salt bushes (*Atriplex* spp.), catclaw acacia (*Acacia greggii*), and salt

- Proposed Santee Town Center Specific Plan
- Study Area
- Proposed Arts & Entertainment District Overlay
- Property 16A
- Property 16B
- Property 20A
- Property 20B

Special Status Plant Species

- San Diego Marsh Elder (*Iva hayesiana*)
- Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)
- Smooth Tarplant (*Centromadia pungens* ssp. *laevis*)
- Smooth Tarplant (*Centromadia pungens* ssp. *laevis*)
- Rabbit Tobacco (*Pseudognaphalium leucocephalum*)

Holland/Oberbauer Classification

Riparian Forests and Woodlands

- (61300) Southern Riparian Forest
- (61320) Southern Arroyo Willow Riparian Forest

Riparian Shrublands

- (63300) Southern Riparian Scrub - Disturbed
- (63300) Southern Riparian Scrub - Restoration
- (63320) Southern Willow Scrub
- (63810) Tamarisk Scrub
- (63820) Arrowweed Scrub

Upland Forestes and Woodlands

- (79100) Eucalyptus Woodland

Soft-leaved, Drought-Deciduous Shrublands

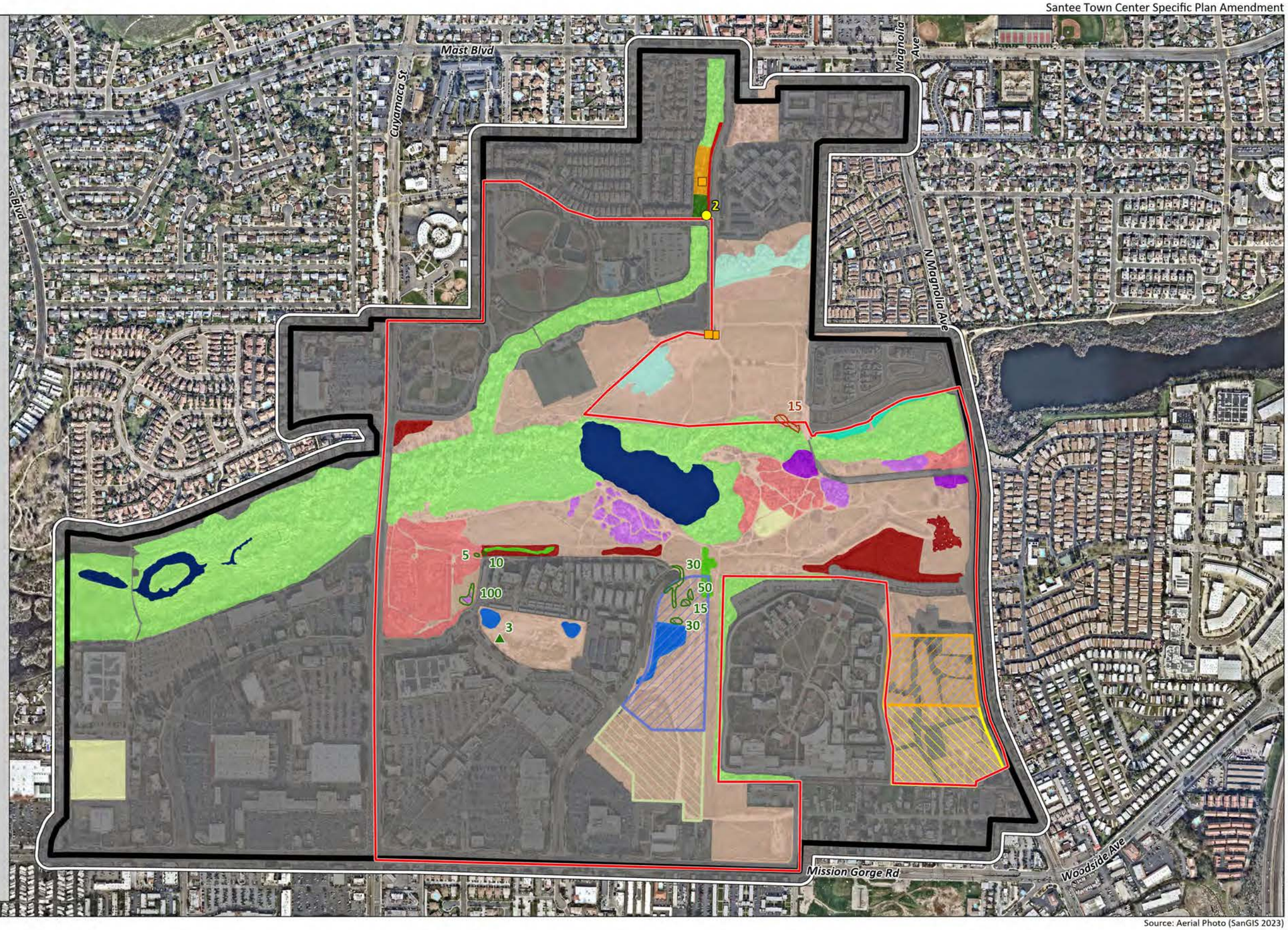
- (32500) Diegan Coastal Sage Scrub
- (32500) Diegan Coastal Sage Scrub - Disturbed
- (32530) Diegan Coastal Sage Scrub - Baccharis-dominated
- (32530) Diegan Coastal Sage Scrub - Baccharis-dominated -Disturbed

Upland Herbaceous Vegetation

- (11300) Disturbed Habitat
- (42200) Non-native Grassland

Unvegetated

- (12000) Developed
- (64100) Open Water
- (N/A) Artifical Dentention Basin



0 750 Feet

Source: Aerial Photo (SanGIS 2023)

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HELIX Environmental Planning

Vegetation and Sensitive Resources

Figure 6

grass (*Distichlis spicata*). This habitat occurs along intermittent streams in areas where high evaporation rates increase the salinity level of the soil. Tamarisk is a phreatophyte, a plant that can obtain water from an underground water table. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it may rapidly displace native species within a drainage (Holland 1986).

There are 3.98 acres of tamarisk scrub mapped within the project area. Tamarisk scrub is found as patches intermixed within disturbed habitat south of the San Diego River (Figure 6).

3.3.1.6 Arrowweed Scrub (Holland Code 63820)

Arrowweed scrub occurs as moderate to dense streamside thickets strongly dominated by arrowweed (*Pluchea sericea*) and may also include cattails (*Typha* spp.), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), and salt grass, especially around the margins of the thickets.

There are 2.06 acres of arrowweed scrub mapped within the project area. Arrowweed scrub is found as a single patch located north of the San Diego River (Figure 6).

3.3.1.7 Open Water (Holland Code 64100)

Open water is an unvegetated habitat. It is made up of year-round bodies of saline or fresh water. Fresh water bodies include lakes, streams, ponds, or rivers.

There are 11.06 acres of open water mapped within the project area. Open water occurs along the San Diego River (Figure 6).

3.3.2 Uplands

3.3.2.1 Diegan Coastal Sage Scrub - including disturbed (Holland Code 32500)

Diegan coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending on soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is sparser and has a higher proportion of non-native perennial and annual species.

There is 0.3 acre of Diegan coastal sage scrub mapped within the project area. There are 15.7 acres of disturbed Diegan coastal sage scrub mapped within the project area. Diegan coastal sage scrub (including disturbed) is found both north and south of the San Diego River as remnant patches within disturbed habitat (Figure 6).

3.3.2.2 Diegan Coastal Sage Scrub: Baccharis Dominated – including disturbed (Holland Code 32530)

Within Diegan coastal sage scrub: baccharis dominated, coyote brush (*Baccharis pilularis*) is the dominant species in the shrub canopy. Associated species include California sagebrush, California buckwheat, and goldenbush. The herbaceous layer contains codominant species, which includes bromes (*Bromus* spp.), barleys (*Hordeum* spp.), Bermuda grass (*Cynodon dactylon*), giant wild rye (*Elymus condensatus*), purple needlegrass (*Stipa pulchra*), and deergrass (*Muhlenbergia rigens*). Diegan coastal sage scrub: baccharis dominated is usually open and often occurs on floodplains as a transition between riparian and upland habitat types. Disturbed Diegan coastal sage scrub: baccharis dominated contains many of the same shrub species as undisturbed Diegan coastal sage scrub: baccharis dominated but is sparser and has a higher proportion of non-native perennial and annual species.

There are 6.6 acres of Diegan coastal sage scrub: baccharis dominated mapped within the project area. There is 0.9 acre of disturbed Diegan coastal sage scrub: baccharis dominated mapped within the project area. Diegan coastal sage scrub: baccharis dominated (including disturbed) is found both north and south of the San Diego River as remnant patches within disturbed habitat (Figure 6).

3.3.2.3 Non-Native Grassland (Holland Code 42200)

Non-native grassland may be composed of dense to sparse cover of annual grasses. It is 0.2 to one meter tall. In years of high rainfall, it can be associated with native wildflowers. In San Diego County, associated species include oats (*Avena* spp.), bromes, filaree (*Erodium* spp.), mustards (*Brassica* spp.), tocalote (*Centaurea melitensis*), California poppy (*Eschscholzia californica*), lupines (*Lupinus* spp.), and plantain (*Plantago* spp.), among others. In some areas, depending on rainfall, forbs can be dominant. Germination often occurs with the onset of fall rains and continues through the spring. Grass species are often dead in the summer and fall. It is usually found on fine-textured to clay soils.

There are 5.1 acres of non-native grassland mapped within the project area. Non-native grassland occurs as an isolated patch north of Mission Gorge Road, west of Town Center Parkway, and as an isolated patch south of the San Diego River (Figure 6).

3.3.2.4 Eucalyptus Woodland (Holland Code 79100)

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* spp.), an introduced tree that has often been planted purposely for wind-blocking, ornamental, and hardwood production purposes. Most groves are monotypic, with the most common species being either the blue gum (*Eucalyptus gunnii*) or red gum (*E. camaldulensis* ssp. *obtusa)*. The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the abundant leaf and bark litter.

There are 1.7 acres of eucalyptus woodland mapped within the project area. Eucalyptus woodland occurs as isolated patches north and south of the San Diego River (Figure 6).

3.3.2.5 Artificial Detention Basin (Holland Code N/A)

Artificial detention basins on-site consist of open water habitat excavated in uplands. These detention basins are considered an artificially-created community because they act as holding basins for storm water as a result of human activities in historically non-wetland areas.

A total of three artificial detention basins totaling 2.0 acres are present in the project area (Figure 6).

3.3.2.6 Disturbed Habitat (11300)

Disturbed habitat includes those areas that have been disturbed and are no longer considered native habitat but still have a soil substrate. Vegetation is usually made up of invasive non-native species and ornamentals, and in particular, those species that take advantage of disturbed areas. Commonly associated species include thistles (*Sonchus* spp.), Russian thistle (*Salsola tragus*), mustards, pampas grass (*Cortaderia selloana*), and fountain grass (*Pennisetum setaceum*). The habitat no longer provides animal species with many beneficial uses other than for dispersal. Examples of areas that are considered disturbed habitat include graded pads, areas actively managed for fuels, dirt parking lots, firebreaks, off-road vehicle trails, and home sites.

There are 128.4 acres of disturbed habitat mapped within the project area. Disturbed habitat occurs on undeveloped lands north and south of the San Diego River (Figure 6).

3.3.2.7 Developed Land (Holland Code 12000)

Developed areas are those that have been built on or physically altered to the extent that native vegetation is not supported. Developed land is often characterized by permanent or semi-permanent structures, pavement, hardscape, or landscaped areas that require irrigation. Areas where no natural land is evident due to large quantities of debris or other material being placed upon it are also considered developed. Usually, plants in these areas are invasive non-native plants or ornamental.

There are 384.6 acres of developed land mapped within the project area. Developed land occurs throughout the project area (Figure 6).

3.4 PLANTS

A total of 56 plant species were observed in the project area during the biological survey, of which 19 (34 percent) are non-native species (Appendix A).

3.5 ANIMALS

A total of 14 animal species were observed or otherwise detected in the project area during the biological survey, including four species of insects, two reptiles, six birds, and two mammals (Appendix B).

3.6 SENSITIVE RESOURCES

3.6.1 Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines. Sensitive vegetation communities/habitat types mapped on the project area include open water, southern arroyo willow riparian forest, southern riparian forest, southern riparian scrub (including restoration and disturbed), southern willow scrub, tamarisk scrub, arrowweed scrub, Diegan coastal sage scrub (including baccharis dominated and disturbed), and non-

native grassland. Disturbed habitat, eucalyptus woodland, detention basin (artificial), and developed lands do not meet the definition of sensitive habitat under CEQA. Impacts to these vegetation communities do not require mitigation.

3.6.2 Special-status Plant Species

Special-status plant species have been afforded special status and/or recognition by the USFWS and CDFW, and may also be included in the CNPS Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range (such as those endemic to the region) is geographically rare. A species may be more or less abundant but occurs only in very specific habitats. Lastly, a species may be widespread but exists naturally in small populations.

3.6.2.1 Special-status Plant Species Observed

Three special-status plant species were observed within the project area during the general biological survey and surveys conducted for the Cottonwood and Park project (Dudek 2024).

Smooth tarplant (*Centromadia pungens* ssp. *laevis*)
Listing: --/--; California Rare Plant Rank (CRPR) 1B.1
Distribution: San Diego, Orange, Riverside, Los Angeles, Kern, and San Bernardino counties below approximately 1,500 feet in elevation.
Habitat: Valley and foothill grasslands, particularly near alkaline locales.
Status on site: HELIX observed 243 individuals within the TCSP in areas of disturbed habitat and Diegan coastal sage scrub: baccharis-dominated habitat south of the San Diego River (Figure 6). All individuals occur within the AEN, and approximately 100 of these individuals occur within Property 16A.

San Diego marsh-elder (*Iva hayesiana*)
Listing: --/--; CRPR 2.2
Distribution: San Diego County and Baja California, Mexico.
Habitat: Creeks of intermittent streambeds are preferred habitat for this low-growing, conspicuous shrub. Typically, the riparian canopy is open, allowing substantial sunlight to reach this marsh-elder. Sandy alluvial embankments with cobbles are frequently utilized.
Status on site: HELIX observed two individuals within southern riparian forest habitat along an unnamed tributary to the San Diego River (Figure 6). These individuals occur within the TCSP but outside the AEN and Properties 16A, 16B, 20A, and 20B.

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)
Listing: --/--; CRPR 4.2
Distribution: Los Angeles, San Bernardino, San Luis Obispo, Ventura, and San Diego counties; Baja California, Mexico.
Habitat: Moist, saline, or alkaline soils in coastal salt marshes and riparian marshes.
Status on site: HELIX observed three individuals. One individual occurs within the TCSP on conserved land designated as Park/Open Space along an unnamed tributary to the San Diego River. A second individual occurs within the TCSP outside conserved lands at the southern terminus of Park Center Drive. Additionally, a third individual occurs within the TCSP and AEN outside conserved lands at the southern terminus of Park Center Drive. These individuals do not occur on Properties 16A, 16B, 20A, and 20B (Figure 6).

White rabbit-tobacco (*Pseudognaphalium leucocephalum*)
Listing: --/--; CRPR 2B.2
Distribution: San Diego, Orange, Riverside, San Bernardino, Los Angeles, Ventura, Santa Barbara, Kern, Inyo, Mono, Monterey, and Plumas counties; Arizona; New Mexico; and Mexico.
Habitat: Sandy or gravelly soils of benches, dry stream bottoms, and canyon bottoms within coastal scrub, chaparral, cismontane woodland, and riparian woodland.
Status on site: Surveys for the Park and Cottonwood project observed 15 individuals within southern willow scrub and disturbed habitat along the northern edge of the San Diego River. A total of six individuals occur within the TCSP outside conserved lands. A total of nine individuals occur within the TCSP and AEN on conserved lands designated as Floodway/Open Space (Figure 6; Dudek 2024).

3.6.2.2 Sensitive Plant Species with Potential to Occur

The potential for special-status plant species to occur within the project area was evaluated based on the elevation, soils, vegetation communities, and level of disturbance, as well as species status, previous occurrences, and distribution in the vicinity of the study area. No special-status plant species were determined to have a high potential to occur within the project area.

Additional special-status plant species that were not observed but were evaluated for the potential to occur within the project area are listed in Appendix C. An explanation of status codes is included as Appendix E.

3.6.3 Special-status Animal Species

Special-status animal species include those that have been afforded special status and/or recognition by the USFWS and/or CDFW. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

3.6.3.1 Special-status Animal Species Observed

Special-status animal species were not observed or detected in the project area during the general biological survey.

3.6.3.2 Sensitive Animal Species with Potential to Occur

Special-status animal species that were not observed or otherwise detected but were evaluated for the potential to occur on-site are included in Appendix D. An explanation of status codes is included as Appendix E.

A total of 17 special-status animal species were determined to have high potential to occur in the project area: San Diegan legless lizard (*Anniella stebbinsi*), California glossy snake (*Arizona elegans occidentalis*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), red diamond rattlesnake (*Crotalus ruber*), Blainville's horned lizard (*Phrynosoma blainvillii*), western spadefoot toad (*Spea hammondii*), two-striped garter snake (*Thamnophis hammondii*), Cooper's hawk (*Accipiter cooperii*), coastal California gnatcatcher (*Polioptila californica californica*), and least Bell's vireo (*Vireo bellii pusillus*). The remaining species analyzed were determined to have either a moderate or low potential to occur or are not expected to occur due to existing site disturbances, site vegetation maintenance, and lack of suitable habitat conditions.

San Diegan legless lizard (*Anniella stebbinsi*)
Status: --/Species of Special Concern (SSC)
Distribution: Widespread resident species in San Diego County.
Habitat(s): Occurs in moist warm, loose soil with plant cover. May be found in coastal sand dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.
Status on site: Areas of loose soils with plant cover along the San Diego River are considered high potential to support San Diegan legless lizard. However, the project area has been heavily degraded by surrounding development.

California glossy snake (*Arizona elegans occidentalis*)
Status: --/SSC
Distribution: Occurs along the coastal regions of California from San Francisco south to San Diego County, though it is absent along the central coast.
Habitat(s): Occurs in arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas and loose soil.
Status on site: Rocky washes along the San Diego River are considered high potential to support California glossy snake. However, the project area has been heavily degraded by surrounding development.

Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*)
Status: --/WL
Distribution: Southern Orange County and southern San Bernardino County, and south through Baja California.
Habitat(s): Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).
Status on site: Suitable habitat (Diegan coastal sage scrub) occurs within the project area and is considered to have high potential to support Belding's orange-throated whiptail. There are documented occurrences, including historical observations, within the vicinity.

San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*)
Status: --/SSC
Distribution: Ventura County south, in cismontane California, to south-central Baja California.
Habitat(s): Open coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.
Status on site: Suitable habitat (Diegan coastal sage scrub) occurs within the project area and is considered to have high potential to support San Diegan tiger whiptail. There are documented occurrences, including historical observations, within the vicinity.

Red diamond rattlesnake (*Crotalus ruber*)
Status: --/SSC
Distribution: Extreme southeastern Los Angeles County (Diamond Bar) into southern San Bernardino County, and south into southern Baja California, Mexico.
Habitat(s): Found in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.

Status on site: Suitable habitat (Diegan coastal sage scrub) occurs within the project area and is considered to have high potential to support red diamond rattlesnake. There are documented occurrences, including historical observations, within the vicinity.

Blainville's horned lizard (*Phrynosoma blainvillii*)
Status: --/SSC
Distribution: Northern California through coastal southern California into northern Baja California.
Habitat(s): Coastal sage scrub and open areas in chaparral, oak woodlands, and coniferous forests with sufficient basking sites, adequate scrub cover, and areas of loose soil; require native ants, especially harvester ants (*Pogonomyrmex* sp.), and are generally excluded from areas invaded by Argentine ants (*Linepithema humile*).
Status on site: Suitable habitat (Diegan coastal sage scrub) occurs within the project area and is considered to have high potential to support Blainville's horned lizard. There are documented occurrences, including historical observations, within the vicinity.

Western spadefoot toad (*Spea hammondii*)
Status: --/SSC
Distribution: Throughout the Central Valley and San Francisco Bay area, south along the coast to northwestern Baja California
Habitat(s): Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; require temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* sp).
Status on site: Suitable habitat occurs within the project area along the San Diego River and along an unnamed drainage that is tributary to the San Diego River and these areas are considered high potential to support western spadefoot toad. There are documented occurrences in the vicinity of the project area. However, the project area has been heavily degraded and disturbed by surrounding development.

Two-striped garter snake (*Thamnophis hammondii*)
Status: --/SSC
Distribution: Monterey County south through the coastal ranges into northwestern Baja California
Habitat(s): Occurs along permanent and intermittent streams bordered by dense riparian vegetation, but occasionally associated with vernal pools or stock ponds.
Status on site: Potentially suitable riparian habitats occur within the project area along the San Diego River and along an unnamed drainage that is tributary to the San Diego River, but the site lacks rocky streambed habitat typically associated with the species. There are documented occurrences, including historical observations, in the project area and within the vicinity.

Cooper's hawk (*Accipiter cooperii*)
Status: --/SSC
Distribution: Occurs year-round throughout San Diego County's coastal slope where stands of trees are present.
Habitat(s): Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.
Status on site: Suitable mature riparian woodland occurs within the project area along the San Diego River and is considered to have high potential to support Cooper's hawk. There are documented occurrences in the vicinity of the project area.

Coastal California gnatcatcher (*Polioptila californica californica*)
Status: FT/SSC
Distribution: Widespread resident species in San Diego County
Habitat(s): Diegan coastal sage scrub areas, typically dominated by California sagebrush, California buckwheat, and prickly-pear cactus.
Status on site: This species has been documented in multiple locations in sage scrub habitat along the San Diego River as recently as 2016 (USFWS 2023). Though the species has high potential to occur in the project area, suitable habitat present is limited to small remnant patches of coastal sage scrub within disturbed undeveloped land and does not connect to larger blocks of coastal sage scrub off-site. The species may utilize these areas on-site for foraging opportunities but would most likely breed off-site in more extensive, higher quality habitat.

Least Bell's vireo (*Vireo bellii pusillus*)
Status: FE/SE
Distribution: Observed throughout much of San Diego County in the breeding season but in smaller numbers in foothills and mountains
Habitat(s): Mature riparian woodland.
Status on site: Suitable habitat for this species occurs along the San Diego River and along an unnamed drainage that is tributary to the San Diego River. This species has been documented in multiple locations along the San Diego River, where it runs through the project area, as recently as 2008 (USFWS 2023)

Nesting Birds

Trees and shrubs both within and adjacent to the project area could provide suitable nesting habitat for numerous bird species known to the region.

Raptor Foraging

Raptor species were not observed in the project area during the biological survey. Raptor species that have shown the ability to adapt to urban and suburban environments may use the area for foraging and could use on-site trees for nesting. These include red-shouldered hawk (*Buteo lineatus*) and Cooper's hawk (*Accipiter cooperii*; State Watch List). Suitable foraging habitat for these species are fallow fields or open lands greater than five acres that are characterized by fossorial activity and/or the presence of trees. Raptors typically utilize tall trees for nesting and perching. Although present, the area of potential foraging habitat for raptors is limited within the project area. The habitat within the project area does not provide high-quality raptor habitat, as many on-site trees with potential for nesting are located adjacent to roadways with heavy traffic. Additionally, potential foraging habitat (fallow fields/open lands with fossorial activity) is limited within the project area, and nearby disturbance such as roads, freeways, and proximity to human activity are also a deterrent for foraging raptors.

3.6.4 Jurisdictional Waters and Wetlands

In the context of this assessment, jurisdictional waters and wetlands include waters of the U.S., including wetlands regulated by the USACE pursuant to the Clean Water Act (CWA) Section 404; waters of the State regulated by the RWQCB pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act; and streambed and riparian habitat regulated by the CDFW pursuant to Sections 1600 *et seq*. of the California Fish and Game Code (CFG Code).

Potential jurisdictional aquatic resources present within the study area consist of waters of the U.S. subject to the regulatory jurisdiction of USACE, waters of the State subject to the regulatory jurisdiction of the RWQCB, and streambed and riparian habitat subject to the regulatory jurisdiction of the CDFW. These potential jurisdictional resources are primarily associated with the San Diego River, unnamed drainages, and riparian-associated vegetation occurring along the river and drainages.

The jurisdictional delineation review area consisted of the proposed Riverview Parkway project site and encompassed the entire parcel (381-050-82-00; REC Consultants, Inc. 2022a-b). Within the Riverview Parkway project site, a total of 0.33 acre (2,117 linear feet) of waters of the U.S. may be subject to USACE and RWQCB regulatory jurisdiction pursuant to Sections 404 and 401 of the CWA. Additionally, 1.13 acres of streambed and riparian resources occur within the jurisdictional delineation review area and would be subject to CDFW jurisdiction pursuant to Sections 1600–1616 of the CFG Code.

USACE Jurisdiction

USACE-jurisdictional waters within the jurisdictional delineation review area include wetland and non-wetland waters of the U.S. (Table 3, *Aquatic Resources within the Jurisdictional Delineation Review Area*). A total of 0.33 acre / 2,117 linear feet (lf) of potential waters of the U.S. were delineated in the jurisdictional delineation review area. Potential waters of the U.S. consist of 0.05 acre of wetland and 0.28 acre of non-wetland waters.

RWQCB Jurisdiction

RWQCB-jurisdictional waters within the jurisdictional delineation review area include wetland and non-wetland waters of the State (Table 3). A total of 0.33 acre / 2,117 (lf) of potential waters of the State were delineated in the jurisdictional delineation review area. Potential waters of the State consist of 0.05 acre of wetland and 0.28 acre of non-wetland waters. No isolated waters or isolated wetlands meeting the SWRCB's State Wetland Definition were identified in the jurisdictional delineation review area. Thus, no waters or wetlands subject to RWQCB regulation solely under the Porter-Cologne Water Quality Control Act were observed on-site.

CDFW Jurisdiction

CDFW habitat was delineated within the jurisdictional delineation review area (Table 3). A total of 1.18 acres of CDFW jurisdictional habitat occur within the jurisdictional delineation review area, composed of 0.54 acre of riparian habitat (including vegetated streambed) and 0.64 acre of unvegetated streambed.

Table 3
AQUATIC RESOURCES WITHIN THE JURISDICTIONAL DELINEATION REVIEW AREA

TYPE	Acres[1] (Linear Feet)
USACE Waters of the U.S.	
Wetland Waters (WW-1)	0.04 (210)
Wetland Waters (WW-2)	0.01 (68)
Non-wetland Waters (NWW-1)	0.19 (1,360)
Non-wetland Waters (NWW-2)	0.08 (366)
Non-wetland Waters (NWW-3)	0.01 (92)
Non-wetland Waters (NWW-4)	<0.01 (0.001; 21)
Waters of the U.S. Total	**0.33 (2,117)**

TYPE	Acres[1] (Linear Feet)
RWQCB Waters of the State	
Wetland Waters (WW-1)	0.04 (210)
Wetland Waters (WW-2)	0.01 (68)
Non-wetland Waters (NWW-1)	0.19 (1,360)
Non-wetland Waters (NWW-2)	0.08 (366)
Non-wetland Waters (NWW-3)	0.01 (92)
Non-wetland Waters (NWW-4)	<0.01 (0.001; 21)
Waters of the State Total	**0.33 (2,117)**
CDFW Jurisdictional Areas	
Riparian (including vegetated streambed)	0.54
Streambed	0.64
CDFW TOTAL	**1.18**

[1] Acreages are rounded to nearest 0.01 acre. Linear feet is rounded to the nearest foot.

3.6.5 Wildlife Corridor/Core Wildlife Areas

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

With respect to wildlife movement in the region, conservation targets generally include conserving core blocks of coastal sage scrub and chaparral habitat, as well as maintaining linkages between critical biological resource areas. The Mission Trails/Kearny Mesa/East Elliot/Santee BRCA, as identified in the Final MSCP Plan, surrounds the northern and western portions of the City and overlaps a small portion of the project area. This BRCA is generally associated with Mission Trails Regional Park to the west and habitat along the San Diego River. Undeveloped habitat in the project area functions as both "live-in" habitat for a wide variety of large and small wildlife, and functions as partial territory for the largest of mammals (i.e., mule deer, bobcat, and coyote). The project area also acts as a movement corridor (e.g., San Diego River) between County open space, MCAS Miramar, and Santee Lakes. The San Diego River is expected to be a key component for the movement of wildlife in the region, namely birds and mammals. The San Diego River supports a permanent water source and provides cover for a wide range of species known to the region. Large mammals, such as southern mule deer (*Odocoileus hemionus fuliginata*) and coyote (*Canis latrans*), would be expected to travel to and from the San Diego River and expansive habitat blocks associated with Mission Trails Regional Park. Large mammals would also be expected to travel along the San Diego River and riparian corridor. Birds would be expected to move unobstructed between key habitat blocks of coastal sage scrub and riparian habitat that provides important breeding, foraging, and dispersal functions. Key blocks of coastal sage scrub where gnatcatchers are known to occur include Mission Trails Regional Park, with additional habitat extending further north within Sycamore Canyon Preserve, and to the southeast into Crestwood Ecological Reserve.

A variety of land uses surround the project area and include mixed uses that place residential use within walking distance of commercial and recreational uses (Figure 3). The San Diego River runs through the project area, and most of the on-site reach of the river is characterized by dense southern arroyo willow riparian forest habitat. East-west wildlife movement in the region would likely follow the San Diego River. The upland vegetation communities/land use types present outside and along the San Diego River corridor provide minimal cover for wildlife movement and, as evaluated on their own, do not function as a wildlife movement corridor. However, the upland undeveloped lands in the project area are contiguous with the San Diego River, which does function as a wildlife corridor.

4.0 REGULATORY FRAMEWORK

Biological resources in the project area are subject to regulatory review by federal, state, and local agencies. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the City) pursuant to CEQA Guidelines. Biological resource-related laws and regulations that apply include the federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), Native Plant Protection Act (NPPA), CFG Code, Porter-Cologne Water Quality Control Act, Natural Communities Conservation Planning (NCCP) Act, MSCP, Santee General Plan, City of Santee Draft MSCP Subarea Plan (currently being prepared), Habitat Loss Permit Ordinance, and Santee Municipal Code.

4.1 FEDERAL

4.1.1 Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the FESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is a term defined and used in the FESA and refers to specific geographic areas that contain features considered necessary for endangered or threatened species to recover. Critical habitat designations can include areas that are not currently occupied by the species, as the ultimate goal is to restore healthy populations of listed species within their native habitats so that they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of the critical habitat. Only activities that involve a federal permit, license, or funding require consultation with the USFWS.

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of Biological Opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or

informal) is required when there is a nexus between endangered species' use of a site and if there is an associated federal action for a proposed impact (e.g., the USACE would initiate a Section 7 consultation with the USFWS for impacts proposed to USACE jurisdictional areas that may also affect listed species or their critical habitat). Section 10(a) allows the issuance of permits for incidental take of endangered or threatened species with the preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits. The MSCP is a regional HCP that was developed pursuant to Section 10(a) of the ESA.

4.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act has protections for all migratory bird species that are native to the United States or that have territories protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds, but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on the disturbance of active bird nests during the nesting season (generally February 1 to September 15; beginning January 15 for raptors). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

4.1.3 Clean Water Act and Rivers and Harbors Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permit or Nationwide Permit instruments.

4.2 STATE

4.2.1 California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process, in accordance with existing laws and regulations.

4.2.2 California Endangered Species Act

The CESA established that it is state policy to conserve, protect, restore, and enhance state endangered species and their habitats. Under state law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may "take" plant or wildlife species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit, if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For state-only listed species, Section 2081 of the CFG Code authorizes the CDFW to issue an Incidental Take Permit for state listed threatened and endangered species if specific criteria are met. The MSCP is a regional Natural

Communities Conservation Plan that was granted take coverage under Section 2081 of the CESA for specific species.

4.2.3 Native Plant Protection Act

Sections 1900 through 1913 of the CFG Code (Native Plant Protection Act) direct the CDFW to carry out the state legislature's intent to "…preserve, protect, and enhance endangered or rare native plants of this state." The NPPA gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from "take".

4.2.4 California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of the CFG Code requires a Streambed Alteration Agreement (SAA) for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required before any such activities.

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls, and their active nests, are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird, as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle, unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed.

4.2.5 Porter-Cologne Water Quality Control Act

This statute regulates surface waters and wetlands within the State and is governed by the RWQCB. Features that support aquatic resources (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) but are isolated (i.e., lack downstream connectivity to waters of the U.S.) could be subject to regulation pursuant to the State Porter-Cologne Water Quality Control Act (Porter-Cologne). Impacts to isolated wetlands and/or waters of the State require a Waste Discharge Requirement Permit from the RWQCB.

4.2.6 Natural Communities Conservation Planning Act

The NCCP program is a cooperative effort to protect habitats and species. It began under the state's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level, while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for state and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits.

4.3 COUNTY OF SAN DIEGO

The County regulates natural resources (among other resources) via the MSCP, as discussed below.

4.3.1 Multiple Species Conservation Program

The California NCCP Act of 1991 (Section 2835) allows the CDFW to authorize take of species covered by plans in agreement with NCCP guidelines. A Natural Communities Conservation Program initiated by the State of California focuses on conserving coastal sage scrub, and in concert with the USFWS and the federal ESA, is intended to avoid the need for future federal and state listing of coastal sage scrub-dependent species.

The San Diego MSCP Plan for the southwestern portion of San Diego County was approved in August 1998 and covers 85 species (County 1998). The City of San Diego, portions of the unincorporated County, and 10 additional city jurisdictions make up the San Diego MSCP Plan area. It is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space, in order to link core biological areas into a regional wildlife preserve.

The San Diego Final MSCP Plan includes the cities of Del Mar, Poway, San Diego, Santee, El Cajon, La Mesa, Lemon Grove, National City, Chula Vista, Coronado, and Imperial Beach. Local jurisdictions implement their respective portions of the plans by developing subarea plans that describe their specific implementing mechanisms, preserve boundaries, and species and habitats protection while preserving the integrity of the MSCP. The City of Santee is currently in the process of developing its Subarea plan, which would rely on a combination of hardline protection areas and softline protection zones to protect species and habitat.

4.4 LOCAL

4.4.1 Santee General Plan

Section 65302 (d) of the California Planning and Zoning Laws requires each City’s General Plan to contain a Conservation Element that is intended to address the conservation, development, and utilization of

natural resources. These resources may include water, forests, rivers, soils, minerals, fisheries, and wildlife.

Objective 7.0 of the Santee General Plan Conservation Element requires the following policies to preserve significant biological resources.

- Policy 7.1: The City shall encourage the preservation and enhancement of significant biological resources in areas designated as permanent open space.

- Policy 7.2: The City shall require that all development proposals provide appropriate mitigation for identified significant biological resources, including selective preservation, sensitive site planning techniques, and in-kind mitigation for identified impacts.

- Policy 7.3: The City shall require that, for all development proposals involving the setting aside of land for permanent open space, either on-site or off-site, provisions are in place to ensure the long-term management of the open space and biological resources.

4.4.2 City of Santee Draft MSCP Subarea Plan

The City of Santee is currently participating in the MSCP through the preparation of a Subarea Plan. The Plan provides a framework for promoting the protection and enhancement of natural resources, including listed species and species that may become listed during the permit term and their habitats, while streamlining the permitting process for planned development, infrastructure development, and infrastructure and facilities operations and maintenance activities (Covered Activities). The Plan will enable the City of Santee to receive listed species take permits for identified activities and projects conducted by the City and those under their jurisdiction where the City has discretion over the activity. The Plan Area covers 10,500.8 acres, including lands within the jurisdiction of the City of Santee, plus off-site conservation areas. The permits that would ultimately be issued by the Wildlife Agencies will address 20 Covered Species that are currently listed as threatened or endangered or may become listed during the permit term, that may be impacted by Covered Activities, and that will benefit from Plan-related conservation and management.

4.4.3 Santee Municipal Code

The City's municipal code requires that all new developments, subdivisions, or tracts that are planned in Fire Hazard Severity Zones and/or Wildland Urban Interface areas have a minimum of 100 horizontal feet of defensible space between flammable structures and wildland areas. Typically, defensible space comprises two brush management areas: Zone 1 (the first 50 feet from flammable structures) and Zone 2 (the second 50 feet). Zone 1 may consist of pavement; walkways; turf; and permanently landscaped, irrigated, and maintained ornamental plantings. Fire resistive trees are allowed if placed or trimmed so that crowns are maintained more than 10 feet from the structure(s). Zone 2 may include low-growing, fire resistant shrubs and ground covers. Zone 2 must have an average plant height of under 24 inches and cover of native, non-irrigated vegetation of under 30 percent.

5.0 SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

This section presents an analysis of anticipated direct and indirect impacts to biological resources associated with the implementation of the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project, including drainage and toxins (water quality), lighting, noise, and invasive plant species. Overall, cumulative impacts are also addressed.

5.1 CRITERIA FOR DETERMINING IMPACT SIGNIFICANCE

The significance of impacts to biological resources present or those with the potential to occur was determined based on the sensitivity of the resource and the extent and severity of the anticipated impacts. In general, for certain highly sensitive resources (e.g., federally listed species), any impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the region but declining elsewhere) could sustain some impact with a less than significant effect.

According to Appendix G of the CEQA Guidelines, project impacts to biological resources would be considered significant if they would:

(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 CDFW or USFWS.

(b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations, or by CDFW or USFWS.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (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 local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

(f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2 ISSUE 1: SPECIAL-STATUS SPECIES

Would the project 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 CDFW or USFWS?

Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Impacts were analyzed and quantified by overlaying the proposed boundaries of the impact associated with the project onto the baseline biological maps.

5.2.1 Impacts to Vegetation Communities

Implementation of the overall proposed project is anticipated to result in direct impacts to 448.89 acres of habitat (Table 4, *Vegetation Community/Land Use Types Impacts and Mitigation Requirements*; Figure 7, *Vegetation and Sensitive Resources/Impacts*). No direct impacts are anticipated to occur to conserved lands designated as Park/Open Space and Floodway/Open Space (Figure 4).

Project activities would occur over an extended period; therefore, the overall proposed project impacts would not occur all at once. Impacts presented in Table 4 account for all the proposed projects known and potential impacts within the defined TCSP, AEN, and Properties 16A, 16B, 20A, and 20B footprint, and there are currently no additional impacts anticipated to occur. If any future development were required to occur outside of the defined TCSP, AEN, or Properties 16A, 16B, 20A, and 20B footprint, a project-level analysis would be submitted to the City to determine if the planned activity deviating from the proposed footprint is consistent with the TCSP, AEN, and applicable mitigation measures and conditions included in that permit. Impacts to vegetation would occur as part of development activities.

Table 4
VEGETATION COMMUNITY/LAND USE TYPES IMPACTS AND MITIGATION REQUIREMENTS[1,2]

Vegetation Community	Santee Town Center SPA	Arts & Entertainment Neighborhood	Property 16A	Property 16B	Property 20A	Property 20B	Mitigation Ratio	Maximum Mitigation Acres
Wetland Habitats								
Southern Riparian Forest (61300)	0.01	--	--	--	--	--	3:1	0.03
Southern Arroyo Willow Riparian Forest (61320)	6.57	1.52	--	--	--	--	3:1	19.71
Southern Riparian Scrub (63300)	0.01	--	--	--	--	--	3:1	0.03
Southern Riparian Scrub – Disturbed (63300)	0.68	--	--	--	--	--	3:1	2.04
Southern Riparian Scrub – Restoration (63300)	0.03	0.03	--	--	--	--	3:1	0.09
Southern Willow Scrub (63320)	0.47	0.47	0.19	--	--	--	3:1	1.41
Tamarisk Scrub (63810)	0.16	0.16	--	--	--	--	3:1	0.48
Arrowweed Scrub (63820)	1.96	0.03	--	--	--	--	3:1	5.88
Open Water (64100)	--	--	--	--	--	--	3:1	--
Subtotal	*9.89*	*2.21*	*0.19*	--	--	--	--	*29.67*
Upland Habitats								
Diegan Coastal Sage Scrub (32500)	--	--	--	--	--	--	2:1	--
Diegan Coastal Sage Scrub, Disturbed (32500)	8.7	8.7	--	--	--	--	2:1	17.4
Diegan Coastal Sage Scrub: Baccharis-dominated (32530)	4.5	4.5	--	--	--	--	2:1	13.5
Diegan Coastal Sage Scrub: Baccharis-dominated, Disturbed (32530)	0.9	0.9	--	--	--	--	2:1	2.7
Non-native Grassland (42200)	4.2	--	--	--	--	--	0.5:1	2.1
Eucalyptus Woodland (79100)	1.1	0.7	--	--	--	--	--	--

Vegetation Community	Santee Town Center SPA	Arts & Entertainment Neighborhood	Property 16A	Property 16B	Property 20A	Property 20B	Mitigation Ratio	Maximum Mitigation Acres
Artificial Detention Basin (N/A)	2.0	2.0	1.3	--	--	--	--	--
Disturbed Habitat (11300)	85.7	55.9	9.5	8.5	5.9	7.9	--	--
Developed (12000)	331.9	108.2	<0.1 (0.02)	0.1	1.8	2.0	--	--
Subtotal	*439.0*	*189.9*	*10.8*	*8.6*	*7.7*	*9.9*	--	*35.7*
TOTAL	**448.89**	**183.11**	**10.99**	**8.6**	**7.7**	**9.9**	**--**	**65.37**

[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

[2] Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, total reflects rounding.

5.2.2 Impacts to Special-status Species

Several special-status plant and animal species were observed in the project area during biological surveys. Project impacts would primarily occur in existing developed and disturbed areas. However, portions of the proposed project area extend into native habitats, including wetland and riparian habitats and sensitive uplands habitats, where special-status plant and animal species have been detected or have the potential to occur. Potential project effects on special-status plant and animal species are described below.

5.2.2.1 Special-status Plant Species

The project would result in impacts to three special-status plant species: smooth tarplant (CRPR 1B.1), white rabbit-tobacco (CRPR 2B.2), and southwestern spiny rush (CRPR 4.2). All other special-status plant species observed on-site would either remain undisturbed or be conserved in open space. A total of 243 smooth tarplant individuals, six white rabbit-tobacco individuals, and two southwestern spiny rush individuals observed within the project area would be impacted by the proposed project. No special-status plant species were determined to have a high potential to occur within the project area.

Federal or State Listed Plant Species

No impacts would occur to federally and/or state listed plant species as none were documented within the TCSP, AEN, or Properties 16A, 16B, 20A, or 20B.

CRPR 1 or 2 Listed Plant Species

Generally, impacts to plant species with a CNPS CRPR of 1 or 2 are considered potentially significant due to their higher sensitivity status, and the impact analysis evaluates substantial adverse effects to these species. Implementation of the proposed project has the potential to result in direct impacts to the following special-status plant species with a CRPR of 1 or 2: smooth tarplant and white rabbit-tobacco.

Smooth Tarplant

Approximately 243 individuals of smooth tarplant occur in the TCSP project area and the AEN, and within these mapped occurrences, approximately 110 individuals occur on Property 16A (Figure 6). Mitigation measures **BIO-1** and **BIO-2** would reduce proposed project impacts on Property 16A to less than significant. If project work limits are exceeded and additional inadvertent impacts occur, the impacts could increase in severity and represent a potential significant impact. Mitigation measures

- Proposed Santee Town Center Specific Plan
- Study Area
- Proposed Arts & Entertainment District Overlay
- Property 16A
- Property 16B
- Property 20A
- Property 20B
- Impact Avoidance Area
- Impact Avoidance Area (SD River Trails)

Special Status Plant Species

- San Diego Marsh Elder (*Iva hayesiana*)
- Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)
- Smooth Tarplant (*Centromadia pungens* ssp. *laevis*)
- Smooth Tarplant (*Centromadia pungens* ssp. *laevis*)
- Rabbit Tobacco (*Pseudognaphalium leucocephalum*)

Holland/Oberbauer Classification

Riparian Forests and Woodlands

- (61300) Southern Riparian Forest
- (61320) Southern Arroyo Willow Riparian Forest

Riparian Shrublands

- (63300) Southern Riparian Scrub - Disturbed
- (63300) Southern Riparian Scrub - Restoration
- (63320) Southern Willow Scrub
- (63810) Tamarisk Scrub
- (63820) Arrowweed Scrub

Upland Forestes and Woodlands

- (79100) Eucalyptus Woodland

Soft-leaved, Drought-Deciduous Shrublands

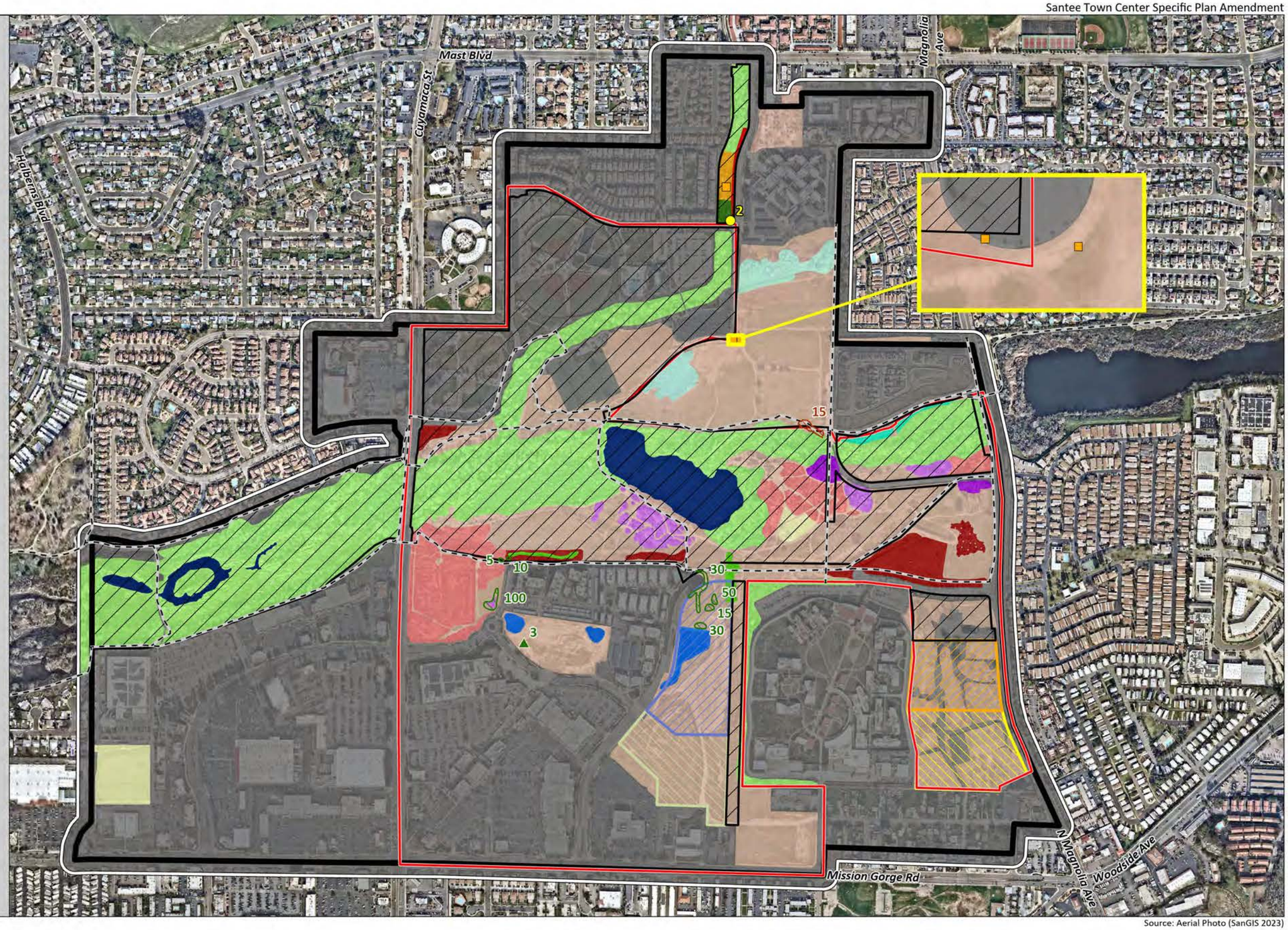
- (32500) Diegan Coastal Sage Scrub
- (32500) Diegan Coastal Sage Scrub - Disturbed
- (32530) Diegan Coastal Sage Scrub - Baccharis-dominated
- (32530) Diegan Coastal Sage Scrub - Baccharis-dominated -Disturbed

Upland Herbaceous Vegetation

- (11300) Disturbed Habitat
- (42200) Non-native Grassland

Unvegetated

- (12000) Developed
- (64100) Open Water
- (N/A) Artifical Dentention Basin



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Source: Aerial Photo (SanGIS 2023)

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HELIX Environmental Planning

Vegetation and Sensitive Resources/Impacts

Figure 7

BIO-3 and **BIO-4** would require the installation of temporary construction fencing and biological monitoring where work limits occur adjacent to known sensitive resources to be avoided, including smooth tarplant individuals. Implementation of mitigation measures **BIO-3** and **BIO-4** would ensure that additional impacts on sensitive resources that occur adjacent to project work limits are avoided. Additionally, Mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following completion of construction activities. Implementation of mitigation measure **BIO-6** would ensure that future development impacts on smooth tarplant in the TCSP project area and the AEN are reduced to less than significant levels.

White Rabbit-tobacco

A total of six individuals of white rabbit-tobacco occur within the TCSP outside the AEN and conserved lands. These individuals do not occur on Properties 16A, 16B, 20A, and 20B (Figure 7). Implementation of mitigation measure **BIO-6** would ensure that future development impacts on white rabbit-tobacco in the TCSP project area and the AEN are reduced to less than significant levels.

CRPR 3 or 4 Listed Plant Species

CRPR 3 and 4 species are relatively widespread, and impacts to such species would not substantially reduce their populations in the region and are not significant. Implementation of the project is anticipated to result in direct impacts to the following special-status plant species with a CRPR of 3 or 4: southwestern spiny rush.

Southwestern Spiny Rush

One individual occurs within the TCSP on conserved land designated as Park/Open Space along an unnamed tributary to the San Diego River. A second individual occurs within the TCSP outside conserved lands at the southern terminus of Park Center Drive. Additionally, a third individual occurs within the TCSP and AEN outside conserved lands at the southern terminus of Park Center Drive. These individuals do not occur on Properties 16A, 16B, 20A, and 20B (Figure 7). Project impacts to southwestern spiny rush would be less than significant because this relatively widespread species is known to occur elsewhere in the project vicinity, such that the local long-term survival of the species would not be impacted by impacts to two individuals. The impacted individuals are not part of a population at the periphery of the species' range, located in an area where the taxon is especially uncommon, or occurring on unusual substrates. Lastly, there are numerous documented occurrences of this species throughout the region, including on conserved lands, indicating that the project does not represent a geographically significant population.

Other Special-status Plant Species

Implementation of the proposed project is not anticipated to result in impacts to other special-status plant species known from or with high potential to occur in the project area. These species are expected to be avoided by project activities due either to the species' location being outside of the proposed development footprint, or the lack of suitable conditions (habitat, soils, hydrology, elevations, etc.) within the development footprint. However, due to the long-term nature of the project, potential additional or new populations of special-status plant species could be discovered in the future, including MSCP Narrow Endemic species. Project impacts to special-status plant species may be considered significant depending on the species, sensitivity, and the number of plants to be impacted. Significant impacts to special-status plant species, if determined to occur, would require mitigation, including

species-specific mitigation, consistent with the City's General Plan (City 2020). Implementation of mitigation measure **BIO-6** would ensure that future development impacts on sensitive resources that occur adjacent to project work limits are avoided. Additionally, Mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following completion of construction activities.

5.2.2.2 Special-status Animal Species

Implementation of the proposed project has the potential to result in direct impacts to habitats occupied or suitable for special-status wildlife species. These habitats include wetland and riparian habitats, open water/lake, Diegan coastal sage scrub and various subtypes of this habitat, and non-native grassland. Such impacts would be a result of development activities such as vegetation removal, which could cause loss of habitat and/or direct injury or mortality to individuals. These impacts are described below.

Federally or State Listed Animal Species

Implementation of the proposed project would impact locations where the following three listed animal species have been documented within the proposed project area or have high potential to occur: coastal California gnatcatcher, least Bell's vireo, and western spadefoot toad; additional information is provided below. Nesting and migratory birds also may be impacted by future development.

Coastal California Gnatcatcher

Implementation of the proposed project within both the TCSP and AEN areas would result in impacts to coastal California gnatcatcher from the removal of 14.1 acres of Diegan coastal sage scrub (comprising disturbed, baccharis-dominated, and disturbed baccharis-dominated). Habitat suitable for CAGN does not occur on Properties 16A, 16B, 20A, or 20B. Impacts from the TCSP and AEN total no more than 8.7 acres of disturbed Diegan coastal sage scrub and 5.4 acres of Diegan coastal sage scrub: Baccharis dominated (including disturbed). Impacts to occupied and potential CAGN habitat within the TCSP and AEN areas are considered significant and would require mitigation.

If construction activities or operational activities in the TCSP or AEN were to occur during the gnatcatcher breeding season (March 1 through August 15) and impact occupied CAGN habitat, direct impacts to nesting CAGN would be considered significant and would require mitigation. Through the implementation of mitigation measures **BIO-6**, **BIO-7**, **BIO-8**, and **BIO-9**, impacts to this species would be reduced to less than significant. Additionally, Mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following completion of construction activities.

Least Bell's Vireo

A maximum amount of 7.93 acres of suitable habitat for least Bell's vireo may be impacted by the development of the TCSP, AEN, and Property 16A areas, respectively. Suitable breeding habitat for the least Bell's vireo within the TCSP project area comprises 0.01 acre of southern riparian forest, 6.57 acres of southern arroyo willow riparian forest, 0.72 acre of southern riparian scrub (including disturbed and restoration), 0.47 acre of southern willow scrub, and 0.16 acre of tamarisk scrub. Suitable breeding habitat for the least Bell's vireo within the AEN project area comprises 1.52 acres of southern arroyo willow riparian forest, 0.03 acre of southern riparian scrub (restoration), 0.47 acre of southern willow

scrub, and 0.16 acre of tamarisk scrub. Suitable breeding habitat for the least Bell's vireo within Property 16A comprises 0.19 acre of southern willow scrub. If construction activities were to occur during the vireo breeding season (March 15 through September 15) and impact occupied least Bell's vireo habitat, direct impacts to nesting least Bell's vireo would be considered significant and would require mitigation. Additionally, indirect impacts to least Bell's vireo would occur if construction activities or operational activities were to take place during the vireo breeding season and were to generate noise levels greater than 60 dBA, or exceed ambient noise levels if greater than 60 dBA, within occupied least Bell's vireo habitat. Through the implementation of mitigation measures **BIO-6**, **BIO-7**, **BIO-8**, and **BIO-9**, impacts to this species would be reduced to less than significant. Additionally, Mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following completion of construction activities.

Western Spadefoot Toad

The western spadefoot toad has a high potential to occur in sparse riparian habitat along the San Diego River. Construction related to the implementation of the proposed project could impact western spadefoot toad. Through the implementation of mitigation measures **BIO-6** and **BIO-10**, impacts to this species would be reduced to less than significant. Additionally, Mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following completion of construction activities. Therefore, the proposed project's impacts to western spadefoot toad would be less than significant.

Nesting Birds

The project area contains trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors (such as Cooper's hawk), protected under the MBTA and CFG Code. Construction of the proposed project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through July 15 for raptors and February 1 to September 15 for general avian species) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. The proposed project construction or operation within 500 feet of breeding habitat for nesting birds could result in adverse indirect impacts related to construction or operational noise. Impacts to nesting birds and temporary (foraging, migration, and dispersal) habitat would be significant. However, through the implementation of mitigation measures **BIO-7, BIO-8**, and **BIO-9**, impacts to nesting birds would be reduced to less than significant.

Other Special-status Animal Species

Implementation of the proposed project could result in impacts to the following seven other special-status animal species with high potential to occur: San Diegan legless lizard, California glossy snake, Belding's orange-throated whiptail, San Diegan tiger whiptail, red diamond rattlesnake, Blainville's horned lizard, and two-striped garter snake.

Potential impacts to other special-status animal species would result from the removal of 9.89 acres of wetland and riparian habitats, 18.3 acres of sensitive upland habitats, and 420.7 acres of non-sensitive upland habitats that may support these species. These impacts would be less than significant due to the small number of individuals that would potentially be affected, the relatively small amount of habitat to be impacted, and the large amount of suitable habitat in the project area that would be avoided by activities and would continue to be preserved within conserved lands. Impacts to MSCP-covered species

would be less than significant based on adequate species coverage and suitable habitats protected under the MSCP.

5.2.3 Mitigation Measures

The following mitigation measures would ensure that potential impacts on special-status plant and animal species are avoided by the project.

BIO-1 Focused surveys for smooth tarplant will be completed during the blooming period for this species (April to September) before clearing and grubbing for the development of sites 16A, 16B, 20A, and 20B. Smooth tarplant observed in a proposed impact area will be flagged and avoided during construction. If impacts to smooth tarplant individuals cannot be avoided, mitigation will consist of on- or off-site preservation, translocation, and/or restoration within a BRCA, with a preference for species salvage and transplantation on-site if feasible, as determined by a qualified biologist and approved by the City. Seed material will be sourced from within 25 miles of the project area, but if seed is not available, due to seasonality or a poor seeding year, seed collected from southeastern San Diego County may be used. If species are transplanted for mitigation, these species will be included in a plant salvage and translocation plan according to mitigation measure **BIO-2**.

BIO-2 Before vegetation clearing for development of sites 16A, 16B, 20A, and 20B, if smooth tarplant is being impacted, and translocation is selected as part of the mitigation package according to mitigation measure **BIO-1**, a plant salvage and translocation plan shall be prepared for smooth tarplant impacted by the project. The plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, and application/relocation of resources within the project area. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for the method of salvage and relocation/application based on the feasibility of implementation and the likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, success criteria, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a qualified biologist and shall be implemented according to the Mitigation Monitoring and Reporting Program for the project, to the satisfaction of the City.

BIO-3 To help ensure errant impacts to sensitive vegetation communities and jurisdictional waters outside of the impact footprint are avoided during construction in the Housing Element sites, environmental exclusionary fencing, where determined necessary by the qualified biologist, would be installed at the edges of the impact limits before the initiation of grading. All construction staging shall occur within the approved limits of construction. A qualified biologist will monitor the installation of environmental fencing wherever it would abut sensitive vegetation communities. The biologist will periodically monitor the limits of construction operations to ensure that avoidance areas are delineated with temporary fencing and that fencing remains intact. Unless otherwise determined by the monitoring biologist, periodically means once every 14 days after environmental exclusionary fencing has been installed at the edges of the impact limits.

BIO-4 Before vegetation clearing for development of the Housing Element sites a qualified biologist shall conduct a Worker Environmental Awareness Program (WEAP) training session for project and construction personnel before the commencement of work. The training shall include a description of the species of concern and their habitats, the general provisions of the Endangered Species Acts (FESA and CESA), the penalties associated with violating the provisions of the acts, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project area boundaries.

BIO-5 Immediately following completion of temporary construction activities within the TCSP, AEN, and Housing Element Sites, the contractor shall restore the temporary impact areas to pre-construction contours and revegetate the areas with native plant material, as follows: excavated soils and cleared native plant material shall be stockpiled within an appropriate staging area along the edge of the work corridor to the extent feasible; excavated soils shall be backfilled upon completion of construction and recontoured to pre-existing conditions; cleared native plant material shall be distributed over the temporarily disturbed areas; native seed application and installation of native container plants. Plant and seed material will be sourced from within five miles of the project area, but if plant and seed material is not available, due to seasonality or a poor seeding year, seed collected from southeastern San Diego County may be used. Maintenance and monitoring of the revegetation shall be provided for a period of up to 25 months or for a period sufficient to establish native plant material and to provide vegetative cover that prevents soil erosion. Appropriate landscaping will be selected based on the vegetation communities within the portion of the study area adjacent to the project. In areas supporting native (or disturbed native) vegetation communities, revegetation of temporarily impacted areas will be with appropriate native plant materials. Only non-invasive plant species will be included in the revegetation plans (species not listed on the California Invasive Plant Inventory prepared by the California Invasive Plant Council (2023). A qualified landscape architect and/or qualified biologist shall review landscape plant palettes before implementation to ensure that no invasive species are included. Any planting stock brought onto the project area shall be inspected to ensure it is free of pest species that could invade natural areas, including but not limited to, Argentine ants (*Linepithema humile*) and South American fire ants (*Solenopsis invicta*). Inspections of planting stock for habitat revegetation shall be by a qualified biologist. Any planting stock found to be infested with such pests shall be quarantined, treated, or disposed of according to best management practices (BMPs) by qualified personnel, in a manner that precludes invasions into natural habitats. Temporary irrigation via irrigation lines and appurtenances (or an alternate method approved by the City and qualified biologist) shall be provided by the contractor for a period sufficient to establish plant material and to provide vegetative cover that prevents soil erosion. Irrigation shall be performed in a manner that avoids runoff, seepage, and overspray onto adjacent properties, non-irrigated areas, walls, roadways, waterways, or structures.

BIO-6 Applications for future development outside of sites 16A, 16B, 20A, and 20B, where the City has determined the potential for impacts to sensitive biological resources, shall be required to comply with the following mitigation measure:

a. Before the issuance of any construction permit or any earth-moving activities, a site-specific general biological resources survey shall be conducted to identify the presence of any sensitive biological resources, including any sensitive plant or wildlife species. A biological resources report shall be submitted to the City to document the results of the

biological resources survey. The report shall include (1) the methods used to determine the presence of sensitive biological resources; (2) vegetation mapping of all vegetation communities and/or land cover types; (3) the locations of any sensitive plant or wildlife species; (4) an evaluation of the potential for occurrence of any listed, rare, and narrow endemic species; and (5) an evaluation of the significance of any potential direct or indirect impacts from the proposed project. If suitable habitat for sensitive species is identified based on the general biological survey, then focused presence/absence surveys shall be conducted in accordance with applicable resource agency survey protocols and incorporated into the biological resources report. If potentially significant impacts to sensitive vegetation communities and biological resources are identified, project-level grading and site plans shall incorporate project design features to avoid or minimize direct impacts on sensitive biological resources to the extent feasible, and the report shall also recommend appropriate mitigation to reduce the impacts to below a level of significance, where feasible. Mitigation measures shall be consistent with the standards contained in the Santee Subarea Plan, and projects shall be required to obtain all necessary permits to ensure compliance with applicable federal, state, and local regulations, such as the federal and state Endangered Species Acts. Mitigation ratios for sensitive vegetation community impacts are:

- Wetland habitats – 3:1 ratio
- Diegan coastal sage scrub – 2:1 ratio
- Non-native grassland – 0.5:1 ratio

Mitigation ratios shall be doubled for sensitive vegetation community impacts within the Preserve and Open Space System designated by the Santee Subarea Plan, once adopted.

b. Environmentally Sensitive Areas shall be identified in the biological resources report and avoided to the maximum extent practicable. In areas near or adjacent to Environmentally Sensitive Areas (i.e., natural habitats and vegetation, wetlands, wildlife areas, wildlife corridors), the biological resources report will consider the following measures:

Avoidance of Environmentally Sensitive Areas. In areas near or adjacent to Environmentally Sensitive Areas, construction limits shall be clearly demarcated using highly visible barriers (such as silt fencing), which shall be installed under the supervision of a qualified biologist before the commencement of work. Construction personnel shall strictly limit their activities, vehicles, equipment, and construction materials to the project footprint, including designated staging areas and routes of travel. The construction areas shall be limited to the minimal area necessary to complete the proposed project. The fencing shall remain in place until the completion of all construction activities and shall be promptly removed when construction is complete.

Biological Monitoring. A qualified biological monitor shall conduct construction monitoring of all work conducted within/adjacent to environmentally sensitive areas

during all vegetation removal and ground-disturbing activities such as staging and grading, for the duration of the proposed project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat outside the project footprints and to survey for sensitive wildlife species. When vegetation removal and ground-disturbing activities are not occurring, as-needed monitoring at the project areas shall occur.

Worker Environmental Awareness Program. In areas near or adjacent to Environmentally Sensitive Areas, a qualified biologist shall conduct a WEAP training session for project and construction personnel before the commencement of work. The training shall include a description of the species of concern and their habitats, the general provisions of the Endangered Species Acts (FESA and CESA), the penalties associated with violating the provisions of the acts, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project area boundaries.

Best Management Practices. During future project construction activities, the following BMPs shall be implemented:

- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive upland habitat areas. The designated upland areas shall be located to prevent runoff from any spills from entering Waters of the US.

- A construction Storm Water Pollution Prevention Plan (SWPPP) and a soil erosion and sedimentation plan shall be developed (where requirements are met) to minimize erosion and identify specific pollution prevention measures that shall eliminate or control potential point and nonpoint pollution sources on-site during and following the project construction phase. The SWPPP shall identify specific BMPs during project construction to prevent any water quality standard exceedances. In addition, the SWPPP shall contain provisions for changes to the plan such as alternative mechanisms, if necessary, during project design and/or construction to achieve the stated goals and performance standards.

- Trash shall be stored in closed containers so that it is not readily accessible to scavengers and shall be removed from the construction site on a daily basis.

- Water quality shall be visually monitored by the biological monitor to ensure that no substantial increases in turbidity occur during construction. All relevant natural resource permits and authorizations shall be obtained from appropriate agencies (i.e., USACE, RWQCB, and CDFW) before the initiation of construction activities. Permit conditions contained within the permits and authorizations shall be employed throughout the duration of the project.

- Hydrologic connectivity shall be maintained within drainages during the duration of construction. Brush, debris material, mud, silt, or other pollutants

from construction activities shall not be placed within drainages and shall not be allowed to enter a flowing stream.

- Dust control measures shall be implemented by the contractor to reduce excessive dust emissions. Dust control measures shall be carried out at least two times per day on all construction days, or more during windy or dry periods, and may include wetting work areas, the use of soil binders on dirt roads, and wetting or covering stockpiles.

- No pets shall be allowed in, or adjacent to, the project areas.

- Rodenticides, herbicides, insecticides, or other chemicals that could potentially harm wildlife or native plants shall not be used near or within Environmentally Sensitive Areas within or near the roadway segments.

- Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction.

- The cleaning of equipment will occur at least 300 feet from Environmentally Sensitive Area fencing.

- *Use of Native Plants.* All project-related planting and landscaping shall not use plants listed by the California Invasive Plant Council. Locally native plants shall be used near open space and native areas to the greatest extent feasible.

BIO-7 Grubbing or clearing of vegetation within the TCSP, AEN, or Housing Element Sites during the general avian breeding season (February 1 to September 15), least Bell's vireo breeding season (March 15 to September 15), coastal California gnatcatcher breeding season (March 1 to August 15), or raptor breeding season (January 15 to July 15) shall be avoided to the extent feasible. If grubbing, clearing, or grading occurs during the breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days before the commencement of activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within 300 feet of the survey area (500 feet for raptors), clearing, grubbing, and grading shall be allowed to proceed in that area. Furthermore, if clearing, grubbing, or grading activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted by a qualified biologist within three days before the commencement of clearing, grubbing, or grading activities in that area. If active nests or nesting birds are observed within 300 feet of the survey area (500 feet for raptors), the biologist shall flag a buffer around the active nests, and clearing, grubbing, or grading activities shall not occur within 300 feet of active nests (500 feet for raptors) until nesting behavior has ceased, nests have failed, or young have fledged as determined by a qualified biologist. If the qualified biologist determines that the species will not be impacted with a reduced buffer (i.e., less than 300 feet for general avian species and 500 feet for raptors), potentially with the implementation of avoidance measures to reduce noise, as necessary, and/or the qualified biologist monitors the active nest during clearing, grubbing, or grading to ensure no impacts to

the species occur, these activities may occur outside the reduced buffer during the breeding season, as long as the species is not impacted.

BIO-8 If heavy equipment would be in operation during construction within the TCSP area, AEN, or Housing Element Sites during the breeding season for least Bell's vireo (March 15 to September 15), coastal California gnatcatcher (March 1 to August 15), or raptors (January 15 to July 15), pre-construction survey(s) shall be conducted by a qualified biologist, as appropriate, to determine whether these species occur within the areas potentially impacted by noise. If pre-construction surveys determine that active nests belonging to these species are absent from the potential noise impact area (within 300 feet for vireo or gnatcatcher, 500 feet for raptors, or as otherwise determined by a qualified biologist), clearing, grubbing, and grading shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to these species, then clearing, grubbing, and grading within 300 feet of the nest location(s) for vireo or gnatcatcher and 500 feet for raptors, shall: (1) be postponed until a permitted biologist determines the nest is no longer active; (2) be allowed to continue if nest monitoring by a qualified biologist determines that noise levels are not adversely affecting the nesting birds, or (3) not occur until a temporary noise barrier or berm is constructed at the edge of the clearing, grubbing, or grading footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 A-weighted decibels (dBA) or ambient at the nest location. Decibel output for Item (3) will be confirmed by a qualified noise specialist, and intermittent monitoring by a qualified biologist will be required to ensure that conditions have not changed.

BIO-9 If operational activities within the TCSP, AEN, or Properties 16A, 16B, 20A, and 20B will produce noise levels that will adversely affect nesting birds during the breeding season for least Bell's vireo (March 15 to September 15), coastal California gnatcatcher (March 1 to August 15), or raptors (January 15 to July 15), activities nearby to suitable special-status species habitat on preserved land will be designed and implemented to minimize noise impacts to preserves and wildlife. Operational activities shall (1) be allowed to continue if a temporary noise barrier or berm is constructed at the edge of the suitable special-status species habitat to ensure that noise levels are reduced to below 60 A-weighted decibels (dBA) or the measured existing ambient at the edge of suitable habitat, or (2) operational activities that would be above 60 dBA Leq hourly at the edge of suitable habitat shall be allowed to continue with the incorporation of noise reduction strategies in equipment, siting and site design, features, timing, noise barriers, landscaping, and buffer separation.

BIO-10 A focused pre-construction survey for special-status animal species will be completed by a qualified biologist before clearing and grubbing within the TCSP, AEN, or Properties 16A, 16B, 20A, and 20B. Aside from birds, which are covered by other mitigation measures, this survey will focus on the special-status animal species identified as having high potential to occur on-site: western spadefoot toad, San Diegan legless lizard, California glossy snake, Belding's orange-throated whiptail, San Diegan tiger whiptail, red diamond rattlesnake, Blainville's horned lizard, and two-striped garter snake. Occupied special-status species habitat observed in the proposed impact area will be flagged and avoided during construction until the qualified biologist determines that special-status species are no longer using the habitat.

5.2.4 Conclusions

Project implementation could result in significant impacts to smooth tarplant, western spadefoot toad, and nesting birds and raptors with the potential to nest within or adjacent to the project area. Implementation of mitigation measures **BIO-1** through **BIO-10** would ensure that potential impacts are avoided by the project.

5.3 ISSUE 2: RIPARIAN HABITAT AND SENSITIVE NATURAL COMMUNITIES

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

5.3.1 Impact Analysis

TCSP

Less than Significant with Mitigation. The project would result in impacts to jurisdictional wetlands and riparian habitats as defined by the USACE, RWQCB, and CDFW. These impacts would be considered potentially significant. These impacts would be reduced to a less than significant level through the implementation of mitigation measure **BIO-11**, which requires the project to obtain wetland permits through the appropriate wetland permitting agencies and would require the in-kind creation of new wetland of the same type lost, at a ratio determined by the applicable regulatory agencies that would prevent any net loss of wetland functions and values.

Indirect impacts to adjacent jurisdictional waters and wetlands could occur through inadvertent intrusion into these adjacent areas by construction vehicles, equipment, and personnel. These impacts would be mitigated through the implementation of mitigation measure **BIO-6**.

The proposed project, if fully built out, would result in impacts to Diegan coastal sage scrub (including disturbed), Diegan coastal sage scrub: Baccharis-dominated, and non-native grassland, which are considered sensitive natural communities and require mitigation. The project would also result in impacts to eucalyptus woodland, artificial detention basin, disturbed habitat, and developed land, which are not considered sensitive natural communities. Impacts to non-sensitive vegetation communities are not considered significant and, therefore, do not require mitigation.

Impacts to up to 8.7 acres of Diegan coastal sage scrub (disturbed), 5.4 acres of Diegan coastal sage scrub: Baccharis-dominated (including disturbed), and 4.2 acres of non-native grassland, totaling 18.3 acres) would be reduced to less than significant through the implementation of Mitigation measure **BIO-6**. Mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following the completion of construction activities.

AEN

Less than Significant with Mitigation. The AEN portion of the project would result in impacts to jurisdictional wetlands and riparian habitats as defined by the USACE, RWQCB, and CDFW. These impacts would be considered potentially significant. These impacts would be reduced to a less than significant level through the implementation of Mitigation Measure **BIO-11**, which requires the project

to obtain wetland permits through the appropriate wetland permitting agencies and would require the in-kind creation of new wetland of the same type lost, at a ratio determined by the applicable regulatory agencies that would prevent any net loss of wetland functions and values.

Indirect impacts to adjacent jurisdictional waters and wetlands could occur through inadvertent intrusion into these adjacent areas by construction vehicles, equipment, and personnel. These impacts would be mitigated through the implementation of mitigation measure **BIO-6**.

The AEN portion of the proposed project would result in impacts to Diegan coastal sage scrub (including disturbed) and Diegan coastal sage scrub: Baccharis-dominated, which are considered sensitive natural communities and require mitigation. The project would also result in impacts to eucalyptus woodland, artificial detention basin, disturbed habitat, and developed land, which are not considered sensitive natural communities. Impacts to non-sensitive vegetation communities are not considered significant and, therefore, do not require mitigation.

Impacts to 8.7 acres of Diegan coastal sage scrub (disturbed) and 5.4 acres of Diegan coastal sage scrub: Baccharis-dominated (including disturbed; totaling 14.1 acres) would be reduced to less than significant through the implementation of Mitigation measure **BIO-6**. Mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following the completion of construction activities.

Property 16A

Less than Significant with Mitigation. Development of the Riverview Parkway project site, which is inclusive of Property 16A, and associated mitigation within Las Colinas Channel, would not result in impacts to sensitive upland natural communities requiring mitigation. The Riverview Parkway project would result in impacts to the artificial detention basin, disturbed habitat, and developed land, which are not considered sensitive natural communities. Impacts to southern willow scrub are discussed below under CDFW jurisdiction.

Waters of the U.S.

Development of the Riverview Parkway project site, which is inclusive of Property 16A and associated mitigation within Las Colinas Channel, would impact a total of 0.37 acre of wetland and non-wetland waters of the U.S. (Table 5, *Impacts to Jurisdictional Waters [River Parkways Project]*), comprising 0.04 acre of wetland waters of the U.S. and 0.32 acre of non-wetland waters of the U.S. (REC 2023). By re-aligning and widening the Las Colinas channel as mitigation for the Riverview Parkway Project, the mitigation will comprise the creation of 0.74 acre waters of the U.S. and 1.24 acres of riparian habitat. Additionally, 0.08 acre of existing waters of the U.S. that would be temporarily affected by recontouring (will remain within the widened Las Colinas Channel) will also be revegetated and maintained (REC 2023). These impacts would be mitigated through the implementation of mitigation measure **BIO-12**. Implementation of mitigation measures **BIO-3** and **BIO-4** would ensure that additional impacts on sensitive resources that occur adjacent to project work limits are avoided.

Table 5
IMPACTS TO JURISDICTIONAL WATERS (RIVER PARKWAYS PROJECT)[1]

Habitat	USACE	RWQCB	CDFW
Wetlands/Riparian			
Wetland waters of the U.S./State	0.04	0.04	--
Southern willow scrub	--	--	1.18
Subtotal	**0.04**	**0.04**	**1.18**
Non-wetland Waters			
Non-wetland waters of the U.S./State	0.32	0.32	--
Subtotal	**0.32**	**0.32**	**--**
TOTAL	**0.37**	**0.37**	**1.18**

[1] Impacts are presented in acre(s) rounded to the nearest 0.01. Totals calculated by adding the raw acreage and then rounding to the nearest 0.01.

Waters of the State

Development of the Riverview Parkway Property, which is inclusive of Property 16A and associated mitigation within Las Colinas Channel, would impact a total of 0.37 acre of wetland and non-wetland waters of the State (Table 5), comprising 0.04 acre of wetland waters of the State and 0.32 acre of non-wetland waters of the State. By re-aligning and widening the Las Colinas channel as mitigation for the Riverview Parkway Project, the mitigation will comprise the creation of 0.74 acre of waters of the State and 1.24 acres of riparian habitat. Additionally, 0.08 acre of existing waters of the State that would be temporarily affected by recontouring (will remain within the widened Las Colinas Channel) will also be revegetated and maintained (REC 2023). These impacts would be mitigated through the implementation of mitigation measure **BIO-12**. Implementation of mitigation measures **BIO-3** and **BIO-4** would ensure that additional impacts on sensitive resources that occur adjacent to project work limits are avoided.

California Department of Fish and Wildlife Jurisdiction

Development of the Riverview Parkway Property, which is inclusive of Property 16A and associated mitigation within the Las Colinas Channel, would impact a total of 1.18 acres of CDFW jurisdictional streambed and riparian areas (Table 5). A total of 0.19 acre of CDFW jurisdictional habitat, comprising southern willow scrub, occurs within Property 16A. By re-aligning and widening the Las Colinas channel as mitigation for the Riverview Parkway Project, the mitigation will comprise the restoration of 1.24 acres of riparian habitat (REC 2023). These impacts would be mitigated through the implementation of mitigation measure **BIO-12**. Implementation of mitigation measures **BIO-3** and **BIO-4** would ensure that additional impacts on sensitive resources that occur adjacent to project work limits are avoided.

Properties 16B, 20A, and 20B

Less than Significant with Mitigation.

The proposed Properties 16B, 20A, and 20B would not result in impacts to sensitive natural communities requiring mitigation. The proposed Properties 16B, 20A, and 20B would result in impacts to disturbed habitat and developed land, which are not considered sensitive natural communities. Impacts to non-sensitive vegetation communities are not considered significant and, therefore, do not require mitigation. Implementation of mitigation measures **BIO-3** and **BIO-4** would ensure that additional

impacts on sensitive resources that occur adjacent to project work limits are avoided. Additionally, mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following completion of construction activities.

5.3.2 Mitigation Measures

BIO-11 Applications where the City has determined the potential for impacts to jurisdictional waters and wetlands shall be required to comply with the following permitting and mitigation framework.

Before the issuance of any construction permit or any earth-moving activities, a site-specific general biological resources survey (**BIO-6**) shall be conducted to identify the presence of any sensitive biological resources, including any wetlands. Should any potential jurisdictional waters or wetlands be identified on-site during the general biological resources survey, then a jurisdictional wetlands delineation shall be conducted following the methods outlined in the USACE's 1987 *Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Delineation Manual for the Arid West Region* or most current USACE guidance. The limits of any riparian habitats on-site under the sole jurisdiction of CDFW shall also be delineated, as well as any special aquatic sites that may not meet federal jurisdictional criteria but are regulated by the RWQCB.

Avoidance measures based on project-level grading and site plans shall be incorporated into the project design to minimize direct impacts to jurisdictional waters consistent with federal, state, and City guidelines. Unavoidable impacts to wetlands shall be minimized to the maximum extent practicable and would be subject to alternatives and mitigation analyses consistent with the USACE's and RWQCB's permit processes. Unavoidable impacts would require the project to submit permit applications to the USACE under CWA Section 404, the RWQCB under CWA Section 401 and/or the State Porter-Cologne Water Quality Control Act, and/or the CDFW under CFG Code Sections 1600 *et seq*., depending on the jurisdictional resources impacted. The permits issued for the project will set the mitigation requirements, which typically require the in-kind creation of new wetland of the same type lost, at a ratio determined by the applicable regulatory agencies that would prevent any net loss of wetland functions and values. (See mitigation measure **BIO-12** for the proposed mitigation package for the Riverview Parkway Project.) Wetland creation on-site or within the same wetland system should be given preference over replacement off-site or within a different system. The City shall also control the use and development in surrounding areas of influence to wetlands with the application of buffer zones as may be required for wetlands pursuant to federal and/or state permits in accordance to the Land Use Adjacency Guidelines, conservation measures, and wetland protection standards in the Draft Subarea Plan Chapter 5. Use and development within buffer areas shall be limited to minor passive recreational uses, such as trails, with fencing, desiltation, or erosion control facilities, or other improvements deemed necessary to protect the habitat, to be located in the upper (upland) half of the buffer when feasible. All wetlands and buffers shall be permanently conserved or protected through the application of an open space easement or other suitable device.

BIO-12 Site 16A would result in impacts to 0.37 acre of wetland and non-wetland waters of the U.S., 0.37 acre of wetland and non-wetland waters of the State, and 1.18 acres of CDFW Jurisdictional Habitat. By re-aligning and widening the Las Colinas Channel as part of the Riverview Parkway Project, the mitigation will comprise the creation of 0.74 acre waters of the U.S., 0.74 acre waters of the State, and 1.24 acres of riparian habitat. Additionally, 0.08 acre of existing waters of the U.S./State that would be temporarily affected by recontouring (will remain within the widened Las Colinas Channel) will also be revegetated and maintained.

5.3.3 Conclusion

The proposed project would result in significant impacts to sensitive natural communities; however, with the implementation of mitigation measures **BIO-3**, **BIO-4**, **BIO-5**, **BIO-6**, **BIO-11**, and **BIO-12**, impacts on sensitive natural communities would be reduced to less than significant.

5.4 ISSUE 3: JURISDICTIONAL WETLANDS AND WATERWAYS

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

5.4.1 Impact Analysis

Less than significant with mitigation. As previously stated in Section 5.3.1, implementation of the Riverview Parkway Project (inclusive of Property 16a) would result in a total of 0.37 acre of wetland and non-wetland waters of the U.S. Impacts to wetland and non-wetland waters of the U.S. would be considered potentially significant.

Impacts to USACE wetland and non-wetland waters, which are anticipated from the Riverview Parkway Project and from other portions of the AEN and TCSP to be determined through site-specific studies, would require the implementation of mitigation measures **BIO-6**, **BIO-11**, and **BIO-12** above, which require the project to obtain wetland permits through the appropriate wetland permitting agencies and would require the in-kind creation of new wetland of the same type lost, at a ratio determined by the applicable regulatory agencies that would prevent any net loss of wetland functions and values.

Potential indirect impacts on jurisdictional resources would be prevented during construction through the successful implementation of standard BMPs as part of the project's SWPPP. Implementation of a SWPPP and associated BMPs are a regulatory requirement for the proposed project. Specific BMPs may include but would not necessarily be limited to maintaining the project work areas free of trash and debris; employing appropriate standard spill prevention practices and clean-up materials; installing and maintaining sediment and erosion control measures; maintaining effective control of fugitive dust; and properly storing, handling, and disposing of toxins and pollutants, including waste materials. Mitigation measures **BIO-3** and **BIO-4** identified for Issue 1 would further ensure that no impacts on adjacent resources occur.

5.4.2 Mitigation Measures

Implementation of required BMPs in combination with mitigation measures **BIO-3** and **BIO-4** for Issue 1 would ensure that construction activities are contained within the proposed work limits and that potentially significant direct and indirect impacts on jurisdictional resources are avoided.

Implementation of mitigation measures **BIO-6**, **BIO-11**, and **BIO-12** would ensure that the project does not have a substantial adverse effect on federally protected wetlands.

5.4.3 Conclusion

The proposed project would result in significant impacts to jurisdictional resources; however, with the implementation of mitigation measures **BIO-3**, **BIO-4**, **BIO-6**, **BIO-11**, and **BIO-12**, impacts on federally protected wetlands would be reduced to less than significant.

5.5 ISSUE 4: WILDLIFE MOVEMENT AND NURSERY SITES

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 corridors, or impede the use of native wildlife nursery sites?

5.5.1 Impact Analysis

Less than Significant. Properties 16A, 16B, 20A, and 20B are primarily restricted by developed land. Although Properties 16A and 16B are bounded, in part, by undeveloped land, they do not meet the criteria for a wildlife movement corridor as they are restricted by roads and other developments. Additionally, they are not identified as a wildlife movement corridor in the Santee of Santee Draft Subarea Plan.

Future development areas potentially contain areas associated with the San Diego River and its tributaries. While the City of Santee Draft Subarea Plan identifies the San Diego River as a regionally significant wildlife movement corridor, the City of Santee Draft Subarea Plan shows Properties 16A, 16B, 20A, and 20B as well as locations within the TCSP and ACOE sites as being located outside of the Preserve. Retention of the river corridor as Open Space consistent with the TCSP and the implementation of Objective Design Standards related to Bird Friendly Design would ensure no impact to wildlife corridors would occur.

Application of the mitigation measures described in this report to both ministerial and discretionary development projects subject to the TCSP would ensure impacts to wildlife corridors would be reduced or avoided to a level that would be less than significant.

5.5.2 Mitigation Measures

No mitigation is required.

5.5.3 Conclusion

Project implementation would not result in significant impacts on wildlife movement and nursery sites. No impact would occur, and mitigation is not required.

5.6 ISSUE 5: LOCAL POLICIES AND ORDINANCES

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

5.6.1 Impact Analysis

No Impact. The project would not conflict with an adopted HCP, NCCP, or any other approved local, regional, or state HCP. As noted above, the project area is located within the planning area for the City of Santee Draft Subarea Plan, which has not been adopted. Implementation of **BIO-6** and **BIO-11** would ensure future development within the project area is consistent with the City of Santee Draft Subarea Plan by requiring site-specific surveys to be conducted for future project-level review to verify the presence of sensitive biological resources occurring on individual sites, determine the extent of any potential impacts, and provide mitigation to reduce the impacts to below a level of significance.

Overall, all future projects (discretionary projects and by-right housing projects as discussed in the City's Municipal Code Chapter 13.11) would be required to address sensitive species and vegetation communities identified in the City of Santee Draft Subarea Plan and, therefore, impacts associated with conflicts with an adopted HCP, NCCP, or any other approved local, regional, or state HCP would be less than significant.

Additionally, the City's Municipal Code Chapter 8.06 regulates the planting, maintenance, and removal of public trees, and Chapter 11.38 regulates the obstruction or interference of any natural watercourse or channel. Chapters 13.08 and 13.16 also require development review procedures and standards pertaining to biological resources. Future development, discretionary or by-right, would be subject to the City's adopted regulations pertaining to trees or natural watercourses. All future projects and residents within the project area would be required to adhere to these policies and regulations; therefore, impacts would be less than significant.

5.6.2 Mitigation Measures

No mitigation is required.

5.6.3 Conclusion

The project would not conflict with local policies or ordinances protecting biological resources.

5.7 ISSUE 6: ADOPTED CONSERVATION PLANS

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?

5.7.1 Impact Analysis

No Impact. The project does not propose any activities that would conflict with the San Diego Final MSCP Plan, City of Santee Draft Subarea Plan, local policies, or ordinances protecting biological resources. Future development and operation would be required to implement the mitigation framework, including **BIO-5**, **BIO-6**, **BIO-7**, **BIO-8**, **BIO-9**, and **BIO-11**, as applicable, to ensure impacts associated with biological resources would be reduced to a level that is less than significant.

5.7.2 Mitigation Measures

Compliance with existing regulations and the implementation of mitigation measures **BIO-5**, **BIO-6**, **BIO-7**, **BIO-8**, **BIO-9**, and **BIO-11** would ensure project consistency with the San Diego Final MSCP Plan and the City of Santee Draft Subarea Plan.

5.7.3 Conclusion

The project could result in potential significant impacts to sensitive biological resources addressed under the MSCP; however, compliance with existing regulations and the implementation of measures **BIO-6**, **BIO-7**, **BIO-8**, **BIO-9**, **BIO-11**, and **BIO-12** would help ensure that impacts are avoided and the project activities are not in conflict with the San Diego Final MSCP Plan or the City of Santee Draft Subarea Plan.

6.0 FEDERAL CONSISTENCY ANALYSIS FOR BIOLOGICAL RESOURCES ISSUES

6.1 ISSUE 1: FEDERAL ENDANGERED SPECIES ACT, SECTION 7

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may affect federally listed threatened or endangered species or their critical habitat that are known, or have a potential, to occur on-site, in the surrounding area, or in the service area?

The project area is situated mainly on disturbed and developed land. The Mission Trails/Kearny Mesa/East Elliot/Santee BRCA, as identified in the Final MSCP Plan, surrounds the northern and western portions of the City and overlaps a small portion of the western project area. The Mission Trails/Kearny Mesa/East Elliot/Santee BRCA is connected to one BRCA to the west by the Vernal Pools, Kearny Mesa, and one BRCA to the east by the Central Poway/San Vicente Reservoir/North Poway BRCA. The proposed project would occur outside of, but adjacent to, the MHPA. Though construction activities may temporarily disrupt local wildlife in the area, wildlife would be expected to move back into the area once construction activities have ceased. Therefore, the project would not constrain wildlife movement through the area and would not result in a significant impact to wildlife corridors or movement.

Coastal California gnatcatcher has a high potential to occur in the project in areas of Diegan coastal sage scrub. If construction activities or operational activities in the TCSP or AEN were to occur during the coastal California gnatcatcher breeding season (March 1 through August 15) and impact occupied coastal California gnatcatcher habitat, the project would directly affect nesting coastal California gnatcatcher. However, the implementation of mitigation measures **BIO-6**, **BIO-7**, **BIO-8, and BIO-9** would mitigate for impacts to Diegan coastal sage scrub and prevent nesting coastal California gnatcatchers from being directly impacted by clearing of occupied habitat or indirectly impacted by noise. Additionally, mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities, including coastal California gnatcatcher habitat, will be revegetated to native habitats following completion of construction activities. With the implementation of the required mitigation measures, the project may affect, but is not likely to adversely affect, coastal California gnatcatcher. Take authorization for impacts to Diegan coastal sage scrub would be provided, either through ESA Section 7 consultation if applicable, or the issuance of an HLP or through consistency with the City of Santee Subarea Plan when adopted.

Least Bell's vireo has a high potential to occur in the project in areas of riparian vegetation communities. If construction activities or operational activities in the TCSP or AEN were to occur during the least Bell's vireo breeding season (March 1 through August 15) and impact occupied least Bell's vireo habitat, the project would directly affect nesting least Bell's vireo. However, with the implementation of mitigation measures **BIO-6**, **BIO-7**, **BIO-8**, and **BIO-9**, the project may affect, but is not likely to adversely affect, least Bell's vireo. Additionally, mitigation measure **BIO-5** would ensure that temporary impacts to vegetation communities will be revegetated to native habitats following the completion of construction activities. Although no take of least Bell's vireo is anticipated, take authorization could be provided either through ESA Section 7 or 10 as applicable, or through consistency with the City of Santee Subarea Plan when adopted.

Federally Listed Plant Species. No federally listed endangered (FE), threatened (FT), or candidate (FC) plant species are known or have the potential to occur in the vicinity of the project area. Therefore, the project would have no effect on federally listed plant species.

Federally Listed Animal Species. In total, one FE animal species and one FT animal species are known to occur in the vicinity of the project area (Appendix D):

- Least Bell's vireo; FE
- Coastal California gnatcatcher; FT

Mitigation measures **BIO-5** through **BIO-9** include site protection and biological monitoring measures that would ensure that no adverse effect on these species occurs.

6.1.1 Mitigation Measures

With the implementation of Mitigation measures **BIO-5** through **BIO-9**, the proposed action would have no adverse effect on federally listed species or their critical habitat, and the project would be in conformance with the FESA.

6.1.2 Conclusion

If unmitigated, project implementation may affect coastal California gnatcatcher and least Bell's vireo; however, implementation of mitigation measures **BIO-5** through **BIO-9** would ensure that the project would not adversely affect federally listed species.

6.2 ISSUE 2: MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT, ESSENTIAL FISH HABITAT

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may adversely affect essential fish habitat?

The project would be constructed within areas that lack marine resources and Essential Fish Habitat regulated under the Magnuson-Stevens Fishery Conservation and Management Act. No Essential Fish Habitat occurs in the immediate vicinity of the project area. Therefore, the project would have no effect on Essential Fish Habitat and would be in conformance with the Magnuson-Stevens Fishery Conservation and Management Act.

6.2.1 Mitigation Measures

No mitigation is required.

6.2.2 Conclusion

The project would have no direct or indirect effect on essential fish habitat.

6.3 ISSUE 3: COASTAL ZONE MANAGEMENT ACT

Is any portion of the project site located within the coastal zone?

The project area is not located within the coastal zone and does not require Coastal Zone Management Act consistency and CDP issuance.

6.3.1 Mitigation Measures

No mitigation is required.

6.3.2 Conclusion

The project would have no direct or indirect effect on areas designated as Coastal Zone.

6.4 ISSUE 4: MIGRATORY BIRD TREATY ACT

Will the project affect protected migratory birds that are known, or have a potential, to occur on-site, in the surrounding area, or in the service area?

Construction of the proposed project may result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, would have the potential to adversely affect nesting birds protected under the MBTA. Implementation of mitigation measures **BIO-7**, **BIO-8**, and **BIO-9** would ensure the appropriate pre-construction surveys and avoidance measures are completed to prevent adverse effects on nesting birds. With the implementation of mitigation measures **BIO-7**, **BIO-8**, and **BIO-9**, the project would result in no effect on migratory birds and would be in conformance with the MBTA.

6.5 ISSUE 5: PROTECTION OF WETLANDS

Does any portion of the project boundaries contain areas that should be evaluated for wetland delineation or require a permit from the United States Army Corps of Engineers?

Impacts from future development in the TCSP or AEN would be reduced to a less than significant level through the implementation of mitigation measure **BIO-11**, which requires the project to obtain wetland permits through the appropriate wetland permitting agencies and would require the in-kind creation of new wetland of the same type lost, at a ratio determined by the applicable regulatory agencies that would prevent any net loss of wetland functions and values.

Impacts from the Riverview Parkway Project (inclusive of Property 16A) would be reduced to a less than significant level through the implementation of mitigation measure **BIO-12***,* which requires re-aligning and widening the Las Colinas channel, resulting in the creation of 0.74 acre waters of the U.S., 0.74 acre of waters of the State, and 1.24 acres of riparian habitat. Additionally, 0.08 acre of existing waters of the U.S. that would be temporarily affected by recontouring (will remain within the widened Las Colinas Channel) will also be revegetated and maintained.

Indirect impacts to adjacent jurisdictional waters and wetlands could occur through inadvertent intrusion into these adjacent areas by construction vehicles, equipment, and personnel. These impacts would be mitigated through the implementation of mitigation measure **BIO-6**.

6.6 ISSUE 6: WILD AND SCENIC RIVER ACT

Is any portion of the project located within a wild and scenic river?

None of the proposed project components are planned on or in the immediate vicinity of areas designated as Wild and Scenic River. Therefore, the proposed project would have no effect on any areas designated as Wild and Scenic River and would be in conformance with the Wild and Scenic Rivers Act.

7.0 REFERENCES

American Ornithological Society (AOS). 2023. AOU Checklist of North and Middle American Birds (online checklist). Retrieved from: http://checklist.aou.org/taxa/.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

Beauchamp, R. M. 1986. *A Flora of San Diego County*. Sweetwater River Press, 241 pp.

Bradley, R.D., Ammerman, L.K., Baker, R.J., Bradley, L.C., Cook, J.A., Dowler, R.D. Jones, C., Schmidly, D.J, Stangi, F.B., Van De Bussche, R.A., Wursig, B. (2014). Revised checklist of North American mammals north of Mexico. Museum of Texas Tech University Occasional Papers. 327:1-27.

California Department of Fish and Wildlife (CDFW). 2023a. California Natural Diversity Data Base (CNDDB). RareFind Database Program, Version 5. Updated monthly.

2023b.California Natural Diversity Database (CNDDB). Special Vascular Plants, Bryophytes, and Lichens List. March. Retrieved from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline.

2023c. California Natural Diversity Database (CNDDB). Special Animal List. November. Retrieved from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline.

California Native Plant Society (CNPS). 2023. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). Rare Plant Program. California Native Plant Society, Sacramento, CA. Retrieved from: http://www.rareplants.cnps.org/.

Dudek. 2024. Cottonwood and Park Project. Biological Technical Report. June.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, The Resources Agency, 156 pp.

Jepson Flora Project (eds.) 2023. *Jepson eFlora*. Retrieved from: http://ucjeps.berkeley.edu/eflora/. Accessed 2023.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," R. F. Holland, Ph.D., October 1986. March. Revised from 1996 and 2005. July.

REC Consultants, Inc. 2023. Draft Restoration/Revegetation Plan for the Riverview Parkway Project. April.

2022a. Riverview Parkway Project USACE Aquatic Resources Delineation Report. January.

2022b. Riverview Parkway Project CDFW Jurisdictional Delineation Report. February.

San Diego, County of. 1998. Final Multiple Species Conservation Program, MSCP Plan. August.

Santee, City of. 2006. Santee Town Center Specific Plan Amendment. Final Master Environmental Impact Report. January.

Society for the Study of Amphibians and Reptiles (SSAR). 2023. North American Standard English and Scientific Names Database. Retrieved from: https://ssarherps.org/cndb/.

U.S. Fish and Wildlife Service (USFWS). 2023. Occurrence Information for Multiple Species within Jurisdiction of the Carlsbad Fish and Wildlife Office (CFWO). Retrieved from: https://www.fws.gov/office/carlsbad-fish-and-wildlife/species. July 1.

Appendix A

Plant Species Observed

Family	Scientific Name*,†	Common Name	Habitat[1]
Dicots			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	SAWRF
Anacardiaceae	*Malosma laurina*	laurel sumac	DCSS
	Rhus integrifolia	lemonade berry	DCSS
	*Schinus terebinthifolius**	Brazilian pepper tree	SRS
Apiaceae	*Foeniculum vulgare**	fennel	NNG
Asteraceae	*Ambrosia acanthicarpa*	annual bur-sage	NNG
	Artemisia californica	California sagebrush	DCSS
	Artemisia douglasiana	California mugwort	SAWRF
	Baccharis pilularis	coyote brush	DCSS
	Baccharis sarothroides	broom baccharis	AS, DCSS, DCSS-D
	Baccharis salicifolia	mule fat	SRS
	*Carduus pycnocephalus**	Italian thistle	DH
	*Centaurea melitensis**	star thistle	NNG, SRS
	Centromadia pungens spp. laevis†	smooth tarplant	NNG
	*Dittrichia graveolens**	stinkwort	DCSS-D, NNG
	Heterotheca grandiflora	telegraph weed	DCSS-D, NNG
	Isocoma menziesii	goldenbush	DCSS, DCSS-D DH, NNG
	Iva hayesiana†	San Diego marsh-elder	DCSS
	*Lactuca serriola**	prickly lettuce	SRS
	Pluchea sericea	arrow weed	AS
Brassicaceae	*Hirschfeldia incana**	short-podded mustard	DCSS-D, DH
Cactaceae	*Cylindropuntia prolifera*	coast cholla	SRS
	Opuntia littoralis	coast prickly pear	SRS
Chenopodiaceae	*Atriplex* sp.	saltbush	SRS
	*Salsola tragus**	tumbleweed	DH
Cucurbitaceae	*Cucurbita foetidissima*	calabazilla	NNG, SRS
Euphorbiaceae	*Croton californicus*	California croton	NNG
	Croton setigerus	dove weed	NNG
	*Ricinus communis**	castor bean	AS
Fagaceae	*Quercus agrifolia*	coast live oak	SAWRF
Lamiaceae	*Salvia apiana*	white sage	DCSS
	Salvia mellifera	black sage	DCSS
Myrtaceae	*Eucalyptus* sp.*	eucalyptus	SRS
Onagraceae	*Camissoniopsis* sp.	sun cup	NNG
	Oenothera elata	evening primrose	SRS
Platanaceae	*Platanus racemosa*	Californica sycamore	SAWRF
Polygonaceae	*Eriogonum fasciculatum*	California buckwheat	DCSS, DCSS-D
Rosaceae	*Heteromeles arbutifolia*	toyon	DCSS
Salicaceae	*Populus fremontii*	western cottonwood	SAWRF
	Salix gooddingii	black willow	SAWRF
	Salix laevigata	red willow	SAWRF
	Salix lasiolepis	arroyo willow	SAWRF
Solanaceae	*Nicotiana glauca**	tree tobacco	SRS
Tamaricaceae	*Tamarix ramosissima**	tamarisk	SRS
Vitaceae	*Vitis girdiana*	wild grape	SAWRF

Family	Scientific Name*,†	Common Name	Habitat[1]
Monocots			
Agavaceae	*Agave* sp.*	agave	DCSS
Arecaceae	*Washingtonia robusta**	Mexican fan palm	DH, SAWRF
Cyperaceae	*Schoenoplectus californicus*	California bulrush	SAWRF
Juncaceae	*Juncus acutus spp. leopoldii*†	spiny rush	DH
Poaceae	*Avena barbata**	wild oat	NNG
	*Bromus diandrus**	ripgut brome	NNG
	*Bromus hordeaceus**	soft chess	NNG
	Bromus madritensis ssp. *rubens**	foxtail brome	NNG, SRS
	*Cortaderia selloana**	pampas grass	SRF
	Elymus condensatus	giant wild-rye	DCSS, SAWRF
Typhaceae	*Typha* sp.	cattail	SAWRF

* Non-native

† Sensitive

1 AS=arrow weed scrub; DCSS=Diegan coastal sage scrub; DCSS-D=Diegan coastal sage scrub-disturbed; DH=Disturbed habitat; NNG= Nonnative grassland; SAWRF=Southern arroyo willow riparian forest; SRS=Southern riparian scrub.

Appendix B

Animal Species Observed or Detected

Taxon Order	Taxon Family	Scientific Name	Common Name
INVERTEBRATES			
Hymenoptera	Apidae	*Apis* sp.	honey bee
Lepidoptera	Papilionidae	*Papilio rutulus*	western tiger swallowtail
	Pieridae	*Pieris* sp.	white
	Pieridae	*Phoebis* sp.	sulphur
VERTEBRATES			
Amphibians and Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis longipes*	great basin fence lizard
		Uta stansburiana	side-blotched lizard
Birds			
Accipitriformes	Accipitridae	*Buteo lineatus*	red-shouldered hawk
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Fringillidae	*Haemorhous mexicanus*	house finch
	Fringillidae	*Spinus psaltria*	lesser goldfinch
	Icteridae	*Icterus cucullatus*	hooded oriole
	Passerellidae	*Pipilo maculatus*	spotted towhee
Mammals			
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

Appendix C

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Acanthomintha ilicifolia	San Diego thornmint	FT/CE CRPR 1B.1	Annual herb. Typically found on clay soils within chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Flowering period: April to June. Elevation: below 3150 feet (960 meters).	**None**. Suitable clay soils are absent from the project area. The closest records of the species are located over 3.7 miles north of the site approximately 0.5-mile to the west of Highway 67 (CNDDB 2022).
Adolphia californica	California adolphia	--/-- CRPR 2B.1	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks on clay soils. Flowering period: December to April. Elevation: below 1,312 feet (400 meters).	**Low**. Very little sage scrub occurs on site and clay soils are absent. This perennial shrub was not observed on site during the biological survey.
Ambrosia monogyra	Singlewhorl burrobrush	--/-- CRPR 2B.2	Perennial shrub. Found on sandy soils within washes and dry riverbeds within chaparral communities. Flowering period: September to November. Elevation: below 1,640 feet (500 meters).	**Low.** The project area occurs east of this species known range. This perennial shrub was not observed on site during the biological survey.
Ambrosia pumila	San Diego ambrosia	FE/-- CRPR 1B.1	Perennial herb. Occurs on sandy loam or clay, sometimes alkaline, soils. Found in native grassland, valley bottoms, dry drainages, stream floodplain terraces, and vernal pool margins. Also occurs on slopes, disturbed places, and in coastal sage scrub or chaparral. Flowering period: April to July. Elevation: 164 to 1,969 feet (50 to 600 meters).	**Low.** Suitable habitat for this species occurs along the San Diego River within the project area. A 1936 observation is generally noted in a location approximately 0.5-mile north of Santee in areas that have been disturbed or developed. Repeated surveys within suitable habitat in the general area were negative in 1996, 1998, 2005, and 2006.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Arctostaphylos otayensis	Otay manzanita	--/-- CRPR 1B.2	Perennial shrub. Found in chaparral and cismontane woodland on metavolcanics soils. Flowering period: January to April. Elevation: 900 to 5,580 feet (275 to 1,700 meters).	**None**. Suitable soils and habitat are absent from the project area. The site is located below the elevation range for the species.
Artemisia palmeri	San Diego sagewort	--/-- CRPR 4.2	Perennial herb. Typically found along stream courses, often beneath riparian woodland, on sandy and mesic soils. May occur in coast live oak woodland, coastal sage scrub, and southern mixed chaparral. Flowering period: June to October. Elevation: below 1,969 feet (600 meters).	**Moderate.** Suitable habitat along the San Diego River, including sandy and mesic soils, occur in the project area. Nearest observation occurs 4.6 miles east in Crestwood Ecological Reserve (CNDDB 2022)
Bloomeria clevelandii	San Diego goldenstar	--/-- CRPR 1B.1	Perennial bulbiferous herb. Occurs in valley grasslands and coastal scrub, particularly near mima mound topography or in the vicinity of vernal pools, on clay soils. Flowering period: April to May. Elevation: 164 to 1,526 (50 to 465 meters).	**Low**. Limited suitable coastal sage scrub habitat occurs on site, but the site lacks suitable clay soils. A population was documented in the project area east of Cuyamaca Street and south of Mast Boulevard in 1983, but the area has since been developed.
Centromadia pungens ssp. *laevis*	Smooth tarplant	--/-- CRPR 1B.1	Annual herb. Occurs on alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland. Flowering Period: April to September. Elevation: below 2,100 feet (640 meters).	**Present**. Approximately 243 individuals were observed in disturbed areas of disturbed habitat or in Diegan coastal sage scrub habitat to the south of the San Diego River. All observations occur within the Arts and Entertainment District Overlay, and approximately 110 individuals occur within Property 16A.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Dudleya variegata	Variegated dudleya	--/-- CRPR 1B.2	Perennial herb succulent. Occurs on clay soils of dry hillsides and mesas within chaparral, valley grassland, foothill woodland and coastal sage scrub communities. Flowering period: April to June. Elevation: below 984 feet (300 meters).	**Low**. Suitable habitat on site limited to coastal sage scrub in occurring within disturbed undeveloped areas. However, clay soils are absent from the project site. Furthermore, the nearest occurrence of the species is approximately 16 miles west within Mission Trails Regional Park (CNDDB 2022).
Ferocactus viridescens	San Diego barrel cactus	--/-- CRPR 2B.1	Perennial (stem succulent) shrub. Grows in sandy to rocky areas within chaparral, valley grassland and coastal sage scrub communities. Flowering period: May to June. Elevation: 33 to 492 feet (10 to 150 meters).	**Presumed Absent**. Suitable habitat on site limited to remnant patches of coastal sage scrub in disturbed undeveloped areas. However, this conspicuous perennial species would have been observed if present.
Harpagonella palmeri	Palmer's grapplinghook	--/-- CRPR 4.2	Annual herb. Found in clay soils in annual grasslands and coastal sage scrub. Flowering Period: March to May. Elevation: 65 to 3,100 feet (20 to 955 meters).	**Low.** Suitable habitat on site limited to coastal sage scrub pockets within disturbed undeveloped areas. However, clay soils are absent from the project site. This species was observed in the northern portion of the City of Santee west of Trenchard Street in 1994, but portions of this area have since been developed (CNDDB 2022).

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	--/-- CRPR 1B.2	Perennial shrub. Occurs in sandy soil and disturbed areas on the inland side of dunes, hillsides, and arroyos within coastal sage scrub and chaparral communities. Flowering period: July to November. Elevation: below 656 feet (200 meters).	**Moderate.** Suitable habitat on site is limited to remnant patches of coastal sage scrub within disturbed undeveloped lands. Few recent records of the species are present within the project vicinity. This perennial shrub would most likely have been observed if present.
Iva hayesiana	San Diego marsh-elder	--/-- CRPR 2B.2	Perennial herb. Found in alkaline flats, depressions, and streambanks within wetland communities. Flowering period: April to October. Elevation: 32 to 1,640 feet (10 to 500 meters).	**Present.** Two individuals were observed during the 2023 survey at the intersection of Riverwalk Drive and Park Center Drive in Southern Riparian Forest Habitat.
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush	--/-- CRPR 4.2	Perennial herb. Found in moist saline environments such as alkaline seeps and meadows, and coastal salt marshes and swamps. Flowering period: May to June. Elevation: below 984 feet (300 meters).	**Present.** One individual occurs within the TCSP on conserved land designated as Park/Open Space along an unnamed tributary to the San Diego River. A second individual occurs within the TCSP outside conserved lands at the southern terminus of Park Center Drive. Additionally, a third individual occurs within the TCSP and AEN outside conserved lands at the southern terminus of Park Center Drive. These individuals do not occur on Properties 16A, 16B, 20A, and 20B.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Monardella viminea	Willowy monardella	FE/SE CRPR 1B.1	Perennial herb. Occurs on alluvial ephemeral washes in chaparral, coastal sage scrub, riparian forest, riparian scrub, and riparian woodland. Flowering period June – August. Elevation: 164-738 feet (50-225 meters).	**Low.** Some suitable alluvial ephemeral wash habitat may occur along the San Diego River, but the species is not known to occur within the project vicinity.
Pogogyne nudiuscula	Otay mesa mint	FE/SE CRPR 1B.1	Annual herb. Grows in vernal pools of San Diego County. Flowering period: May to July. Elevation: 295 to 820 feet (90 to 820 meters).	**None.** Suitable vernal pool habitat is absent from the project area. No records of the species occur within the project vicinity.
Pseudognaphalium leucocephalum	White rabbit-tobacco	--/-- CRPR 2B.2	Perennial herb. Occurs on sandy or gravelly soils of benches, dry stream bottoms, and canyon bottoms within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: July to November. Elevation: below 6,890 feet (2,100 meters).	**High.** Though potentially suitable habitat occurs on site along the San Diego River, the site has been highly disturbed by adjacent development. This species was documented in 2011 on the south side of the San Diego River adjacent to the intersection of Magnolia Avenue and Cottonwood Avenue (CNDDB 2022).
Quercus cedrosensis	Cedros Island oak	--/-- CRPR 2B.2	Perennial tree. Occurs within closed-cone coniferous forest, chaparral, and coastal scrub of San Diego County. Flowering period: April to May. Elevation: 835 to 3,150 feet (255 to 960 meters).	**Presumed Absent.** This conspicuous perennial tree would most likely have been observed if present. The area occurs below the elevation range for this species.
Quercus dumosa	Nuttall's scrub oak	--/-- CRPR 1B.1	Perennial shrub. Occurs on sandy or clay loam soils near the coast within coastal scrub, chaparral, cismontane woodland, and riparian woodland. Flowering period: March to May. Elevation: below 656 feet (200 meters).	**Presumed Absent.** Suitable habitat on site limited to remnant patches of coastal sage scrub within disturbed undeveloped lands. However, this conspicuous perennial species would have been observed if present.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Quercus engelmannii	Engelmann oak	--/-- CRPR 4.2	Perennial tree. Occurs on slopes and foothills within grasslands, chaparral, oak woodland, and riparian woodlands. Flowering period: March to June. Elevation: 160 to 4,300 feet (50 to 1,300 meters).	**Presumed Absent.** This conspicuous perennial tree would have been observed if present. No records of the species occur within the project vicinity and are generally located further east or south of the area in higher elevation areas.
Romneya coulteri	Coulter's matilija poppy	--/-- CRPR 4.2	Perennial herb. Occurs in dry washes and canyons coastal scrub chaparral. Often in burned areas. Flowering period: March to August. Elevation: 65 to 3,900 feet (20 to 1,200 meters).	**Presumed Absent**. Suitable habitat on site limited to remnant patches of coastal sage scrub within disturbed undeveloped lands. However, no records of the species occur within the project vicinity. This conspicuous perennial species would have been observed if present.
Salvia munzii	Munz's sage	--/-- CRPR 2B.2	Perennial shrub. Occurs within chaparral and coastal scrub of San Diego County. Flowering period: February to April. Elevation: 370 and 3,500 feet (115 to 1,065 meters).	**Presumed Absent**. Suitable coastal sage scrub habitat on site but this conspicuous species would have been observed if present. Documented occurrences of the species are located further southwest of the area within Otay Mesa.
Selaginella cinerascens	Ashy spike-moss	--/-- CRPR 4.1	Fern. Grows in sunny spots or under shrubs within coastal sage scrub and chaparral. Often associated with “red clay” soils. Elevation: below 1,804 feet (550 meters).	**Low**. Suitable habitat on site limited to remnant patches of coastal sage scrub within disturbed undeveloped lands. However, no records of the species occur within the project vicinity.

Scientific Name	Common Name	Status	Habitat, Ecology and Life History	Potential to Occur
Xanthisma junceum	rush-like bristleweed	--/-- CRPR 4.3	Perennial herb. Grows on dry hillsides within coastal sage scrub and chaparral. Flowering period: May to January. Elevation: 785 to 3,280 feet (240 to 1,000 meters).	**Moderate.** Suitable habitat on site is limited to remnant patches of coastal sage scrub within disturbed undeveloped lands. This perennial plant would most likely have been observed if present.

[1] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

[2] CNPS = California Native Plant Society Rare Plant Rank: 1A–presumed extirpated in California and either rare or extinct elsewhere; 1B–rare, threatened, or endangered in California and elsewhere; 2A–presumed extirpated in California, but more common elsewhere; 2B–rare, threatened, or endangered in California, but more common elsewhere; 3–more information needed; 4–watch list for species of limited distribution. Extension codes: .1–seriously endangered; .2–moderately endangered; .3–not very endangered.

Not Likely to Occur–There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the Project Site and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the Site.
Low Potential to Occur–There is a historical record of the species in the vicinity of the Project Site and potentially suitable habitat on Site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The Site is above or below the recognized elevation limits for this species.
Moderate Potential to Occur–The diagnostic habitats associated with the species occur on or in the immediate vicinity of the Project Site, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.
High Potential to Occur–There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the Project Site (within 3 miles).
Species Present–The species was observed on the Project Site at the time of the survey or during a previous biological survey

Appendix D

Special-Status Animal Species Potential to Occur

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
INVERTEBRATES				
Insects				
Bombus crotchii	Crotch bumble bee	--/SCE	Found throughout southwestern California from the Central Valley south to the U.S./Mexico border. Inhabits open grasslands and scrub habitats. Primarily nests underground and forages on a wide variety of flowers, but a short tongue renders it best suited to open flowers with short corollas. Most commonly observed on flowering species in the Fabaceae, Asteraceae, and Lamiaceae families. Occurrence has also been linked to habitats containing *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera.	**Moderate**. This species was not observed during the 2023 HELIX survey. While some suitable open grassland and scrub habitat occurs within the project area, these areas are highly disturbed, and no suitable burrows were observed during the survey.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/--	Restricted to vernal pools and other ephemeral basins in southern California from coastal Orange County to San Diego County. Found in seasonally astatic pools which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.	**None**. No vernal pools or other suitable habitat to support the species is present within the project area. The closest reported occurrence of the species is located over 1.5 miles west of the site, to the west of the Santee Lakes partially in areas that have been developed.
Danaus plexippus	Monarch butterfly	FC/--	The population west of the Rocky Mountains migrates to, and overwinters, along the coast of central and southern California. Inhabits a wide variety of open habitats including fields, meadows, marshes, and roadsides and roosting on wind-protected tree groves (such as eucalyptus [*Eucalyptus* spp.], Monterey pine [*Pinus radiata*], cypress [*Hesperocyparis* sp.]), with nectar and water sources nearby. Breeds in areas that have a suitable abundance of their host plant, milkweed (*Asclepias* sp.).	**Low.** The species has potential to travel through and potentially breed in the study area where its host plant is present, but there are no significant overwintering populations known to occur in the project area.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Euphydryas editha quino	Quino checkerspot butterfly	FE/--	Occurs in California from western Riverside County southwards to southern San Diego County. Inhabits open and sparsely vegetated areas that contain larval host plant species (principally dot-seed plantain [*Plantago erecta*], woolly plantain [*Plantago patagonia*] but also Coulter's snapdragon [*Antirrhinum coulterianum*], and rigid bird's beak [*Cordylanthus rigidus*]) and nectar sources. Often found on rounded hilltops, ridgelines, and occasionally rocky outcrops. Occurs within a wide range of open-canopied habitats including vernal pools, sage scrub, chaparral, grassland, and open oak and juniper woodland communities.	**Low**. The project area contains suitable sparsely vegetated disturbed sage scrub habitat and there are documented occurrences approximately 2.5 miles north on undeveloped lands in northern City of Santee. Additionally, the project area occurs outside the USFWS Recommended QCB Survey Area.
Lycaena hermes	Hermes copper butterfly	FT/--	Found in coastal sage scrub and southern mixed chaparral habitats with mature specimens of its larval host plant, spiny redberry (*Rhamnus crocea*). This species appears to utilize redberry stands growing in deeper, well drained soils of canyon bottoms and north-facing hillsides. Nectaring resources include California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), and California sunflower (*Encelia californica*), among others.	**None**. The species host plant, redberry, does not occur within the project area. Potentially suitable habitat for the species occurs to the west of the site within Mission Trails Regional Park and other open space areas.
VERTEBRATES				
Amphibians and Reptiles				
Actinemys pallida	Southwestern pond turtle	--/SSC	Found in California from the central coast south of the San Francisco Bay area to San Diego County, including the Mojave River. Habitat generalist that occurs within many types of water from freshwater to brackish environments and permanent to intermittent waterbodies. Inhabit creeks,	**Low**. Suitable slow moving rivers, marshes, ponds, lakes, reservoirs, vernal pools, canals do not occur in the project area. No records of the species occur within the project area and the closest location is 1.5 miles

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
			slow moving rivers, marshes, ponds, lakes, reservoirs, vernal pools, canals and even sewage treatment plants. Prefers habitats with slow flowing water particularly where basking sites (such as rocks, downed logs, or emergent vegetation), deep water retreats, and egg laying areas are readily available.	northeast at the northern boundary of the Santee Lakes.
Anaxyrus californicus	Arroyo toad	FE/SSC	Inhabits low gradient, medium to large streams and rivers with intermittent and perennial flow in coastal and desert drainages of central and southern California. Breeding habitat specialists that require slow-moving streams composed of sandy soils with sandy streamside terraces. May occupy first-order streams, though most populations inhabit second-sixth-order streams that have extensive braided channels and sediment deposits of sand, gravel, or pebbles that are redistributed by flooding. Utilizes shallow pools (at least 1-inch deep) for breeding, egg-laying, and tadpole development. Vulnerable to habitat destruction and alteration due to changes in hydrology, including construction of dams and water diversions. Impacted by the presence of non-native predators such as American bullfrog (*Lithobates catesbeianus*).	**Low.** Though San Diego River is within the historical range of the species and potentially suitable habitat is present in the project area, the suitable habitat onsite has been significantly degraded due to adjacent of surrounding development. Potentially suitable habitat for this species occurs southeast of the project area along the Sweetwater River.
Anniella stebbinsi	San Diegan legless lizard	--/SSC	Occurs in sparsely vegetated areas with moist warm, loose soil with plant cover; moisture is essential. Common in several habitats but especially in beach dunes, coastal scrub, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Found primarily in	**High.** Potentially suitable habitat occurs along the San Diego River. However, the site has been heavily degraded by surrounding development. The species is reported to occur 0.3 mile west of the site along in Mast Park.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
			areas with sandy or loose organic soils or where there is plenty of leaf litter. Sometimes found in suburban gardens in southern California.	
Arizona elegans occidentalis	California glossy snake	--/SSC	Occurs in arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas and loose soil.	**High.** Suitable habitat and rocky washes occur within the study areas and there are documented occurrences, including historical observations, within the vicinity. Lack of more sightings is mostly attributed to the lack of focused surveys and the species secretive nature.
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	--/WL	Found within the southwestern portion of California in southern San Bernardino, western Riverside, Orange, and San Diego Counties on the western slopes of the Peninsular ranges below 3,500 feet. Suitable habitat includes coastal sage scrub, chaparral, juniper woodland, oak woodland, and grasslands along with alluvial fan scrub and riparian areas. Occurrence of the species correlated with the presence perennial plants (such as California buckwheat, California sagebrush, black sage, or chaparral) to provide a food base for its major food source, termites.	**High.** Suitable habitat occurs within the project area and there are documented occurrences, including historical observations, within the vicinity.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	--/SSC	Occurs along the coastal region of southern California from San Luis Obispo south to San Diego County. Inhabits a wide variety of habitats, primarily in hot and dry open areas with sparse vegetation, from sea level to 4,900 feet. Associated habitats include coastal sage scrub, chaparral, riparian areas, woodlands, and rocky areas with sandy or gravel substrates.	**High.** Suitable habitat occurs within the project area and there are documented occurrences, including historical observations, in the project area and within the vicinity.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Crotalus ruber	Red diamond rattlesnake	--/SSC	Occurs in southwestern portion of California from San Bernardino County southward to San Diego County at elevations below 5,000 feet. Has a wide tolerance for varying environments including the desert, dense foothill chaparral, warm inland mesas and valleys, and cool coastal zones. Most commonly found near heavy brush with large rocky microhabitats. Chamise and red shank chaparral associations may offer better structural habitat for refuges and food resources.	**High.** Suitable habitat occurs within the project area and there are documented occurrences, including historical observations, in the project area and within the vicinity.
Phrynosoma blainvillii	Blainville's horned lizard	--/SSC	Occurs from southern California to northern Baja California. In California, the species predominately occurs from Kern County south to San Diego County west of the desert at elevations below 8,000 feet. Inhabits a wide variety of vegetation types including sagebrush scrub, chaparral, grasslands, forests, and woodlands but is restricted to areas with suitable sandy, loose soils with open areas for basking. Diet primarily composed of native harvester ants (*Pogonmyrmex* sp.) and are generally excluded from areas invaded by Argentine ants (*Linepithema humile*).	**High.** Suitable habitat occurs within the project area and there are documented occurrences, including historical observations, within the vicinity. The species is reported to occur 0.3 mile west of the site along in Mast Park.
Plestiodon skiltonianus interparietalis	Coronado skink	--/WL	Occurs from in coastal and inland portions of southern San Diego County, though can occur up into Riverside County where it intergrades with Skilton's skink (*Plestiodon skiltonianus skiltonianus*). Suitable habitats include grassland, woodlands, pine forests, and chaparral, especially in open sunny areas such as clearings and edges of creeks or rivers. Prefers rocky areas near streams with lots of vegetation but can also be	**Low.** Potentially suitable coastal sage scrub and riparian habitats occur within the project site but lacks rocky areas associated with the species. The project area has also been heavily disturbed by surrounding development.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
			found in areas away from water. Occasionally seen foraging in leaf litter but more commonly found underneath surface objects, such as bark or rocks, where it lives in extensive burrows.	
Rana draytonii	California red-legged frog	FT/SSC	The species has been extirpated from 70 percent of its former range. Current distribution includes coastal drainages of central California, from Marin County south to northern Baja California, and in isolated drainages in the Sierra Nevada, northern Coast, and northern Transverse Ranges at elevations below 5,000 feet. Inhabits a variety of aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds and lagoons. Breeds in artificial impoundments such as stock ponds.	**None.** Though the site contains suitable aquatic habitat that could potentially support the species, there are no known occurrences of the species within the region.
Salvadora hexalepis virgultea	Coast patch-nosed snake	--/SSC	Occurs in the coastal regions of California from the northern Carrizo Plains in San Luis Obispo County south to San Diego County at elevations below 7,000 feet. Inhabits semi-arid shrubby areas such as chaparral and desert scrub. Also found along washes, sandy flats, canyons, and rocky areas. Takes refuge and overwinters in burrows and woodrat nests.	**Low.** Remnant patches of coastal sage scrub occur within disturbed undeveloped lands in the project area. However, these areas are small in size, have been previously disturbed. The nearest reported occurrences of the species are located over 3 miles southwest of the project area in Mission Trails Regional Park.
Spea hammondii	Western spadefoot toad	--/SSC	Occurs from northern California southward to San Diego County, and west of the Sierra Nevada at elevations below 4,500 feet. This terrestrial species requires temporary pools for breeding. Suitable upland habitats include coastal sage scrub, chaparral, and grasslands. Most common in grasslands with vernal pools or mixed grassland-	**High.** Potentially suitable habitat occurs within the project site along the San Diego River and there are documented occurrences in the vicinity of the project area. However, the project area has been heavily

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
			coastal sage scrub areas. Breeds in temporary pools formed by heavy rains, but also found in riparian habitats with suitable water resources. Breeding pools must lack exotic predators such fish, bullfrogs, and crayfish for the species to successfully reproduce. Estivates in burrows within upland habitats adjacent to potential breeding sites.	degraded and disturbed by surrounding development.
Thamnophis hammondii	Two-striped garter snake	--/SSC	Found in California from Monterey County south along the coast to San Diego County at elevations below 7,000 feet. Commonly inhabits perennial and intermittent streams with rocky beds bordered by riparian habitats dominated by willows and other dense vegetation. The species has also been found in stock ponds and other artificially created aquatic habitats if bordered by dense vegetation and potential prey, such as amphibians and fish, are present.	**High.** Potentially suitable riparian habitats occur within the project site along the San Diego River, but the site lacks rocky streambed habitat typically associated with the species. There are documented occurrences, including historical observations, in the project area and within the vicinity.
Birds				
Accipiter cooperii	Cooper's hawk	--/SSC	In California, the species breeds from Siskiyou County south to San Diego County and east towards Owens Valley at elevations below 9,000 feet. Inhabits forests, riparian areas, and more recently suburban and urban areas. Nests within dense woodlands and forests and isolated trees in open areas.	**High.** Suitable mature riparian woodland occurs within the project area along the San Diego River and is considered high potential to support Cooper's hawk. There are documented occurrences in the vicinity of the project area.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Accipiter striatus	Sharp-shinned hawk	--/WL	Primarily winters and migrates throughout California with breeding records in the northern and central portions of the State, but the species breeding range in California is poorly known. Breeds within most closed-canopy woodlands and forests, including riparian habitats, from sea level to near alpine elevations, generally nesting in trees near openings. Wintering habitat similar to breeding habitat but more expansive to include suburban and agricultural areas.	**Low**. Species would only be present as a wintering or migrating individual. The species would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging habitat.
Agelaius tricolor	Tricolored blackbird	BCC/SCE, SSC	Highly colonial, nomadic species occurring as a year-round resident of California from Sonoma County to San Diego. Common locally in the Central Valley and sporadically throughout the state. Breeds in dense colonies. Breeding habitat typically characterized by emergent freshwater marsh dominated by tall, dense cattails and bulrush (*Schoenoplectus* spp.; *Scirpus* ssp.), though also utilizes willows, blackberries (*Rubus* spp.), thistles (*Cirsium* and *Centaurea* spp.), nettles (*Urtica* sp.), and agricultural crops. Forages in grasslands and cropland habitats adjacent to breeding areas.	**Low.** Suitable habitat occurs within the project area along the San Diego River and there are documented occurrences, including historical observations, within the vicinity, although this species has likely been extirpated from the area.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	--/WL	Restricted to southwestern California occurring from Santa Barbara County southwards to San Diego County at elevations below 5,000 feet. Generally found on moderate to steep slopes vegetated with grassland, coastal sage scrub, and chaparral. Prefer areas with California sagebrush but are generally absent from areas with dense stands of coastal sage scrub or chaparral. May occur on steep grassy slopes without shrubs if rock outcrops are present.	**None.** The project site is generally flat, lacking suitable sloped hillsides inhabited by the species. Occurrences of the species are found further north of the project area in the hills in the northwestern portion of the City of Santee.
Ammodramus savannarum	Grasshopper Sparrow	--/SSC	Occurs west of the Cascade and Sierra Nevada mountains from Mendocino County south to San Diego County at elevations below 5,000 feet. Prefers moderately open grasslands and prairies with scattered shrubs. Generally avoids grasslands with extensive shrub cover.	**None**. The site lacks grassland habitat that is required by the species. Occurrences of the species are found further north of the project area along the northern edge of the City of Santee.
Aquila chrysaetos	Golden Eagle	BCC/WL, FP	Uncommon permanent resident and migrant throughout California, except the center of the Central Valley. More common in southern California than in northern regions. Inhabits a variety of habitats, nesting in cliffs or trees and rugged terrain and foraging over plains, grasslands, or low and open shrublands including chaparral and coastal sage scrub. Typically absent from heavily forested areas or on the immediate coast and are almost never detected in urbanized environments.	**Low.** The site lacks suitable nesting habitat for the species, and no known nests occur within 4,000 feet of the project site. The species has been observed within the surrounding area but would not be expected to utilize the site for foraging opportunities based on the presence of development and other human disturbances. Additionally, extensive, higher quality habitat is present within preserved and open space areas off site, including Mission Trails Regional Park and El Capitan Reservoir.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Artemisiospiza belli	Bell's sage sparrow	BCC/WL	Non-migratory resident on the coastal ranges of California and western slopes of the central Sierra Nevada mountains. Occurs year-round in southern California. Breeds in dry coastal sage scrub and chaparral, desert scrub, and similar other open, scrubby habitats. In foothill chaparral, they tend toward younger, less dense stands that are recovering from recent fires; less common in older, taller stands that have remained unburned.	**Moderate.** Small patches of remnant coastal sage scrub occur in disturbed undeveloped lands. Occurrences of the species are found further north of the project area in the northern portion of the City of Santee.
Athene cunicularia	Burrowing Owl	BCC/SSC	Found from central California east to the Mojave Desert and south to coastal San Diego County. Primarily a grassland species that prefers areas with level to gentle topography and well-drained soils. Species can also occupy agricultural areas, vacant lots, and pastures. Requires underground burrows for nesting and roosting that are typically dug by other species such as California ground squirrel (*Spermophilus beecheyi*). Also utilizes natural rock cavities, debris piles, culverts, and pipes for nesting and roosting.	**Low**. While some suitable habitat occurs in the project area, there are no observations of the species within the project vicinity.
Buteo swainsoni	Swainson's hawk	--/ST	Occurs in open grassland, desert, or sparse scrub with large trees. Once a common species in San Diego County, now a rare migrant, observed primarily in Borrego Valley. Species no longer nests in southern California (Unitt 2004).	**Low.** Suitable habitat occurs within the project area along the San Diego River and there are documented occurrences, including historical observations, within the vicinity, although this species has likely been extirpated from the area.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Campylorhynchus brunneicapillus sandiegensis	Coastal Cactus Wren	BCC/SSC	One of seven subspecies occurring in southern California from southern Orange County south to San Diego County. Occupies native scrub vegetation with thickets of mature cacti consisting of cholla (*Cylindropuntia* spp.) or prickly-pear cactus (*Opuntia littoralis*). Cacti must be tall enough to support and protect the bird's nest (typically 3 feet or more in height). Surrounding vegetation usually consists of coastal sage scrub habitat with shrubs normally below the level of nest placement.	**Not expected.** Small patches of remnant coastal sage scrub occur in disturbed undeveloped portions of the project area but lack mature cacti stands required by the species for nesting. Occurrences of the species are found further north of the project area in the northern portion of the City of Santee.
Circus cyaneus	Northern Harrier	--/SSC	Occurs as a year-round resident in California. Inhabits open areas including wetlands, marshes, marshy meadows, grasslands, riparian woodlands, desert scrub, and pastures and agricultural areas. Breeding populations in southern California from Ventura County to San Diego County are highly fragmented with many local populations extirpated mostly likely as a result of habitat loss and degradation. Nests on the ground in wetlands and uplands within patches of dense, often tall, vegetation in undisturbed areas.	**Moderate.** Potentially suitable riparian habitat occurs along the San Diego River, but the site has been heavily disturbed due to surrounding development. The species would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and nesting habitat.
Coccyzus americanus occidentalis	Yellow-billed Cuckoo	FT, BCC/SE	Uncommon summer resident of California. Current breeding distribution is restricted to isolated sites in Sacramento, Amargosa, Kern, Santa Ana, and Colorado River valleys. Riparian obligates that nest in riparian woodlands with native broadleaf trees and shrubs, such as cottonwoods and willows, at least 50 acres or more in size within the arid to semiarid landscapes. Most likely to be found in patches of riparian habitat greater than 200 acres.	**None**. The site does not contain a sufficient amount of suitable riparian habitat to support this species. Additionally, there are no known breeding records of the species within the project vicinity or greater region.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Elanus leucurus	White-tailed Kite	--/FP	Year-long resident of California residing along the coasts and valleys west of the Sierra Nevada foothills and southeast deserts, though the species has also been documented breeding in arid regions east of the Sierra Nevada and within Imperial County. Inhabits low elevation grasslands, wetlands, oak woodlands, open woodlands, and is associated with agricultural areas. Breeds in riparian areas adjacent to open spaces nesting in isolated or relatively large stands of trees.	**Moderate.** Suitable riparian habitat occurs along the San Diego River and the species is known to occur in the local area. The species would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and nesting habitat.
Empidonax traillii extimus	Southwestern Willow Flycatcher	FE/SE	Breeds in southern California, Arizona, New Mexico, southwestern Colorado, and extreme southern portions of Nevada and Utah. Riparian obligates that breed in relatively dense riparian habitats along rivers, streams, or other wetlands where surface water is present, or soils are very saturated. Breeding habitat can consist of monotypic stands of willows, a mixture of native broadleaf trees and shrubs, monotypic stands of exotics such as tamarisk (*Tamarix* spp.) or Russian olive (*Elaeagnus angustifolia*), or mixture of native broadleaf trees and shrubs with exotics. Restricted in San Diego County to two modest colonies at San Luis Rey River and Santa Margarita River, with a few scattered pairs.	**Low.** Low quality riparian habitat occurs along the San Diego River; however, there are no reported sightings of the species in the area. The last recorded breeding occurrence in the project vicinity was over 3.5 miles west of the site at Mission Trails Regional Park. Migrating individuals may utilize the site or adjacent off site areas as stop-over habitat, but breeding pairs are not anticipated based on the lack of recent observations and declining status of the species.
Ixobrychus exilis	Least bittern	BCC/SSC	Occurs in coastal lowland brackish lagoons, lakes, and ponds as well as in inland streams.	**Moderate.** This species has been documented in 1997 within mule fat scrub along the San Diego River to the west the intersection of Cottonwood Avenue and Chubb Lane (SanBIOS 2023).

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Falco mexicanus	Prairie Falcon	BCC/WL	In California, the species is an uncommon permanent resident and migrant that ranges from southeastern deserts northwest along the inner coastal mountains and Sierra Nevada but is absent from northern coastal fog belt. Primary habitats include grasslands, savannahs, alpine meadows, some agricultural fields during the winter season, and desert scrub areas where suitable cliffs or bluffs are present for nest sites. Requires sheltered cliff ledges for cover and nesting which may range in height from low rock outcrops of thirty feet to cliffs up to and higher than 400 feet.	**Low**. The project area does not contain suitable nesting habitat for the species. The project area remnant sage scrub patches in disturbed undeveloped areas that would provide limited foraging habitat for the species.
Polioptila californica californica	Coastal California Gnatcatcher	FT/SSC	Year-round resident of California occurring from Ventura County south to San Diego County, and east within the western portions of San Bernardino and Riverside Counties. Typically occurs in arid, open sage scrub habitats on gently sloping hillsides to relatively flat areas at elevations below 3,000 feet. The composition of sage scrub in which gnatcatchers are found varies; however, California sagebrush is at least present as dominant or co-dominant species. Mostly absent from areas dominated by black sage, white sage, or lemonadeberry, though may occur more regularly in inland regions dominated by black sage.	**High.** This species has been documented in multiple locations in sage scrub habitat along the San Diego River as recently as 2016 (USFWS 2023). Though the species has high potential to occur in the project area, suitable habitat present is limited to small remnant patches of coastal sage scrub within disturbed undeveloped land and do not connect to larger blocks of coastal sage scrub off site. The species may utilize these areas onsite for foraging opportunities but would most likely breed off site in more extensive, higher quality habitat.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Vireo bellii pusillus	Least Bell's Vireo	FE/SE	In California, breeds along the coast and western edge of the Mojave Desert from Santa Barbara County south to San Diego County, and east to Inyo, San Bernardino, and Riverside Counties. Breeding habitat consists of early to mid-successional riparian habitat, often where flowing water is present, but also found in dry watercourses within the desert. A structurally diverse canopy and dense shrub cover is required for nesting and foraging. Dominant species within breeding habitat includes cottonwood and willows with mule fat, oaks, and sycamore, and mesquite (*Prosopis glandulosa*) and arrowweed (*Pluchea sericea*) within desert habitats. The species can be tolerant of the presence of non-native species such as tamarisk.	**High.** Suitable habitat for this species occurs along the San Diego River and along an unnamed drainage that is tributary to the San Diego River. This species has been documented in multiple locations along the San Diego River where is runs through the project site, as recently as 2008 (USFWS 2023).
Mammals				
Antrozous pallidus	pallid bat	--/SSC	Locally common species found at low elevations in California. Associated with arid and open habitats including grasslands, shrublands, woodlands, and forests, often with open water nearby. Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts in caves, crevices, mines, and occasionally hollow trees and buildings. Appears to be intolerant of most human disturbances, being mostly absent from urban and suburban areas.	**Low.** The species was documented on the southeast portion of the project area in 1951, the area has since been developed (SanBIOS 2022). The site lacks suitable roosting habitat, though the species may utilize the site for foraging opportunities. The species would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and roosting habitat.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Lasiurus xanthinus	Western yellow bat	--/SSC	Occurs in wooded areas and desert scrub. Roosts in foliage, particularly in thorny vegetation palms and other desert riparian habitats. Rare visitor to San Diego County.	**Low.** The site lacks suitable roosting habitat, though the species may utilize the site for foraging opportunities. The species would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and roosting habitat.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	--/SSC	Occurs along the coastal regions of southern California south to northern Baja California. Found in arid regions preferring grasslands, agricultural fields, and sparse scrub. Typically absent from areas with high-grass or dense brush, such as closed-canopy chaparral, primarily occupying short-grass and open scrub habitats.	**Moderate.** Though remnant patches of coastal sage scrub occur within disturbed undeveloped areas, these areas are small in size lacking preferred shrub cover inhabited by the species. The species has been documented in undeveloped lands in the northern portion of the City of Santee as recently as 1998 (CNDDB 2023) and would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and nesting habitat.
Neotoma bryanti [formerly lepida] intermedia	San Diego Bryant's (formerly desert) woodrat	--/SSC	Occurs along the coastal regions of California being found as far north as San Luis Obispo County, south to San Diego County, and in the western portions of San Bernardino and Riverside Counties. Inhabits a variety of shrub and desert habitats such as coastal sagebrush scrub, chaparral, pinyon-juniper woodland, and Joshua tree woodland among others. Often associated with rock outcroppings, boulders, cacti	**Low.** Though remnant patches of coastal sage scrub occur within disturbed undeveloped areas, these areas are small in size lacking preferred shrub cover and rocky areas inhabited by the species. The species has been documented in undeveloped lands in the northern portion of the City of

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
			patches, and areas with dense understories. Construct dens used for shelter, food storage, and nesting around rock outcroppings and cacti using various materials such as twigs, sticks, and other debris.	Santee as recently as 1998 (CNDDB 2023) and would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and nesting habitat.
Nyctinomops femorosaccus	Pocketed free-tailed bat	--/SSC	Rare in California occurring from Los Angeles County eastwards to San Bernardino County, and southwards to San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Sometimes roosts under tiled roofs and observed utilizing bat boxes. Habitat generalists foraging in grasslands, shrublands, riparian areas, oak woodlands, forests, meadows, and ponds favoring larger water bodies for drinking.	**Low.** The species was documented adjacent to the project area in 1980, the area has since been developed (SanBIOS 2022). The site lacks suitable roosting habitat, though the species may utilize the site for foraging opportunities. The species would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and roosting habitat.
Nyctinomops macrotis	Big free-tailed bat	--/SSC	Rare in California with species found in urban areas of San Diego County. Closely associated with their preferred roosting habitats consisting of vertical cliffs, quarries, and rocky outcrops. Also roosts in buildings and occasionally holes in trees. Associated with coastal and desert scrub, forests, riparian zones, and montane woodlands. Probably does not breed in California.	**Low.** The site lacks suitable roosting habitat, though the species may utilize the site for foraging opportunities. The species would likely utilize preserved and open space areas found to the north and west of the project area that provide higher quality foraging and roosting habitat.

Scientific Name	Common Name	Status	Habitat Associations	Potential to Occur
Onychomys torridus ramona	Southern grasshopper mouse	--/SSC	Ranges from the San Joaquin Valley of Los Angeles County south to northwest Baja California. Typically found in open valleys on the coastal side of the mountains but may extend a short distance onto the eastern desert slopes. Within San Diego County, has only been found on the eastern desert slopes within Dameron Valley, San Felipe Valley, and Scissors Crossing. Prefers open habitats with soft terrain and friable soils within grasslands, coastal sage scrub, alluvial fans, and desert scrub.	**None.** The project site is located outside of the known distribution of the species.
Taxidea taxus	American badger	--/SSC	Uncommon, permanent resident found through California, except for the extreme north coast areas. Associated with large blocks of undeveloped land composed of open valleys, alluvial fans, meadows, grasslands, and sandy desert. Dens function as sites for resting and parturition. Friable, easily crumbled soils are important for denning.	**Low.** Though the project area is within the historical range of the species and potentially suitable habitat is present in the project area, the suitable habitat onsite has been significantly degraded due to adjacent surrounding development. There are no recent records of the species within the project vicinity.

[1] Listing codes are as follows: FE = Federally Endangered; FT = Federally Threatened; FC= Federal Candidate species; BCC = Birds of Conservation Concern; SE = State of California Endangered; FP = State of California Fully Protected; WL = State of California Wait-Listed; SSC = State of California Species of Special Concern.

Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the Project Site and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the Site.

Low Potential to Occur - There is a historical record of the species in the vicinity of the Project Site and potentially suitable habitat on Site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The Site is above or below the recognized elevation limits for this species.

Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the Project Site, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.

High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the Project Site (within 3 miles).

Species Present - The species was observed on the Project Site at the time of the survey or during a previous biological survey

Appendix E

Explanation of Status Codes for Plant and Animal Species

FEDERAL AND STATE CODES

U.S. Fish and Wildlife Service (USFWS)

BCC Bird of Conservation Concern
FE Federally listed endangered
FT Federally listed threatened

USFWS Birds of Conservation Concern (BCC)

The primary legal authority for Birds of Conservation Concern (2008) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Other authorities include the Endangered Species Act, Fish and Wildlife Act (1956) and 16 USC §701. A FWCA 1988 amendment (Public Law 100-653, Title VIII) requires the Secretary of the Interior through the USFWS to "identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." The 2008 BCC report is the most recent effort by the USFWS to carry out this proactive conservation mandate.

The BCC report aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS' highest conservation priorities and draw attention to species in need of conservation action. The USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. Birds of Conservation Concern 2008 lists are available online at https://ecos.fws.gov/ServCat/DownloadFile/134745.

California Department of Fish and Wildlife (CDFW)

SCE State candidate for listing as endangered
SCT State candidate for listing as threatened
SE State listed endangered
SR State listed rare
ST State listed threatened
SSC State species of special concern
WL Watch List
FP Fully Protected species refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.
Special Animal Refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Database regardless of legal or protection status.

California Environmental Quality Act (CEQA)

For plants with no current federal or state legal standing, "CEQA" refers to the fact that under the Act, impacts to species may be found significant under certain circumstances (e.g., the species are regionally sensitive and/or are protected by a local policy, ordinance, or habitat conservation plan; or the impact involves interference with certain movements or migrations, with wildlife corridors or with nursery sites).

OTHER CODES AND ABBREVIATIONS

California Native Plant Society California Rare Plant Rank (CRPR) Codes

Lists

1A = Presumed extirpated in California and either rare or extinct elsewhere. Eligible for state listing.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2A = Presumed extirpated in California but common elsewhere. Eligible for state listing.

2B = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Review List: Plants about which more information is needed. Some eligible for state listing.

4 = Watch List: Plants of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

.1 = Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

A “CA Endemic” entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

Appendix D

Cultural Resources Sensitivity Analysis

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Santee Town Center Specific Plan Update

Cultural Resources Sensitivity Analysis

February 2024 | 01427.00004.001

Submitted to:

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National Archaeological Database Information

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Firm:	HELIX Environmental Planning, Inc.
Client/Project:	M. W. Steele Group, Inc. / Santee Art and Entertainment Overlay Project
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Report Title:	Cultural Resources Sensitivity Analysis for the Santee Town Center Specific Plan Housing Acceleration Program Project, Santee, California
Submitted to:	City of Santee
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Updated Sites:	None – no fieldwork
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Acreage:	Approximately 651.42
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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AEN	Arts and Entertainment Neighborhood
ALUCP	Airport Safety Zone 4 as designated in the Gillespie Field Land Use Compatibility Plan
AMSL	above mean sea level
APN	Assessor's Parcel Number
BP	Before Present
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
HAP	Housing Acceleration Program
HE	Housing Elements
HELIX	HELIX Environmental Planning, Inc.
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PRC	Public Resources Code
SANDAG	San Diego Association of Governments
SCIC	South Coastal Information Center
SHPO	State Historic Preservation Officer
TCSP	Town Center Specific Plan
TCP	Traditional Cultural Properties
TCR	Tribal Cultural Resources
THPO	Tribal Historic Preservation Officer
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

The City of Santee (City) Town Center Specific Plan (TCSP) Amendment Project (project) proposes updates to the existing TCSP and to the Santee Arts and Entertainment Neighborhood (AEN). It also proposes conceptual planning and objective design standards for four large strategic Housing Elements (HE) within the TCSP area. The HE sites include Properties 16A, 16B, 20A, and 20B as delineated in the Sixth Cycle Housing Element EIR. The overall TCSP is approximately 651.42 acres, of which 341.72 acres are within the AEN, 11.04 acres are within HE Property 16A, 8.65 acres are within HE Property 16B, 7.76 acres are within Property 20A, and 9.92 acres are within Property 20B. The entire TCSP is located in the City of Santee, bordered by North Magnolia Avenue to the east, Mast Boulevard to the north, and Mission Gorge Road to the south. The western border of the TCSP runs through the San Diego River approximately 0.43-mile west of Cuyamaca Street and 0.27-mile east of Carlton Hills Boulevard.

HELIX was contracted to conduct a cultural resources study for the project, including a records search of the California Historical Resources Information System (CHRIS), a Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a cultural resources sensitivity analysis. The records search identified 14 previously recorded cultural resources within a one-quarter mile radius of the project area, including nine resources within the TCSP. One additional resource was identified within the HE during in-house research, resulting in a total of 10 resources within the TCSP and 15 within a one-quarter mile radius. Of these 15, two are significant prehistoric and ethnographic Kumeyaay village sites and one is the Edgemoor Farm Historic District.

A Sacred Lands File search returned positive results for tribal cultural resources within the project vicinity. HELIX conducted outreach in June 2022 to the tribal representatives listed and again with updated project information in October 2023. A total of five tribes responded to these outreach invitations. The San Pasqual Band of Mission Indians, the Viejas Band of Kumeyaay Indians, and the Campo Band of Mission Indians requested government-to-government consultation. The Barona Band of Mission Indians requested to receive the results of the cultural resources study and be kept appraised of any updates. Finally, the Jamul Indian Village deferred to closer tribes. The Barona Band of Mission Indians noted that the San Diego River valley is a known use area and has the potential for intact buried cultural deposits.

A review of historic aerial photographs and maps and additional in-house research provided insight into the TCSP project area. The Edgemoor Farm Historic District is located within HE Properties 20A and 20B. Twenty-six of the 27 buildings within the district were demolished in 2008 for a different project. The remaining building, a National Register of Historic Places (NRHP) -listed historic Polo Barn, remains on site today and is proposed to remain under the proposed TCSP and HE developments.

The entire TCSP project area is within an alluvial setting prime for buried cultural resources. Fifteen cultural resources, including two prehistoric villages and one historic district, are located within one quarter-mile of the project area. The area is of tribal interest, as indicated by the two requests for government-to-government consultation received during Native American outreach. Thus, the TCSP, including the AEN and the four HEs, is culturally sensitive. Archaeological and Native American monitoring is recommended for any ground-disturbing construction projects proposed within the TCSP.

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1.0 INTRODUCTION

M.W. Steele Group, Inc. contracted HELIX Environmental Planning, Inc. (HELIX) to provide cultural resources services for the Santee Town Center Specific Plan (TCSP) and Housing Acceleration Program (HAP) Project (project) in the City of Santee (City), San Diego County, California. The project proposes to update the City of Santee General Plan, modify the Arts and Entertainment Neighborhood (AEN), and provide objective design standards and contextual designs for four strategic Housing Element (HE) sites within the TCSP. HELIX conducted a cultural resources study to address the TCSP at a programmatic level, as well as project-specific analysis of the four proposed HE project sites. The cultural resources study included a records and literature search, Sacred Lands File search, Native American outreach, a review of historic aerial photographs and maps, and a cultural resources sensitivity analysis. This report details the methods and results of the cultural resources study and addresses the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

1.1 PROJECT LOCATION

The project area is located in the City of Santee, in the eastern portion of the County of San Diego, north of State Route (SR) 52 and west of SR 67 (Figure 1, *Regional Location*). The project area is situated within an unsectioned portion of Township 15 South, Range 1 West on the U.S. Geological Survey (USGS) 7.5-minute El Cajon quadrangle topographic map (Figure 2, *USGS Topography*). The proposed project area is situated within over 1,000 Assessor Parcel Numbers (APNs), within the TCSP Area in the central portion of the City, bounded by Mission Gorge Road to the south, Mast Boulevard to the north, and Magnolia Avenue to the east (Figure 3, *Aerial Photograph*). Cuyamaca Street runs north-south through the western portion of the project area, forming segments of the western project boundary, and the San Diego River runs through the central northern portion of the project area (Figure 3). The topography of the project area is bisected by the San Diego River, which originates within the Santa Ysabel Open Space Preserve East and flows west and southwest and ultimately reaches the Pacific Ocean.

The overall project area consists of 651.42 acres, which includes the proposed AEN (341.72 acres) and four HE Properties: Lot 16A is 11.04 acres, Lot 16B is 8.65 acres, Lot 20A is 7.76 acres, and Lot 20B is 9.92 acres.

1.2 PROJECT DESCRIPTION

The proposed project consists of a comprehensive update to the TCSP to modify or establish new land use designations, land uses, development standards, and conceptual guidelines that would apply to future development within the TCSP area. As part of this effort, the City of Santee would also make modifications to the AEN and provide objective design standards and conceptual designs for strategic HE sites within the TCSP. A more detailed description of each of the proposed project components is described below.

1.2.1 Town Center Specific Plan

Amendments to the TCSP would incorporate relevant updates to the plan's vision, land use permissions, and development standards. As part of the updates, new text and graphics would be developed and organized into a series of chapters, such as: Introduction, Land Use and Urban Form, Mobility and

Beautification, Infrastructure and Public Facilities, Implementation, and Administration. Text and concepts that remain relevant to the vision and goals of the TCSP would be maintained and incorporated into the updated TCSP document format and structure.

The amended TCSP would incorporate updated allowable and permitted land uses and development standards tailored to the project area. The updated TCSP would include graphics that illustrate the planned land use concepts and the plan's vision at key sites. As part of the TCSP, the circulation network exhibits of the plan would be updated, including the bicycle, pedestrian, and transit network maps, and street cross sections. The TCSP would include concepts for key improvements in the public right-of-way to enhance circulation within the project area. The TCSP would incorporate concepts to illustrate wayfinding and branding signage at important locations within the public right-of-way and public trails, such as signs tailored for pedestrian, bicyclists and transit users, signs designed to direct vehicular traffic and refer to parking areas, as well as iconic gateway structures that enhance the identity and sense of place in the project area.

The TCSP would also outline fundamental elements for the administration of the plan, such as the process for future specific plan amendments, and the development review, permit, and approval process for projects within the TCSP area. Additionally, the TCSP would address the relationship between the TCSP document and other planning documents, as well as consistency with the General Plan. The TCSP would also include a section describing how to use the document and guide reviewers and applicants through the path for review and approval of proposals within the TCSP area.

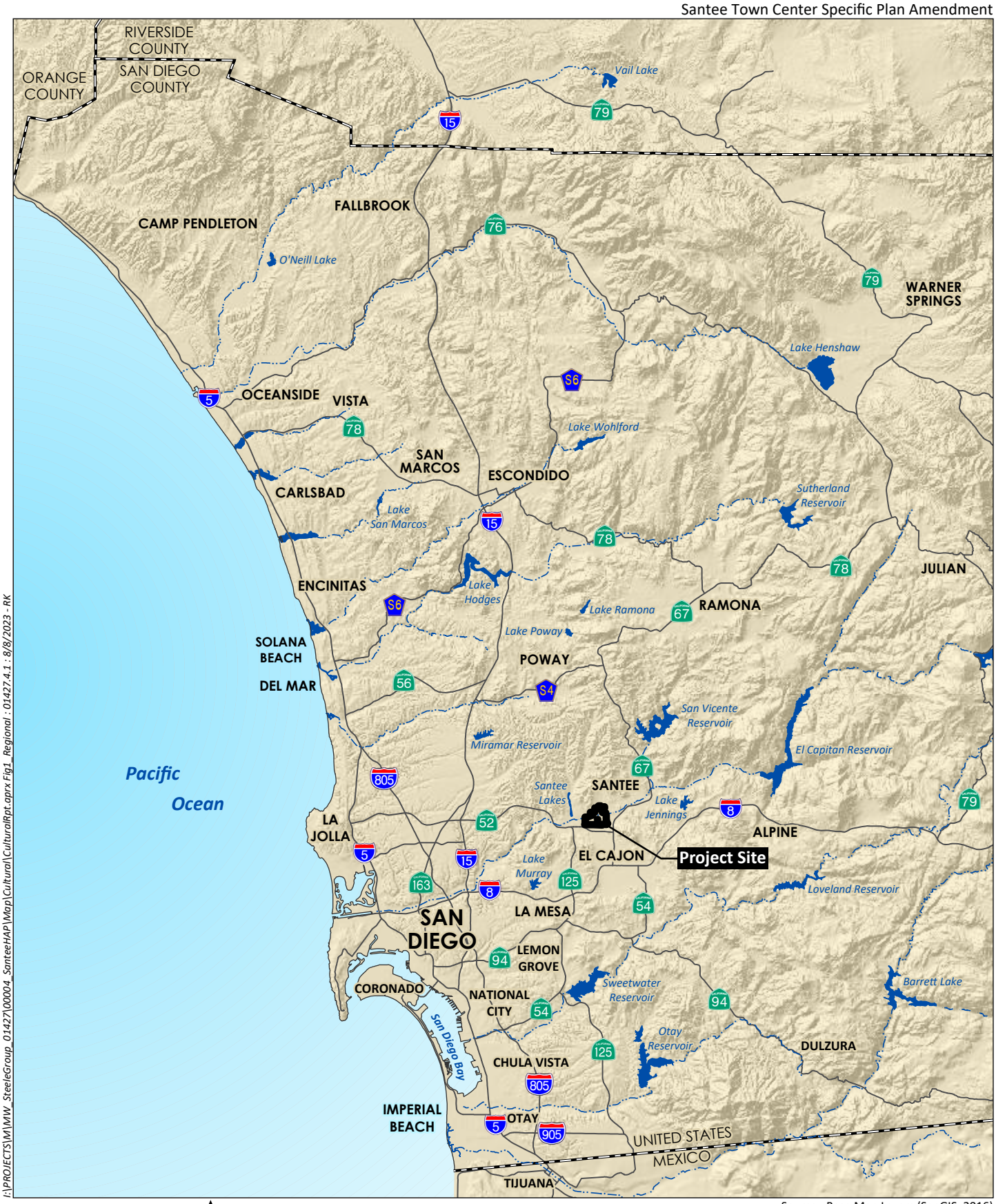
Finally, the TCSP amendment would also incorporate an adjustment to the Specific Plan boundaries to include additional sites such as the shopping center located at the northwest corner of Mission Gorge Road and Cuyamaca Road, and the shopping center located west of Cuyamaca Road, between Mission Creek Drive and River Park Drive. As a result of the boundary adjustment, the TCSP area would expand from 609.70 to 651.42 acres[1], increasing by 41.72 acres.

1.2.2 Arts & Entertainment Neighborhood

The TCSP would include an amendment to the AEN. As discussed above, the City adopted the AEN in 2019, with the intent of encouraging the development of an Arts & Entertainment Neighborhood within a significant portion of the TCSP. The update would incorporate the vision, guidelines, and development standards specific to the AEN as a subsection of the Land Use and Urban Form chapter of the TCSP. This section of the TCSP would also incorporate tailored land use designations that support uses related to art and culture, entertainment, commercial recreation, visitor, and civic uses.

The update to the vision and development standards for the AEN would aim to enhance connections to the San Diego River, strengthen the sense of place by creating an attraction for residents and visitors to gather, and public space concepts that would incorporate streetscape concepts with features such as landscaping, water elements, shade, lighting, and wayfinding. The concepts would also aim to create a central destination within the TCSP area, with a strong emphasis on connecting Arts & Entertainment to the natural environment.

[1] The original Town Center Specific Plan published in 1986 cited the TCSP area as 706 acres, however amendments to the plan have reduced the Specific Plan total acreage. Additionally, the original acreage was based on an estimate; due to improved geographic information software over time, the number of reported acres in the TCSP has changed as the accuracy of the data has increased.



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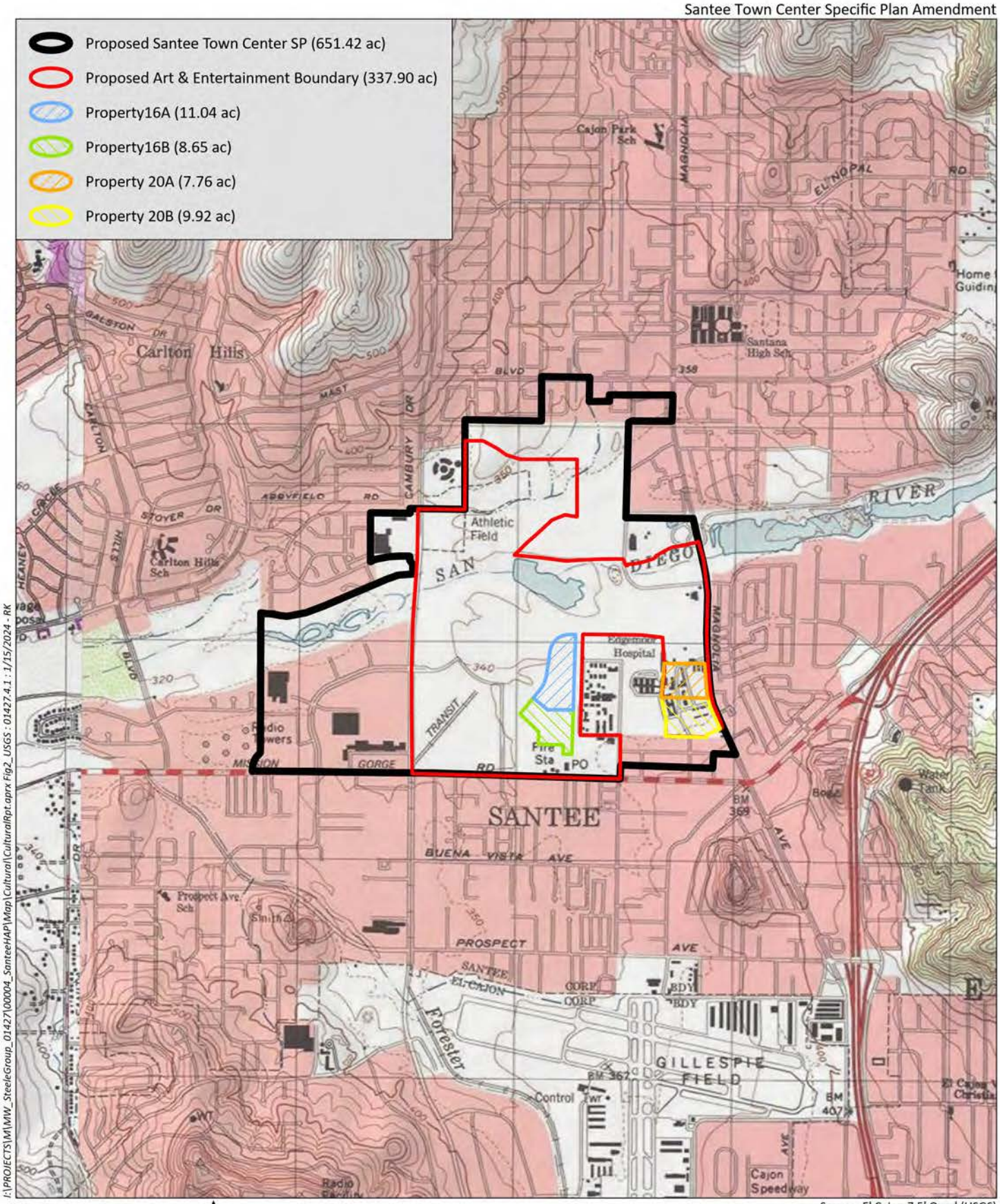
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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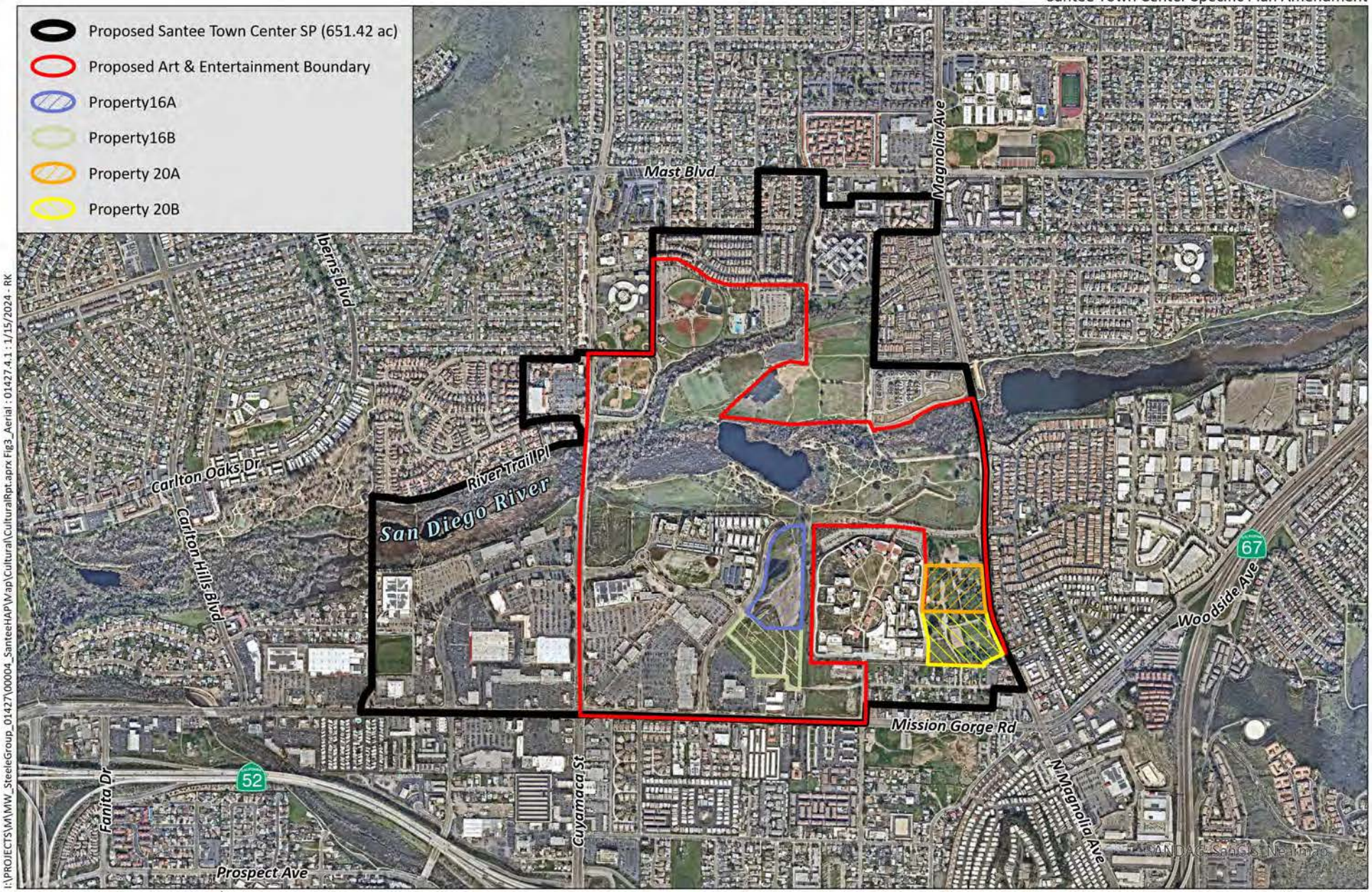
0 2,000 Feet

Source: El Cajon 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2



Source: Aerial (SanGIS, 2023)

HELIX Environmental Planning

Aerial Photograph

Figure 3

Additionally, the update would incorporate an adjustment to the AEN boundaries to include additional sites such as the open space designated areas along the San Diego River, areas north of the San Diego River, south of Riverwalk Drive, west of River Park Drive, east of Cuyamaca Street, and west of Magnolia Avenue. As a result of the boundary adjustments, the AEN area would expand from 172.49[2] to 341.72 acres, increasing by a total of 169.23 acres.

1.2.3 Four Strategic Housing Element Sites (2021-2029 Sixth Cycle)

The City Council adopted the Housing Element (2021-2029 Sixth Cycle) on May 11, 2022. The HE was prepared in compliance with State housing law as determined by the California Department of Housing and Community Development (HCD) on December 6, 2022. The HE included a Sites Inventory map and table (Figure C-1 and Table C-1 of the HE), that included a series of sites that are currently undeveloped or underutilized. The identified sites provide an opportunity for the City to meet its Regional Housing Needs Allocation (RHNA) housing production goals. Four strategic undeveloped housing sites identified in the Sites Inventory are located within the boundary of the TCSP and the AEN. The sites are identified as 16A, 16B, 20A, and 20B. Sites 16A and 16B are undeveloped sites located just north of Mission Gorge Road and east of Riverview Parkway in the Santee Town Center. The area surrounding the sites is primarily developed with Santee Trolley Square immediately west of the site, the Las Colinas Detention Facility to the east, and open space associated with the San Diego River to the north. A portion of Site 16A is located within the Airport Safety Zone 4 as designated in the Gillespie Field Land Use Compatibility Plan (ALUCP). Sites 20A and 20B are undeveloped sites located just west of Magnolia Avenue, south of Riverview Parkway, and east of Edgemoor Drive. Sites 20A and 20B surround the Historic Edgemoor Polo or Dairy Barn. To the west of Site 20A is the Las Colinas Detention Facility, to the east is a gated 55+ manufactured home community. Site 20B is bordered by single-family residential homes to the south, multifamily residential to the east, and Las Colinas and Riverview Office Park to the west. A portion of the site is located within the Gillespie Field ALUCP Airport Safety Zone 4. The sites are proposed to be developed with residential uses.

The HE Implementation Program identified specific sites that would require rezoning to allow for residential uses, and/or to allow for the estimated housing capacity included in the HE. The HE proposed zoning changes for sites 16A, 16B, 20A, and 20B. As part of the realization of the Housing Element Implementation Program, the City analyzed and approved the re-zone of the four above-mentioned sites and adopted the rezoning on October 26, 2022. The zoning for sites 16A, 16B, 20A, and 20B as a result of the HE Implementation Program can be found in Table 1, *Housing Element Sites Zoning.*

Table 1
HOUSING ELEMENT SITES ZONING

Site	Size (acres)	Current Zoning	Current Density
16A	11.11	Residential (TC-R-30)	Minimum of 30 du/ac, Maximum of 36 du/ac
16B	8.61	Residential (TC-R-14)	Minimum of 14 du/ac, Maximum of 22 du/ac
20A	7.75	Residential (TC-R-22)	Minimum of 22 du/ac, Maximum of 30 du/ac
20B	10.00	Residential (TC-R-30)	Minimum of 30 du/ac, Maximum of 36 du/ac

[2] The 2019 Art and Entertainment Overlay District refers to 155 acres; however, current GIS data shows 172 acres for the same area.

To further advance the housing production in Santee, City staff applied for a Housing Acceleration Program (HAP) grant from the San Diego Association of Governments (SANDAG), which was awarded. The HAP grant provides funding for project-level analysis of HE sites 16A, 16B, 20A, and 20B. The amended TCSP will include graphics and data that illustrate site planning and development concepts for each of these sites based on the maximum allowable density allowed by zoning. The EIR will analyze these sites at a project-level of detail.

1.3 REGULATORY FRAMEWORK

1.3.1 Federal

Federal regulations that would be applicable to the project if there is a federal nexus (e.g., permitting or funding from a federal agency) include the National Historic Preservation Act (NHPA) and its implementing regulations (16 United States Code 470 et seq., 36 Code of Federal Regulations [CFR] Part 800). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on "historic properties", that is, properties (either historic or archaeological) that are eligible for the National Register of Historic Places (NRHP). To be eligible for the NRHP, a historic property must be significant at the local, state, or national level under one or more of the following four criteria:

A. associated with events that have made a significant contribution to the broad patterns of our history;

B. associated with the lives of persons significant in our past;

C. embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or

D. has yielded or may be likely to yield, information important in prehistory or history.

1.3.2 State

The California Environmental Quality Act, Public Resources Code (PRC) 21084.1, and California Code of Regulations (CCR) Title 14 Section 15064.5, address determining the significance of impacts to archaeological and historic resources and discuss significant cultural resources as "historical resources," which are defined as:

- resource(s) listed or determined eligible by the State Historical Resources Commission for listing in the CRHR (14 CCR Section 15064.5[a][1])

- resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR Section 15064.5[a][2])

- resources determined by the Lead Agency to meet the criteria for listing on the CRHR (14 CCR Section 15064.5[a][3])

For listing in the California Register of Historical Resources (CRHR), a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values;

4. It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

Under 14 CCR Section 15064.5(a)(4), a resource may also be considered a "historical resource" for the purposes of CEQA at the discretion of the lead agency.

1.3.3 Integrity

Significant resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Resource integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance, is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular CRHR/NRHP criteria under which it is proposed for eligibility.

1.3.4 City of Santee Policy

Section 65302 (d) of the California Planning and Zoning Laws requires the City's General Plan to contain a Conservation Element to address the conservation, development, and utilization of natural resources, including cultural resources. The City defines cultural resources as environmental components that are fragile and non-renewable evidences of human activity as reflected in districts, sites, structures, artifacts, works of art, and natural features that were of importance in human events. As contained within the Santee City limits, these primarily consist of archaeological sites, features, and structures ranging from early prehistoric to recent historic age.

In order to ensure their consideration and preservation where appropriate, the City has developed two policies to address cultural resources within the City limits:

> **Policy 8.1** The City shall require either the preservation of significant historic or prehistoric sites, or the professional retrieval of artifacts prior to the development of a site, consistent with the provisions of the California Environmental Quality Act. Preservation may include various measures including avoidance, preservation in place, incorporation into open space, or covering or capping. The type of preservation would depend upon the nature and significance of the archaeological resource and the practical requirements of the proposed land use.

Policy 8.2 The City should require curation of any recovered artifacts as a condition of any cultural resources mitigation program.

1.3.5 Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study site has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project.

Potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties (TCP) in discussions of cultural resource management performed under federal auspices. According to Patricia L. Parker and Thomas F. King (1998), "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Cultural resources can include TCPs, such as gathering areas, landmarks, and ethnographic locations, in addition to archaeological districts. Generally, a TCP may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

In California, the Traditional Tribal Cultural Places Bill of 2004 requires local governments to consult with Native American Tribes during the project planning process, specifically before adopting or amending a General Plan or a Specific Plan, or when designating land as open space for the purpose of protecting Native American cultural places. The intent of this legislation is to encourage consultation and assist in the preservation of Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance.

California State Assembly Bill (AB) 52, effective July 1, 2015, introduced the Tribal Cultural Resource (TCR) as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. Per PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation and that is traditionally and culturally affiliated with the geographic area of a proposed project to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible as historical resources as a result of cultural resources studies. A TCR may be considered significant if it is (i) included in a local or state register of historical resources; (ii) determined by the lead agency to be significant pursuant to criteria set forth in PRC Section 5024.1; (iii) a geographically defined cultural landscape that meets one or more of these criteria; (iv) a historical resource described in PRC Section 21084.1 or a unique archaeological resource described in PRC Section 21083.2; or (v) a non-unique archaeological resource if it conforms with the above criteria.

1.4 PROJECT PERSONNEL

Mary Robbins-Wade M.A., RPA served as principal investigator and is the primary author of this technical report. Ms. Robbins-Wade meets the qualifications of the Secretary of Interior's Standards and Guidelines for archaeology. Theodore Cooley, M.A., RPA, James Turner, M.A., RPA, Trevor Gittelhough, M.A., RPA, and Nicole Falvey, B.A. served as report contributors. Resumes for key project personnel are presented in Appendix A.

2.0 PROJECT SETTING

2.1 NATURAL SETTING

The project area is situated within the San Diego River valley, and the San Diego River flows east to west through, roughly, the middle of the project area. The elevation in the project area ranges from approximately 330 to approximately 367 feet above mean sea level (AMSL). The area surrounding the project is characterized predominantly by urban development, comprised of open space, transportation infrastructure, and commercial, residential, industrial development.

The project area is underlain by Holocene alluvial flood-plain deposits within and immediately along the San Diego River channel and Late Pleistocene alluvial flood-plain deposits along the riverbanks. The adjacent hills contain granitic bedrock (Cretaceous), including granodiorite, tonalite, and gabbro, and a variety of older metasedimentary rocks (Jurassic and Cretaceous) (Tan 2002). The soils of seven soil series are mapped for the project site, including the Tujunga Series, Grangeville Series, Visalia Series, Redding Series, Salinas Series, Ramona Series, and Riverwash, with the Tujunga, Grangeville, and Riverwash soils being the most prevalent throughout the central and southern portion of the project area. Tujunga sand soils, 0 to 5 percent slopes, form on alluvial fans and floodplain; Grangeville fine sandy loam soils, 0 to 2 percent slopes, form on alluvial fans and floodplains; Visalia sandy loam soils, 0 to 2 percent slopes, soils are very deep sandy loams that form in granitic alluvium soils on floodplains; Salinas clay soils, 0 to 2 percent slopes, are generally nearly level with a surface layer of clay and a substratum of clay to clay loam; Redding gravelly loam soils, 2 to 9 percent slopes, are generally undulating to gently rolling with a hummocky terrain; Ramona sandy loam soils, 2 to 5 percent slopes, soils are very deep sandy loams with a sandy clay subsoil that form in granitic alluvium; and Riverwash materials, which typically occur along active stream channels and consist of sand, gravel, and cobbles (Bowman 1973), are present along the San Diego River channel.

While some major drainages such as the San Diego River still contain stands of riparian communities, with plants such as sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), coast live oak (*Quercus agrifolia*), and willow (*Salix* sp.), prior to historic and modern activities, more extensive stands of this vegetation were present. Adjacent foothill areas contained and still contain the coastal sage scrub and chaparral communities, including plants such as California sagebrush (*Artemisia californica*), white sage (*Salvia apiana*), flat-top buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bico*lor), big berry manzanita (*Arctostaphylos glauca*), hairy ceanothus (*Ceanothus oliganthus*), and inland scrub oak (*Quercus berberidifolia*), possibly interspersed areas of native grasslands (*Stipa, Elymus, Poa, Muhlenbergia*) (Beauchamp 1986; Munz 1974). Many of the native plant species found in these vegetation communities and those found in the project vicinity are known to have been used by native populations for food, medicine, tools, and ceremonial and other uses (Christenson 1990; Hedges and Beresford 1986; Luomala 1978). Major wildlife species found in this environment prehistorically were coyote (*Canis latrans*); mule deer (*Odocoileus hemionus*); grizzly bear (*Ursus arctos*); mountain lion (*Felis concolor*); rabbit (*Sylvilagus audubonii*); jackrabbit (*Lepus californicus*); reptiles such as western pond turtle (*Actinemys marmorata*), southern pacific diamondback rattlesnake (*Crotalus oreganus helleri*), gopher snake (*Pituophis melanoleucus catenifer*), and several lizard species; and various rodents, the most notable of which are the valley pocket gopher (*Thomomys bottae*), California ground squirrel (*Otospermophilus beecheyi*), and dusky footed woodrat (*Neotoma fuscipes*) (Head 1972). Rabbits, jackrabbits, and rodents were very important to the prehistoric diet; deer were somewhat less

significant for food, but were an important source of leather, bone, and antler, clothing, tools, and shelter (Christenson 1990; Gifford 1940; Kroeber 1925; Luomala 1978).

2.2 CULTURAL SETTING

2.2.1 Prehistoric Period

The following culture history outlines and describes the known prehistoric background for the San Diego area with references to cultural traditions of potential relevance to prehistoric resources in the project area and vicinity. The approximately 10,000 years of documented prehistory of the San Diego region has often been divided into three periods: Early Prehistoric Period (San Dieguito Tradition/complex), Archaic Period (Milling Stone Horizon, Encinitas Tradition, La Jolla, and Pauma complexes), and Late Prehistoric Period (Cuyamaca and San Luis Rey complexes).

2.2.1.1 Early Prehistoric Period

The Early Prehistoric Period represents the time period of the first known inhabitants in California. In some areas of California, it is referred to as the Paleo-Indian period and is associated with the Big-Game-Hunting activities of the peoples of the last Ice Age occurring during the Terminal Pleistocene (between 15,000 and 11,000 years ago) and the Early Holocene, beginning circa 10,000 years ago (Erlandson et al. 2007:62). In the western United States, most evidence for the Paleo-Indian or Big-Game-Hunting peoples, derives from finds of large, fluted spear and projectile points (Fluted-Point Tradition) in places such as Clovis and Folsom in the Great Basin and the Desert Southwest (Moratto 1984:79–88). In California, most evidence for the Fluted-Point Tradition derives principally from areas along the margins of the Great Basin and the Desert Southwest such as the Sierras, the southern Central Valley, and the deserts of southeastern California (Moratto 1984:79–88), with several, mostly isolated, occurrences of fluted spear points encountered on or near the coast of California (Dillon 2002; Rondeau et al. 2007). Three of these isolated fluted points or point fragments have occurred in San Diego County, all occurring in the mountainous or eastern areas of the county. One was found in relative proximity to the east of the project area in the Cuyamaca Pass area (Dillon 2002; Rondeau et al. 2007), another approximately 7.5 miles northeast of Warner Springs (Kline and Kline 2007), and the other near Ocotillo Wells in the east county area (Rondeau et al. 2007). Several others have occurred in proximity to the county, including one along the coast in adjacent Orange County to the northwest (Fitzgerald and Rondeau 2012) and two in Baja California to the south (Des Lauriers 2008; Hyland and Gutierrez 1995).

Results from recent archaeological investigations on the northern Channel Islands west of Santa Barbara have revealed that humans that were not Big Game hunters (e.g., no fluted points have been found on the islands, to date) were occupying the islands as early as the terminal Pleistocene, roughly 12,000 years ago (Erlandson et al. 2007:57). These results, instead, document a fully maritime-adapted population on the islands at this early date that was exploiting shellfish and using seaworthy boats to navigate the channel waters. Fishing has also been documented in the islands as early as 10,000 years ago by the presence of bone-gorge fishhooks (Erlandson et al. 2007:57). Such early dates, however, for a similar cultural pattern are still lacking for the adjacent southern California mainland. This absence on the mainland may be due to the rise in sea level brought about by post-Pleistocene deglaciation that possibly inundated sites located along this lower elevation, late Pleistocene/early Holocene coastline. At this time in San Diego County, the shoreline stood two to six kilometers farther seaward than today's coast (Masters and Aiello 2007).

Despite the occurrence of isolated fluted points in the San Diego area and vicinity, the earliest archaeological site documented to be 10,000 years old belongs to the San Dieguito Tradition (Warren et al. 2008; Warren and Ore 2011). The San Dieguito Tradition, with an artifact assemblage distinct from that of the Fluted Point Tradition, has been documented mostly in the coastal and near coastal areas in San Diego County (Carrico et al. 1993; Rogers 1966; True and Bouey 1990; Warren 1966; Warren and True 1961), as well as in the southeastern California deserts (Rogers 1939, 1966; Warren 1967), but with some evidence for it recently proposed at a site to the east in the mountains of San Diego County (Pigniolo 2005) and at a site in the coastal area to the north in Los Angeles County (Sutton and Grenda 2012). The content of the earliest component of the C.W. Harris Site (CA-SDI-149), located along the San Dieguito River and approximately 15 miles to the northwest of the project area, formed the basis upon which Warren and others (Rogers 1929, 1938, 1966; Warren 1966, 1967; Warren and True 1961) identified the "San Dieguito complex," and which Warren later reclassified as the San Dieguito Tradition (1968). This tradition is characterized by an artifact inventory consisting almost entirely of flaked stone biface and scraping tools, but lacking the fluted points associated with the Fluted Point Tradition. Diagnostic artifact types and categories associated with the San Dieguito Tradition include elongated bifacial knives; scraping tools; crescentics; leaf-shaped projectile points; and in the desert, Silver Lake and Lake Mojave projectile points (Knell and Becker 2017; Rogers 1939, 1966; Vaughan 1982; Warren 1966, 1967).

The subsistence system or emphasis of the San Dieguito Tradition, while not as yet entirely agreed upon, is suggested by Warren (1967) as having an orientation toward a hunting rather than a gathering economy. This characterization is based on an artifact assemblage of primarily hunting associated tools, in contrast to the more gathering-oriented complexes that were to follow in the Archaic Period (Warren 1967, 1968, 1987; Warren et al. 2008). Other researchers have interpreted the San Dieguito subsistence system to be possibly ancestral to, or a developmental stage for, the predominantly gathering-oriented "La Jolla/Pauma complex" of the subsequent Archaic Period (e.g., Bull 1983; Ezell 1987; Gallegos 1985, 1987, 1991; Koerper et al. 1991). Based on uncalibrated radiocarbon dates, Warren originally indicated the San Dieguito Tradition to have begun sometime circa 9000 years before present (BP) and to have ended sometime between 8500 and 7500 BP (1967; 1968:4). Recent calibrations of these dates, however, have indicated that some are significantly earlier, i.e., circa 10,000 BP (Warren et al. 2008; Warren and Ore 2011.

2.2.1.2 Archaic Period

In the southern coastal region, the subsequent Archaic Period dates from circa 8600 BP to circa 1300 BP (Warren et al. 2008). A large number of archaeological site assemblages dating to this period have been identified at a range of coastal and near coastal inland sites (Masters and Gallegos 1997:12-13). This appears to indicate that a relatively stable, sedentary hunting and gathering complex, possibly associated with one people, was present in the coastal and immediately inland areas of what is now San Diego County for more than 7,000 years. These assemblages, designated as the La Jolla/Pauma complexes, are considered part of Warren's (1968) "Encinitas Tradition" and Wallace's (1955) "Milling Stone Horizon." In general, the content of these site assemblages includes manos and metates; shell middens; terrestrial and marine mammal remains; burials; rock features; bone tools; doughnut stones; discoidals; stone balls; plummets; biface points/knives; beads made of stone, bone, or shell; and cobble-based tools at coastal sites and increased hunting equipment and quarry-based tools at inland sites. As defined by True (1958), the "Pauma complex" aspect of this culture is associated with sites located in inland areas that lack shellfish remains but are otherwise similar in content to the La Jolla complex. The Pauma complex may, therefore, simply represent a non-coastal expression of the La Jolla complex (True

1980; True and Beemer 1982). During the latter half of the Archaic Period, artifacts such as dart points and mortars and pestles, which are essentially absent during the Early Archaic Period, begin to occur in site assemblages dating after circa 5500 BP. Also noted by Warren (2012), was an increase in the presence of larger mammal remains in La Jolla complex faunal assemblages during the latter part of the Archaic Period. This new, and subsequently increasing, use of these resources represents a significant shift in the Encinitas/La Jolla/Pauma complex subsistence system in the southern coastal region (Warren et al. 2008; Warren 2012).

Sites dating to the Archaic Period are more numerous along the coast. Inland archaeological sites in the San Diego County area, attributable to the Early Milling Stone Horizon, Encinitas Tradition, and/or the La Jolla/Pauma complex are not unknown (e.g., Chace and Sutton 1990; Cooley and Barrie 2004; Raven-Jennings and Smith 1999; Gross and Robbins-Wade 1992, 2010; True 1980; Warren et al. 1961:10). However, similar to the San Dieguito complex, most of the substantiating archaeological evidence for the Encinitas Tradition/La Jolla/Pauma complex (Milling Stone Horizon) in present-day San Diego County is derived from sites in near-coastal valleys, estuaries, and/or embayments that are present along the San Diego coast south of the San Luis Rey River (e.g., Cooley et al. 2000; Cooley and Mitchell 1996; Gallegos and Kyle 1998; Pigniolo et al. 1991; Shumway et al. 1961; Smith and Moriarty 1985). The location of the project area, approximately 10 to 15 miles from the coast, places it within the rising elevation, near coastal, inland foothill area where sites that can be radiometrically dated to the Archaic Period, and that contain La Jolla or Pauma complex assemblages, are less common (Gross and Robbins-Wade 2010:26; McDonald 1995:14; Warren et al. 2008).

While not plentiful, sites in inland foothill circumstances with evidence for exclusively Archaic Period occupation are rare. Instead, many inland sites with evidence for Archaic Period occupation also have evidence for subsequent Late Prehistoric occupation as well. One such site located adjacent to the project area along the San Diego River in the Mission Gorge area, approximately 14 miles from the ocean, CA-SDI-9243, has produced radiocarbon dates of circa 5400 and 5700 BP and Elko-eared style projectile points (Cooley 1995). The artifact assemblage and the radiocarbon results from the site also appear to indicate that it was repeatedly occupied over a period of nearly 6,000 years, with the last occupation occurring during the Late Prehistoric Period (Carrico et al. 1994; McDonald et al. 1994). Sites in the foothills along Santa Maria Creek, near Ramona, have produced an Elko-eared style projectile point and a radiocarbon date of circa 2000 BP, documenting an occupation during the Late Archaic Period, but with subsequent occupation occurring during the Late Prehistoric Period (Cooley and Barrie 2004). East of the project area, in the upper foothills, near Alpine, radiocarbon dates of 2550 BP and 2900 BP from two sites also suggested a Late Archaic Period occupation of these sites with subsequent occupation occurring during the Late Prehistoric Period (Gross and Robbins-Wade 2010). Similar to the long and repeated occupation at site CA-SDI-9243, the Scripps Poway Parkway site (CA-SDI-4608), located along the Beeler Canyon drainage, and situated approximately 15.3 miles from the ocean, has been radiocarbon dated to as early as 5800 BP. This site is described as associated with the “transitional periods between the San Dieguito and La Jolla complexes and the later Archaic/Late Prehistoric transition” (Raven-Jennings and Smith 1999:3.0-5). La Jolla complex artifacts recovered from the site included doughnut stones; discoidals; and Pinto, Elko, and large side-notched points. Also, in the Poway area, archaeological investigations along Poway/Peñasquitos Creek, have produced both radiocarbon dates and projectile points (Elko, Gypsum Cave, large side-notched, and Pinto points) that indicate there was an Archaic occupation with subsequent occupation occurring during the Late Prehistoric Period (Gross and Robbins-Wade 1992).

As noted above, it has been previously observed in San Diego County that during the Late Prehistoric Period, sites attributable to the San Luis Rey or Cuyamaca complexes occur in greater frequency in inland areas of the county. McDonald (1995:14), for example, has stated that "most sites in the Laguna Mountains can be expected to date from late prehistoric or ethnohistoric occupation of the region, and Archaic Period remains, while not unknown, are relatively rare," and Gallegos (1995:200) states that "for San Diego County, there is temporal patterning, as the earliest sites are situated in coastal valleys and around coastal lagoons. Late Prehistoric Period sites are also found in coastal settings but are more common along river valleys and interior locations." It is also possible to observe, however, that while a number of examples of Late Prehistoric Period sites that appear to be attributable exclusively to the San Luis Rey or Cuyamaca complexes have been identified for the near-coastal inland foothill areas of the county through diagnostic artifacts and/or radiocarbon dating (e.g., Chace and Hightower 1979:48; McCown 1945), a number of sites containing evidence for both Late Prehistoric Period and Archaic Period occupations have also been documented (Carrico et al. 1994; Cooley and Barrie 2004; Gross and Robbins-Wade 1992; 2010; McDonald et al. 1994; Raven-Jennings and Smith 1999; Willey and Dolan 2004). It appears possible, therefore, that, as more archaeological data accumulates, this geographic dichotomy of site locations between the Archaic and Late prehistoric periods within the county, may be found to not be completely valid.

2.2.1.3 Late Prehistoric Period

While there has been considerable debate about whether San Dieguito and La Jolla patterns might represent the same people using different environments and subsistence techniques, or whether they are separate cultural patterns (e.g., Bull 1983; Ezell 1987; Gallegos 1987; Warren et al. 2008), abrupt shifts in subsistence practices and the use of new tool technologies are documented in the archaeological record to have occurred at the onset of the Late Prehistoric Period (ca. 1500 to 1300 BP). The Late Prehistoric Period (ca. 1500 BP to A.D. 1769) is also characterized by higher population densities and intensification of social, political, and technological systems. The technological changes observed include a shift from the use of atlatl and dart to the bow and arrow; subsistence shifts that include a reduction in shellfish gathering in some areas (possibly due to silting of the coastal lagoons); and the storage of crops, such as acorns. New traits such as the production of pottery and cremation of the dead, were also introduced during the Late Prehistoric Period.

Movements of people during the last 2,000 years can account for at least some of these changes. Yuman-speaking people had occupied the Gila/Colorado River drainages of what is now western Arizona by 2,000 years ago (Moriarty 1968) and then continued to migrate westward. An analysis by Moriarty (1966, 1967) of materials recovered from the Spindrift site in La Jolla indicated a preceramic Yuman phase. Based on this analysis and a limited number of radiocarbon samples, Moriarty concluded that Yuman speakers, lacking ceramic technology, penetrated into and occupied what is now the San Diego coastline circa 2000 BP Subsequently, approximately 1200 to 1300 BP, ceramic technology diffused into the coastal area from the eastern deserts. Although these Yuman speakers may have shared cultural traits with the people occupying what is now eastern San Diego County before 2000 BP, their influence is better documented throughout present-day San Diego County after 1300 BP with the introduction of small points, ceramics, Obsidian Butte obsidian, and the practice of cremation of the dead.

Based on early research by Meighan (1954) and True (1970), two distinct archaeological complexes have been proposed for the Late Prehistoric Period in what is now San Diego County. The Cuyamaca complex is based on analysis by True of archaeological excavations within Cuyamaca Rancho State Park and of San Diego Museum of Man (now Museum of Us) collections. Based on the results of this analysis, True

(1970) defined a Late Prehistoric Period complex for southern San Diego County that was distinct from Meighan's (1954) San Luis Rey complex in the northern county area. The presence or absence, or differences in the relative occurrence, of certain diagnostic artifacts in site assemblages, provide the principal distinctions between these archaeological complexes. Cuyamaca complex sites, for example, generally contain both Cottonwood Triangular-style points and Desert Side-notched arrow points, while Desert Side-notched points are quite rare or absent in San Luis Rey complex sites (Pigniolo 2004). Other examples include Obsidian Butte obsidian, which is far more common in Cuyamaca complex sites than in San Luis Rey complex sites, and ceramics; while ceramics are present during the Late Prehistoric Period throughout what is now San Diego County, they are more common in the southern or Cuyamaca complex portions of San Diego County where they occur earlier in time and appear to be somewhat more specialized in form. Both complexes have produced a variety of ceramic vessel types, along with straight and bow-shaped ceramic pipes and effigies. Interment of the dead at Cuyamaca complex sites is almost exclusively by cremation, often in special burial urns for interment, while archaeological evidence from San Luis Rey complex sites indicates both inhumation and cremation. Based on ethnographic data, including the areas defined for the Hokan-based Yuman-speaking peoples (Diegueño/Kumeyaay) and the Takic-speaking peoples (Luiseño) at the time of contact, it is generally accepted that the Cuyamaca complex is associated with the Diegueño/Kumeyaay people and the San Luis Rey complex with the Luiseño people (True 1970; True and Waugh 1982).

The project area lies within the area currently defined for the Cuyamaca complex (True 1970:58). A Cuyamaca complex artifact assemblage commonly contains Tizon Brown Ware pottery, various cobble-based tools (e.g., scrapers, choppers, and hammerstones), arrow shaft straighteners, pendants, manos and metates, and mortars and pestles. The arrow point assemblage often includes Desert Side-notched and Cottonwood Triangular points with the Dos Cabezas Serrated type also sometimes occurring (McDonald and Eighmey 2008).

Compared to Archaic Period sites, Late Prehistoric Period sites attributable to the Cuyamaca or San Luis Rey complexes are less common in the near-coastal areas of the county. Gallegos (1995:200) states that "for San Diego County, there is temporal patterning, as the earliest sites are situated in coastal valleys and around coastal lagoons. Late Prehistoric Period sites are also found in coastal settings but are more common along river valleys and interior locations." In contrast, numerous Late Prehistoric Period sites, attributable to the San Luis Rey or Cuyamaca complexes have been identified for the near-coastal inland foothill areas of the county through diagnostic artifacts and/or radiocarbon dating (e.g., Berryman 1981; Campbell et al. 2017; McCown 1945), including some sites containing evidence for both Late Prehistoric Period and Archaic Period occupations (Carrico et al. 1994; Chace and Hightower 1979; Cooley and Barrie 2004; Dominici and Corum 1985; Gross and Robbins-Wade 2010; McDonald et al. 1994; Raven-Jennings and Smith 1999; Willey and Dolan 2004).

2.2.2 Ethnohistory

The project area is located within the traditional territory of the Kumeyaay people, also known as Ipai, Tipai, or Diegueño (named for Mission San Diego de Alcalá). At the time of Spanish contact, Yuman-speaking Kumeyaay bands occupied southern San Diego and southwestern Imperial counties and northern Baja California. The Kumeyaay are a group of exogamous, patrilineal territorial bands that lived in semi-sedentary, politically autonomous villages or rancherias. Most rancherias were the seat of a clan, although it is thought that, aboriginally, some clans had more than one rancheria, and some rancherias contained more than one clan (Luomala 1978). Several sources indicate that large Kumeyaay villages or rancherias were located in river valleys and along the shoreline of coastal estuaries (Kroeber 1925;

Luomala 1978). They subsisted on a hunting and foraging economy, exploiting San Diego's diverse ecology throughout the year; coastal bands exploited marine resources, while inland bands might move from the desert, ripe with agave and small game, to the acorn and pine-nut-rich mountains in the fall (Cline 1984; Kroeber 1925; Luomala 1978).

At the time of Spanish colonization in the late 1700s, several major Kumeyaay villages were located in proximity to the study area. The closest of these settlements was the village of *Micheagua*, located along the San Diego River east of Mission Gorge and possibly within and immediately adjacent to the project area (Richard Carrico, personal communication 2021). Archaeological site CA-SDI-5669, located partially within the project area and extending to the east of the TCSP, has been recently suggested as the possible location of this village (Berryman 2019; Campbell et al. 2017). Other nearby villages include the village of *Nipaguay,* located along the north side of the San Diego River approximately eight miles southwest of the project area, at the second and final location of the Mission San Diego de Alcalá (Brodie 2013; Carrico 2008); the village of *Cosoy*, located approximately 13 miles to the southwest of the project area along the San Diego River near the location of the San Diego Presidio and the first location of the Mission San Diego de Alcalá; and the village of *Jamo* (Rinconada), located approximately 14 miles to the west of the study area, where the Rose Canyon drainage enters into Mission Bay (Carrico 1977, 2008; Winterrowd and Cardenas 1987). These latter two village locations (*Cosoy* and *Jamo*) were documented as inhabited at the inception of Spanish colonization when they were visited by the Spanish during the initial Portolá expedition in 1769 (Carrico 1977).

Some native speakers referred to river valleys as *oon-ya*, meaning trail or road, describing one of the main routes linking the interior of San Diego with the coast; the floodplain from the Mission San Diego de Alcalá to the ocean was *hajir* or *qajir* (Harrington 1925). Inland travel in prehistoric times along major drainages, such as the San Diego River and its tributaries, may reflect coastal Kumeyaay bands accessing inland resources such as outcrops of metavolcanic and quartz toolstone, and/or vegetal resources such as seeds from grassland and sage scrub habitats adjacent to the river and acorns from riparian and oak woodland habitats along the river as well as the bedrock outcrops needed to process these vegetal foodstuffs (Zepeda-Herman and Price 2016:19). It is also likely that the Kumeyaay people used the San Diego River valley and some of its larger tributaries as travel corridors from interior coastal plain areas to and from villages located along, and at the mouth of, the San Diego River, such as *Nipaguay, Micheagua. Cosoy*, and *Jamo*, as well as other villages along the coast to the north of the river and the study area, such as *Ystagua* and *Onap* (Carrico 2008; Trafzer and Carrico 1992:53).

2.2.3 Historical Background

2.2.3.1 Spanish Period

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. In the mid-eighteenth century, Spain had escalated its involvement in California from exploration to colonization, and in that year, a Spanish expedition headed by Gaspar de Portolá and Junípero Serra established the Royal Presidio of San Diego. Portolá then traveled north from San Diego seeking suitable locations to establish military presidios and religious missions in order to extend the Spanish Empire into Alta California.

Initially, both a mission and a military presidio were located on Presidio Hill overlooking the San Diego River and the Kumeyaay village of Cosoy (Alter 2021). A small pueblo, now known as Old Town San Diego, developed below the presidio. Five years later, Father Junipero Serra moved the Mission six miles

upriver, near the Kumeyaay village of Nipaguay. The missions and presidios stood, literally and figuratively, as symbols of Spanish colonialism, importing new systems of labor, demographics, settlement, and economies to the area. Cattle ranching, animal husbandry, and agriculture were the main pursuits of the missions. Much of the inland San Diego area was used by the mission as grazing lands.

The Mission needed a dependable water source after droughts in 1801 and 1803—one was found six miles to the east of the Mission, in what is now the Mission Trails Regional Park (Alter 2021; Zepeda-Herman and Price 2016). Using labor from the local Kumeyaay Indians, construction of the dam along the San Diego River began in 1809 and was completed by 1815. Following the secularization of the missions in 1833, the dam and flume were not maintained; flume tiles were taken to be used for homes of pioneers; and floods, particularly the flood of 1916, washed away most of the flume (Alter 2021).

2.2.3.2 Mexican Period

Although Mexico gained its independence from Spain in 1821, Spanish patterns of culture and influence remained for a time. The missions continued to operate as they had in the past, and laws governing the distribution of land were also retained in the 1820s. Following the secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals, ushering in the Rancho Era, with the society making a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With the numerous new ranchos in private hands, cattle ranching expanded and prevailed over agricultural activities.

These ranches put new pressures on California's native populations, as grants were made for inland areas still occupied by the Kumeyaay, forcing them to acculturate or relocate farther into the backcountry. In rare instances, former mission neophytes were able to organize pueblos and attempt to live within the new confines of Mexican governance and culture. The most successful of these was the Pueblo of San Pasqual, located inland along the San Dieguito River Valley, founded by Kumeyaay who were no longer able to live at the Mission San Diego de Alcalá (Carrico 2018; Farris 1994).

The project area is located within the El Cajon Rancho. In 1845, most of the neighboring El Cajon Valley was granted to Dona Maria Antonia Estudillo de Pedrorena by Governor Pio Pico at the insistence of Don Miguel Telesforo de Pedrorena (Head 1952a; Lay 1989; Ogden 1862). The rancho, which was renamed Rancho El Cajon, totaled roughly 48,800 acres and encompassed present day El Cajon, Bostonia, Santee, Lakeside, Flinn Springs, and the eastern part of La Mesa. The Pedrorenas used the area extensively for cattle grazing; the croplands and vineyards tended during the Spanish Period fell into neglect (Head 1952a).

2.2.3.3 American Period

American governance began in 1848, when Mexico signed the Treaty of Guadalupe Hidalgo, ceding California to the United States at the conclusion of the Mexican–American War. A great influx of settlers to California and the San Diego region occurred during the American Period, resulting from several factors, including the discovery of gold in the state in 1848, the end of the Civil War, the availability of free land through the passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions, and greatly increased the rate of population decline among Native American communities.

While the American system required that the newly acquired land be surveyed prior to settlement, the Treaty of Guadalupe Hidalgo bound the United States to honor the land claims of Mexican citizens who were granted ownership of ranchos by the Mexican government. The Land Act of 1851 established a board of commissioners to review land grant claims, and land patents for the land grants were issued throughout the following years. The confirmation of ranchos' boundaries in the late 1860s and early 1870s drew additional settlers as land became officially conveyable.

Under the Homestead Act of 1862, settlers could claim up to 160 acres of public land for the cost of a filing fee of $10, on condition that the land was occupied for at least five years and that certain improvements were made. The increase of land claims significantly reduced the remaining lands which sustained the Native American populations, as settlers marked, surveyed, and fenced property, which in turn changed the landscape of what is now San Diego County. The increase of land claims pushed for Native American reservations to be established in what were lands of poor subsistence, making indigenous people increasingly reliant on the Euro-American economic system as an alternative to the reservations (Carrico 2008).

A claim for Rancho El Cajon was filed in 1852 by Thomas Sutherland, the guardian of Pedrorena's heirs. This claim was confirmed by the United States Supreme Court in 1856, and the grant was patented in 1876 (United States v. Sutherland 1856; Willey 1886). Nearly destitute, Don Miguel Jr. sold approximately 10,000 acres of the El Cajon rancho to Elder Jacob Knapp for roughly $9,000. Knapp then sold the land to Los Angeles land developer Isaac Lankershim, who would later purchase the rest of the rancho in 1868 for a total of $64,000 (Birkett 1962; Head 1952b, 1952c; Hood 1981; Scott 1981).

Following the Civil War, a surge of settlers in search of new lands caused a population boom in California. Squatters and land-grabbers flooded the El Cajon Rancho. In response, Lankershim hired former Union Major Levi Chase as his agent and promptly launched a legal battle to evict the squatters (Head 1952d, 1952e; Hood 1981). It was soon discovered that the U.S. Land Offices did not officially recognize the El Cajon Rancho. After seven years of litigation and close to $60,000 in legal fees, President U.S. Grant signed the patents, confirming the ownership of the land to Isaac Lankershim (Head 1952d). In return, Chase received close to 8,000 acres of land in the southern portion of the ranch, which he deemed Chase Ranch (Head 1952d; Hood 1981).

In San Diego County, the 1880s were characterized by "boom and bust" cycles that brought thousands of people to the area. By the end of the decade, many had left, although some remained to form the foundations of small communities based on dry farming, orchards, dairies, and livestock ranching. During the late nineteenth and early twentieth centuries, rural areas of San Diego County developed small agricultural communities, consisting of individuals and families tied together through geographical boundaries, a common schoolhouse, and a church.

The small town of Stowe was established in the 1880s in Sycamore Canyon, west of the project area (Fryman 2012). Stowe flourished as a small ranching and farming community. The local post office was established in 1889, and a one-room schoolhouse was established at the junction of Beeler and Sycamore Canyons in 1890 (Jacques and Quillen 1983). Unfortunately, the town of Stowe was short lived; the post office closed in 1905 and the schoolhouse closed in 1906 (Jordan et al. 2008).

2.2.4 Project Vicinity

In 1877, George A. Cowles purchased approximately 4,000 acres of land for a vineyard in what would later be known as the Santee area. Originally known as Cowleston, Santee gained its name in 1891 when Cowles's widow Jennie married Milton Santee, a local realtor and surveyor (City of Santee 2018). Agriculture remained the area's primary focus through the late 1800s, with dairies and barns dotting the landscape. One such dairy farm was the Edgemoor Farm. Edgemoor Farm, established in 1908, was later purchased by the County of San Diego to be used as a geriatric hospital (Santee Historical Society 2020). As time went on, the County added new buildings to the property while still maintaining the original barn, though the dairy and farm had fallen into disuse by the 1950s.

Northwest of Santee lies Fanita Ranch, which was established in 1885 when Hosmer P. McKoon purchased 9,543 acres of land (City of Santee 2018). Portions of the ranch were sold off in the ensuing years, and in 1898, the Scripps family purchased 7,000 acres of the Fanita Ranch to be used for cattle ranching and as a country resort (City of Santee 2018). Portions of the ranch were later sold to the federal government and became Camp Elliot, which contains portions of today's Marine Corps Air Station Miramar.

By the 1950s and 1960s, most of San Diego County experienced an increase in residential, commercial, and infrastructure development. The Rio San Diego Municipal Water District was established in 1955 to import water from the San Diego County Water Authority. In 1956, the Santee County Water District was formed, due to the County Water District Laws of the State of California (Padre Dam Municipal Water District 2016). Due to the increased population in the area, the Santee County Water District realized that it needed a place to dump partially treated wastewater; in 1959, district manager Ray Stoyer visited Sycamore Canyon and discovered a series of excavated mining beds (Stevens 1971). These mining beds, owned by Bill Mast, would later be donated to the Water District and turned into the Santee Lakes in exchange for water rights to a portion of the treated water. The Santee Lakes would open for fishing and boating in 1961 and for swimming in 1965 (Padre Dam Municipal Water District 2016; Stevens 1971). The Padre Dam Municipal Water District was created when the Rio San Diego Water District and the Santee County Water District merged in 1976 (Padre Dam Municipal Water District 2016).

3.0 ARCHIVAL RESEARCH AND CONTACT PROGRAM

3.1 CULTURAL RESOURCES SURVEYS FOR THE HE PROPERTIES

In 2004, RECON conducted project-specific cultural resources surveys for the four proposed HE properties (16A, 16B, 20A, and 20B); these serve as the basis for the project-specific analysis for these properties in this report (Bull and Price 2004). The 2004 study did not identify any cultural resources within HE 16A or 16B; however, it discussed the Edgemoor Polo Barn and Edgemoor Farm Historic District, located within HE 20A and 20B (see Section 3.3.1 below).

3.2 RECORDS SEARCH

HELIX requested a records search from the South Coastal Information Center (SCIC) at the San Diego State University on May 3, 2022; an updated records search was conducted on August 23, 2023 to include the updated project area and slightly expanded radius. The records search covered a quarter-mile radius around the TCSP area and included the identification of previously recorded cultural resources and locations and citations for previous cultural resources studies. A review of the California Historical Resources and the state Office of Historic Preservation (OHP) historic properties directories, and Local Register, was also conducted. The records search summary and map are included as Appendix B (Confidential Appendices, bound separately).

3.2.1 Previous Surveys

The records search results identified 62 previous cultural resource studies within the record search limits, 39 of which overlap with the project area (Appendix C, *Table of Previous Studies within One Quarter Mile*). Of these 39 studies, seven identified resources within the search radius: a site investigation (Hector 1981), a survey addendum (Corum 1985), a specific plan amendment (Price 2005), a survey and evaluation (Campbell 2015), and three pedestrian surveys (Kyle 2003; Price and Bull 2004; Zepeda-Herman 2020).

3.2.2 Previously Recorded Resources

The SCIC has a record of 14 previously recorded cultural resources within the records search limits, nine of which are located within or immediately adjacent to the overall TCSP project area. The resources that have been documented within or immediately adjacent to the overall TCSP project area include P-37-005669 (CA-SDI-5669), P-37-007603 (CA-SDI-7603), P-37-009245 (CA-SDI-9245), P-37-020175, P-37-025303, P-19-028466, P-19-030482 (CA-SDI-19370), P-37-032655 (CA-SDI-20693), and P-37-032878 (CA-SDI-20778), which are described below. One additional resource (Edgemoor Farm Historic District) was not identified in the SCIC records search, but was identified during in-house research; thus, a total of 15 cultural resources have been previously recorded within the overall TCSP (Table 2, *Previously Recorded Resources within One Quarter Mile of the Project Area*).

Of the ten resources recorded within the TCSP project area, four are located within the AEN, including a historic refuse scatter (P-37-009245/CA-SDI-9245), two prehistoric lithic isolates (P-37-025303 and P-37-028466), and a prehistoric lithic and ground stone scatter (P-37-030482/CA-SDI-19370).

The SCIC records search identified one cultural resource (P-37-020175) within the HE, specifically within HE site 20A. This resource is the former Edgemoor Senior Center that is located within the Edgemoor Farm Historic District. Additionally, the Edgemoor Farm Historic District is located within HE sites 20A and 20B (see Section 3.3.1). Table 2 below indicates which resources are located within the search radius, within the TCSP, within the AEN, and within the HE sites, respectively.

Table 2
PREVIOUSLY RECORDED RESOURCES WITHIN ONE-QUARTER MILE OF THE PROJECT AREA

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
*005669	5669	Prehistoric	Pre-contact village site with habitation debris, lithics, brown ware, milling, and possible human remains	Polan, 1978; Thesken, 1983; Duran, Campbell, and Haas, 2015; Campbell, Douglas, Duncan, Menchaca, Smolik, and Duran, 2017
*007603	7603	Prehistoric	Pre-contact village site with widely scattered artifacts	Norwood, 1979; Hector, 1981
**009245	9245	Historic	Historic refuse scatter	Valois, 1982
***020175	--	Historic	Edgemoor Senior Center	Unknown, 1985
**025303	--	Prehistoric	Isolated lithic tool	Kyle, 2001
**028466	--	Prehistoric	Three secondary metavolcanic flakes	Price, 2004
029009	--	Historic	Historic single-family residence dating to the 1950s	Wynns and Wynns, 2000
029011	--	Historic	Historic single-family residence dating to the 1930s	Hope, 2000
**030482	19370	Prehistoric	Light density lithic and ground stone artifact scatter encountered in a subsurface context in monitoring	Giletti, 2009
*032655	20693	Historic	Historic refuse scatter generally dating to the 1930s	Robbins-Wade, Linton, Van Wormer, Giletti, Walter, and Koehen, 2012
*032878	20778	Multi-component	Ground stone, flaked stone tools, debitage, shell, two features, historic refuse, and probable human remains, found in subsurface context during monitoring	Davison and Giletti, 2012; Robbins Wade, 2015
035505	--	Historic	Rectangular Modern Industrial warehouse structure	Loftus, 2013
035815	21860	Prehistoric	Artifact scatter with ground stone, flaked stone, and fire-affected rock, found in monitoring	Robbins-Wade, Falvey, Kandybowicz, Villalobos, Figueroa, Arrowsmith, Curo, and Curo, 2015

Primary Number (P-37-##)	Trinomial (CA-SDI-#)	Age	Description	Recorder, Date
039090	22955	Multi-component	Bedrock milling features with historic features associated with the Santee School	Strother and Smolik, 2019
****N/A	N/A	Historic	The Edgemoor Farm Historic District (see Section 3.3.1)	Stiegler and Furlonger, 2008

* Within the TCSP
** Within the Arts and Entertainment Neighborhood
***Within HE Site 20A
****Within HE sites 20A and 20B; not included in the SCIC records search results

3.2.2.1 Resources only within the TCSP

P-37-005669 (CA-SDI-5669)

This large site has been recorded as consisting of three loci, one which is located within the TCSP, and two of which are just east of the project area. The site was originally recorded in 1978 (Polan) and has been described as a village; it has been the subject of several excavation projects, including extensive data recovery excavations, at various of the three recorded loci (Duran et al. 2015). Cultural material recovered included projectile points, flaked stone and ground stone tools, shell and stone beads, pottery, faunal material (animal bone and marine shell), and human remains (identified as "likely" or "possibly" human). Hearth features and a possible pit feature were identified at the site (Thesken 1983)

P-37-007603 (CA-SDI-7603)

Site P-37-007603 (CA-SDI-7603) is a prehistoric artifact scatter first recorded by Norwood in 1979. Located along the southern bank of the San Diego River, it was first described as a light density, widely disbursed artifact scatter of lithics, ground stone and thermally affected rocks in a 150-meter by 150-meter area. Hector described the site in 1981 as the widely scattered remains of a village, comprised of ground stone and lithics, with no distinct boundary. It had been heavily impacted by historic agriculture and development of the Santee area. It was noted by Hector to have been destroyed.

P-37-032655 (CA-SDI-20693)

Site P-37-032655 (CA-SDI-20693) is a historic refuse scatter recorded by Robbins-Wade et al. in 2012. Located north of the San Diego County Women's Detention Facility (Las Colinas), it consists of glass and ceramics, along with butchered bone, dating to the 1930s. Ceramics were primarily comprised of hotel ware and Fiesta ware. It is likely associated with the Edgemoor Farm and the San Diego County Home for the Aged and Indigent.

P-37-032878 (CA-SDI-20778)

Site P-37-032878 (CA-SDI-20778) is a multi-component artifact scatter, originally recorded by Davison and Giletti in 2012, and updated by Robbins-Wade in 2015; all the cultural material was found in a subsurface context during construction monitoring. Located in the San Diego County Women's Detention Facility project area, it is comprised of two prehistoric features, scattered manos, metates,

lithic flakes, and shellfish remains, along with ceramics, glass fragments, and metal fragments, all recovered between the surface and up to five feet below the surface. Prehistoric artifacts consist of 21 manos, 40 mano fragments, a metate, fragments of two additional metates, five lithic cores, one utilized flake, one hammerstone, and 40 lithic flakes. Historic artifacts consisted primarily of commercial-grade ceramic ware, which show a temporal range between the late 1800s to the mid-1900s. The prehistoric component is likely associated with the habitation site (CA-SDI-5669 and CA-SDI-19370), while the historic component is likely associated with the Edgemoor site and the Edgemoor Farm and San Diego County Home for the Aged and Indigent. During additional monitoring in 2015, three mano fragments were identified in the southern portion of the site, as well as fragments of human bones in two distinct locations in the northern portion of the site. The human remains were fragments of foot and wrist bones and were situated within disturbed fill soils that included modern debris intermixed with sediment.

3.2.2.2 Resources within the Arts and Entertainment Neighborhood

P-37-009245 (CA-SDI-9245)

Site P-37-009245 (CA-SDI-9245) is located within the AEN. It is a historic refuse scatter that was recorded by Valois in 1982. Located in an open pasture east of Cuyamaca Street and north of Mission Gorge Road, it is described as a dense concentration measuring 30 meters by 30 meters, comprised of ceramics, metal fragments and objects, glass bottles, and butchered bones. It is likely a multi-event dump site from the 1930s and 1940s.

P-37-025303

Cultural resource P-37-025303 consists of an isolated metavolcanic lithic tool located within the AEN. It was recorded by Kyle in 2001, located on a small knoll east of Cuyamaca Street and north of the San Diego River.

P-37-028466

Cultural resource P-37-028466 is a prehistoric lithic isolate located within the AEN. The isolate, recorded by Price in 2004, consists of three secondary metavolcanic flakes. One flake shows evidence of being retouched or modified, while the other two are unmodified secondary flakes.

P-37-030482 (CA-SDI-19370)

Site P-37-030482 (CA-SDI-19370) is a prehistoric artifact scatter recorded by Giletti in 2009. Located on an alluvial terrace on the south side of the San Diego River, south and west of the intersection of Magnolia Avenue and Chubb Lane, it is described as a light density lithic and ground stone artifact scatter over a large area. Components consist of metate fragments, manos, modified flake tools, metavolcanic flakes, and quartz debitage found at varying depths between two and 10 feet “in an obvious alluvial setting directly adjacent to the San Diego River”. The cultural material was all observed and recovered during construction monitoring.

3.2.2.3 Resources within the Housing Element

P-37-020175

Resource P-37-020175 is the historic Edgemoor Senior Center, also known as the Heartland Senior Day Health Center. Originally constructed as a dairy barn in 1914, the building underwent several modifications, including the addition of two wings and an extensive remodeling to transform it into a geriatric hospital. It was informally evaluated for NRHP eligibility in 1985 and found to be ineligible due to a lack of integrity (Sorlie 1985). This resource is mismapped on the SCIC records search map as being south of HE site 20B. Examination of the site record revealed that it is actually located within HE site 20A, just south of the Polo Barn that is proposed to be protected in place.

Though not listed in the SCIC records search results, additional research identified the historically significant Edgemoor Farm Historic District within HE sites 20A and 20B, as discussed below in Section 3.3.1.

3.3 OTHER ARCHIVAL RESEARCH

Various additional archival sources were also consulted for the entire TCSP, including historic topographic maps and aerial imagery. These include aerials from 1953, 1964, 1966, 1968, 1971, 1980, 1985, 1990, 1995, 2000, 2005, and 2010 (NETR Online 2022) and several historic USGS topographic maps, including the 1893 El Cajon (1:62,500), 1903 Cuyamaca (1:125,000), the 1942 El Cajon (1:62,500) and the 1955, 1967, 1975, and 1996 El Cajon (1:24,000) topographic maps. The purpose of this research was to identify historic structures and land use in the area.

No structures appear within the project area on the 1893 El Cajon (1:62,500) topographic map, though the San Diego River is recorded passing through the center of the area, and a single road is located to the south. Santee and the San Diego Cuyamaca and Eastern Railway are recorded to the southeast and east of the project area. The 1903 Cuyamaca (1:125,000) topographic map includes much the same information, though a trail and the community of Riverview are recorded to the east. Edgemoor Farm (see section 3.3.1.) is recorded within the boundary of the project area on the El Cajon (1: 62,500) map – several structures are recorded in the eastern portion of the project site, and Mission Gorge Road is recorded along the southern boundary. Several structures are seen to the south and southeast of the project site, and Santee is recorded at the intersection of what appears to be Mission Gorge Road, Magnolia Avenue, and Woodside Avenue. The railroad seen on the previous maps is also recorded on this map, and Fanita Ranch is recorded to the west of the project site.

The expansion of the Santee south of the project site is visible on the 1955, 1967, and 1975 El Cajon (1:24,000) topographic maps. On the 1955 map, Edgemoor Farm, a windmill, two sand pits, a residential neighborhood, the San Diego River, and a few trails are visible within the project area. The Edgemoor Home for the Aged and Indigent, two sand pits, the Grossmont-Santee Adult School, a fire station, the San Diego River, and a water feature are all recorded within the 1967 topographic map. The 1975 map depicts the expansion of Santee to the north and the construction of the northern alignment of Cuyamaca Street through the project area. Finally, the 1996 El Cajon topographic map remains relatively unchanged, save for the presence of a transit line extending into the project site from the intersection of Mission Gorge Road and Cuyamaca Street and expanded residential and commercial development.

The early aerial photographs depict the agricultural nature of the region – several farm plots are visible within and around the project site. In the 1964 aerial photograph, several structures are seen within the southwest corner of the project area, and several structures associated with Edgemoor Farm are visible in the eastern portion of the project boundaries. The subsequent photographs show the urban development of the region, with neighborhoods appearing to the north and south of the project area. The project area remains relatively unchanged in the 1968 and 1971 aerial photographs; by the time the 1980 photograph was taken, the area now containing the Santee Town Center appears to have been cleared or graded. In fact, much of the area has been graded, likely for the further development of the area seen in the 1995 and 2000 aerial photographs. By the time the 2005 and 2010 aerial photographs have been taken, the current Santee Town Center and the modern alignment of SR 52 had been completed.

3.3.1 Edgemoor Farm

The Edgemoor Farm property is located within two of the HE Properties (20A and 20B) and the southeastern corner of the AEN of the proposed project. This historic complex is listed on the National Register of Historic Places at the state level under Criteria A, for being "associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States"; B, for being "associated with the lives of persons important to local, California or national history"; and C, for embodying "the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values" (Office of Historic Preservation n.d.). It has also been determined eligible for listing on the California Register of Historical Resources and on the San Diego County Local Register of Historical Resources as a Historic District (Stiegler and Furlonger 2008).

Edgemoor Farm was originally owned by the millionaire-socialite Walter Hamlin Dupee from 1913 to 1921, who used it as a world-famous scientific dairy, tourist attraction, and polo pony farm. Edgemoor's association with Walter Dupree made it eligible for NRHP-listing under Criterion B. The Polo Barn, built in 1913, was the first part of the district to be listed on the NRHP in 1984 and is listed individually, not as a part of the historic district. In 1923, the property became the Edgemoor Farm and San Diego County Home for the Aged and Indigent, which was "one of the last and largest publicly-funded indigent farm homes in the state and the nation" (Stiegler and Furlonger 2008: 1). For 80 years, it functioned as a nursing home for the poorest citizens of San Diego County and in this way made a significant contribution to the cultural heritage of California and the nation (NRHP Criterion A). Six of the buildings from the Home for the Aged and Indigent were constructed in the Transitional-Modern, Proto-International Style in the 1920s by the Quayle Brothers, Master Architects. This qualified the District for NRHP-listing under Criterion C.

Twenty-six of the structures within Edgemoor Farm and the San Diego County Home for the Aged and Indigent were demolished during the Edgemoor Facility Demolition Project (Dehoney 2008). The Polo Barn is the only remaining structure, which was converted into the headquarters for the Santee Historical Society and a museum commemorating the history of Edgemoor Farm. The TCSP proposes to protect to the Polo Barn in place.

3.4 NATIVE AMERICAN CONTACT PROGRAM

HELIX contacted the Native American Heritage Commission (NAHC) on April 22, 2022 for a Sacred Lands File search and list of Native American contacts. The NAHC responded on May 24, 2022, noting that the

results of the search were positive and that the Barona Group of the Capitan Grande, the Viejas Band of Kumeyaay Indians, and the Kumeyaay Cultural Repatriation Committee should be contacted for further information. The results also included a list of tribes traditionally and culturally affiliated with the geographic area. HELIX sent initial outreach letters on June 1, 2022 to the members of this list. At the time of this outreach, three responses were received, as summarized in Table 3, *Native American Contact Program Responses*. As of that time, the San Pasqual Band of Mission Indians requested government-to-government consultation, the Jamul Indian Village deferred to the wishes of closer tribes, and the Barona Band of Mission Indians requested to be apprised of the results of the cultural resource study, stating that while much of the project area is disturbed, some portions are intact and are likely locations for cultural resources, especially along the river side.

Updated outreach letters were sent to the recommended tribes on October 2, 2023. These letters included the updated project scope. To date, three tribes have responded. The Barona Band of Mission Indians requested a copy of the constraints analysis, and the Viejas Band of Kumeyaay Indians and Campo Band of Mission Indians requested government-to-government consultation. A total of five tribes responded to initial and updated outreach. Additional Native American outreach responses will be forwarded to the City. Native American correspondence is included as Appendix D (Confidential Appendices, bound separately).

Table 3
NATIVE AMERICAN CONTACT PROGRAM RESPONSES

Contact/Tribe	Response
Native American Heritage Commission	Responded on May 24, 2022; a records search of the NAHC Sacred Lands File was completed for the project area with positive results. They provided a list of 13 tribal groups that may have additional information and recommended contacting the Barona Group of the Capitan Grande and Viejas Band of Kumeyaay Indians.
Barona Band of Mission Indians	Responded via email on June 17, 2022; requested to be kept apprised of the results of the cultural resource study, stating that while much of the project area is disturbed, some portions are intact and are likely locations for cultural resources, especially along the riverside. Responded via email on October 10, 2023; requested to receive a copy of the constraints analysis and to be informed of significant project developments, stating that the San Diego River in a known use area and habitation of the Capitan Grande people.
Jamul Indian Village	Responded in a letter dated June 27, 2022; they deferred to the wishes of a closer tribe, in particular, the Barona Band of Mission Indians.
San Pasqual Band of Mission Indians	Responded in a letter sent via email on June 17, 2022; after consulting their maps, they determined that while the project is not within the boundaries of the recognized San Pasqual Indian Reservation, it is within the boundaries of the territory that the tribe considers its Traditional Use Area. They requested formal government-to-government consultation in order to develop mitigation measures and requested access to all cultural resource reports associated with the environmental review process.
Viejas Band of Kumeyaay Indians	Responded via email on October 10, 2023; requested government-to-government consultation.
Campo Band of Mission Indians	Responded via email on February 26, 2024; requested government-to-government consultation

4.0 CULTURAL RESOURCES SENSITIVITY

The entire project area is in an alluvial setting, and cultural resources have been identified at 15 sites within one-quarter mile of the project area, including six prehistoric sites, seven historic sites or structures, and two multi-component sites. The six prehistoric sites include two prehistoric/ethnographic Kumeyaay villages; however, the entire area along the San Diego River in this portion of Santee could be described as a prehistoric village or ethnographic rancheria. In addition, the significant Edgemoor Farm Historic District is located within HE properties 20A and 20B and within the southeastern corner of the AEN. Nearby historic sites are likely associated with this district. Based on this, the entire project area of the TCSP is sensitive for prehistoric, ethnographic, and historic cultural resources, including buried resources.

4.1 ARTS AND ENTERTAINMENT NEIGHBORHOOD

Four previously recorded resources have been identified within the AEN, including one historic refuse scatter, two prehistoric lithic isolates, and one prehistoric artifact scatter. The historic and prehistoric artifact scatters extended below the ground surface. No subsurface testing was conducted at the isolates to determine if there is a subsurface component to these resources. As with the overall TCSP, the AEN is sensitive for cultural resources, including buried resources.

4.2 HOUSING ELEMENT SITES

RECON conducted field surveys of all four housing element sites in 2004 and did not identify any resources in HE 16A or 16B. However, Edgemoor Farm is a NRHP- and CRHR-listed historic district located within HE 20A and 20B. The majority of the structures within the district were previously demolished and the Polo Barn will be protected in place; however, there is great potential for encountering buried historic cultural resources associated with this district. Prehistoric resources have also been identified adjacent to the HE sites, and there is a high likelihood of encountering these cultural resources as well.

5.0 SUMMARY AND MANAGEMENT RECOMMENDATIONS

Based on the results of the current study, there is potential for known cultural resources to be impacted by future construction projects within the entire TCSP, including the AEN and the four HE sites. The entire TCSP is highly culturally sensitive. According to the record search results from the SCIC, the project-specific studies conducted for the HE properties, and additional archival research, 15 cultural resources have been previously identified within a one-quarter mile radius of the project area, two of which are significant prehistoric/ethnohistoric Kumeyaay village sites and one of which is a significant historic district. Ten of these resources are within the TCSP area; four of these are within the TCSP but outside of the AEN and the HE, four are within the AEN, and two are within the HE.

Native American outreach with the NAHC yielded positive results for tribal resources within the vicinity of the project area. HELIX conducted outreach to the 16 recommended tribal contacts in June 2022 and again in October 2023. Five contacts responded, three of which requested formal government-to-government consultation, one of which requested to receive the cultural constraints analysis and to be

kept appraised of project updates, and the last of which deferred to closer tribes. One tribe noted that the San Diego River is a known use area and despite disturbances holds the potential for intact cultural deposits.

Due to the high cultural sensitivity of the TCSP, the alluvial setting along the San Diego River, the number of significant prehistoric and historic resources within and adjacent to the project area, and the concerns of local tribes, archaeological and Native American monitoring is recommended for any construction project within the TCSP, including the AEN and the four HE sites.

5.1 MANAGEMENT RECOMMENDATIONS

The following mitigation measures apply to the entire TCSP, including the AEN and the HE properties.

5.1.1 Santee Town Center Specific Plan Mitigation Measures

5.1.1.1 CUL-1 Project-level Cultural Resources Study

Prior to approval of an individual project under the TCSP, a cultural resource survey shall be conducted for that project. If cultural resources are identified in conjunction with the cultural resources survey, they must be evaluated to assess their eligibility for the CRHR and, thus, whether the project would have an effect on historic properties (cultural resources) per CEQA. If significant effects to historic properties/cultural resources are identified, appropriate avoidance or mitigation measures must be developed as part of the cultural resources study and implemented prior to project development.

5.1.1.2 CUL-2 Archaeological Monitoring

Prior to issuance of grading permits for any projects within the TCSP: The applicant/developer shall provide evidence to the City of Santee that a qualified professional archaeologist has been contracted to implement a Cultural Resource Monitoring Program (CRMP). A CRMP shall be developed in coordination with the consulting tribe(s) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, as well as address potential impacts to undiscovered buried archaeological resources associated with this project.

For each construction project within the TCSP, the CRMP shall contain, at a minimum, the following:

Archaeological monitoring - An adequate number of qualified archaeological monitors shall be on-site to ensure all earth-moving activities are observed in areas being monitored. This includes all grubbing, grading, and trenching on-site and for all off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined and directed by the Project Archaeologist.

Cultural Resources Sensitivity Training - The Project Archaeologist and a representative designated by the consulting Tribe(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. Training will include a brief review of the cultural sensitivity of the project and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earth-moving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s)

can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site.

Unanticipated Resources - In the event that previously unidentified potentially significant cultural resources are discovered, the Archaeological and/or Tribal Monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Project Archaeologist, in consultation with the Tribal monitor, shall determine the significance of the discovered resources. Further, before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The Project Archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Isolates and clearly non-significant deposits shall be minimally documented in the field, and the monitored grading can proceed.

Artifact Disposition - The landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.

5.1.1.3 CUL-3 Native American Monitoring

Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement(s) with the consulting tribe(s) for a Kumeyaay Native American Monitor(s).

In conjunction with the Archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. In addition, an adequate number of Kumeyaay Native American Monitor(s) shall be on-site during all initial ground-disturbing activities and excavation of each portion of the project site, including clearing, grubbing, tree removals, grading, and trenching. In conjunction with the archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources.

5.1.1.4 CUL-4 Inadvertent Discoveries of Human Remains

In the event that potential human remains are encountered, ground-disturbing activities within 100 feet of the discovery will be halted, and the requirements of California Health and Safety Code Section 7050.5 will be implemented. The archaeological monitor will immediately notify the Project Archaeologist, who will notify the County Medical Examiner's (ME) Office. A representative of the ME's Office will determine whether the human remains appear to be Native American in origin. If so, the ME's Office will notify the NAHC, who will designate the Most Likely Descendent (MLD). The MLD will make recommendations for the appropriate treatment of the remains and any associated grave goods. The County ME's office will make the determination of the origin of the remains within two working days and will notify the NAHC within 24 hours of their decision if the human remains are determined to be Native American. In the event human remains or burial items are discovered, all parties will refrain from publicly disclosing the reburial location unless otherwise required by law.

5.1.2 Arts and Entertainment Neighborhood Mitigation Measures

5.1.2.1 CUL-1 Project-level Cultural Resources Study

Prior to approval of an individual project under the AEN, a cultural resource survey shall be conducted for that project. If cultural resources are identified in conjunction with the cultural resources survey, they must be evaluated to assess their eligibility for the CRHR and, thus, whether the project would have an effect on historic properties (cultural resources) per CEQA. If significant effects to historic properties/cultural resources are identified, appropriate avoidance or mitigation measures must be developed as part of the cultural resources study and implemented prior to project development.

5.1.2.2 CUL-2 Archaeological Monitoring

Prior to issuance of grading permits for any projects within the AEN: The applicant/developer shall provide evidence to the City of Santee that a qualified professional archaeologist has been contracted to implement a CRMP. A CRMP shall be developed in coordination with the consulting tribe(s) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, as well as address potential impacts to undiscovered buried archaeological resources associated with this project.

For each construction project within the AEN, the CRMP shall contain, at a minimum, the following:

Archaeological monitoring – An adequate number of qualified archaeological monitors shall be on-site to ensure all earth-moving activities are observed in areas being monitored. This includes all grubbing, grading, and trenching on-site and for all off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined and directed by the Project Archaeologist.

Cultural Resources Sensitivity Training – The Project Archaeologist and a representative designated by the consulting Tribe(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. Training will include a brief review of the cultural sensitivity of the project and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earth-moving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site.

Unanticipated Resources – In the event that previously unidentified potentially significant cultural resources are discovered, the Archaeological and/or Tribal Monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Project Archaeologist, in consultation with the Tribal monitor, shall determine the significance of the discovered resources. Further, before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The Project Archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Isolates and clearly non-significant deposits shall be minimally documented in the field, and the monitored grading can proceed.

Artifact Disposition – The landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.

5.1.2.3 CUL-3 Native American Monitoring

Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement(s) with the consulting tribe(s) for a Kumeyaay Native American Monitor(s).

In conjunction with the Archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. In addition, an adequate number of Kumeyaay Native American Monitor(s) shall be on-site during all initial ground-disturbing activities and excavation of each portion of the project site, including clearing, grubbing, tree removals, grading, and trenching. In conjunction with the archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources.

5.1.2.4 CUL-4 Inadvertent Discoveries of Human Remains

In the event that potential human remains are encountered, ground-disturbing activities within 100 feet of the discovery will be halted, and the requirements of California Health and Safety Code Section 7050.5 will be implemented. The archaeological monitor will immediately notify the Project Archaeologist, who will notify the County ME's Office. A representative of the ME's Office will determine whether the human remains appear to be Native American in origin. If so, the ME's Office will notify the NAHC who will designate the MLD. The MLD will make recommendations for the appropriate treatment of the remains and any associated grave goods. The County ME's office will make the determination of the origin of the remains within two working days and will notify the NAHC within 24 hours of their decision if the human remains are determined to be Native American. In the event human remains or burial items are discovered, all parties will refrain from publicly disclosing the reburial location unless otherwise required by law.

5.1.3 Housing Element 16A Mitigation Measures

5.1.3.1 CUL-2 Archaeological Monitoring

Prior to issuance of grading permits for any projects within HE 16A: The applicant/developer shall provide evidence to the City of Santee that a qualified professional archaeologist has been contracted to implement a CRMP. A CRMP shall be developed in coordination with the consulting tribe(s) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, as well as address potential impacts to undiscovered buried archaeological resources associated with this project.

For each construction project within the HE 16A, the CRMP shall contain, at a minimum, the following:

Archaeological monitoring - An adequate number of qualified archaeological monitors shall be on-site to ensure all earth-moving activities are observed in areas being monitored. This includes all grubbing, grading, and trenching on-site and for all off-site improvements. Inspections will vary based on the rate

of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined and directed by the Project Archaeologist.

Cultural Resources Sensitivity Training - The Project Archaeologist and a representative designated by the consulting Tribe(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. Training will include a brief review of the cultural sensitivity of the project and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earth-moving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site.

Unanticipated Resources - In the event that previously unidentified potentially significant cultural resources are discovered, the Archaeological and/or Tribal Monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Project Archaeologist, in consultation with the Tribal monitor, shall determine the significance of the discovered resources. Further, before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The Project Archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Isolates and clearly non-significant deposits shall be minimally documented in the field, and the monitored grading can proceed.

Artifact Disposition - The landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.

5.1.3.2 CUL-3 Native American Monitoring

Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement(s) with the consulting tribe(s) for a Kumeyaay Native American Monitor(s).

In conjunction with the Archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. In addition, an adequate number of Kumeyaay Native American Monitor(s) shall be on-site during all initial ground-disturbing activities and excavation of each portion of the project site, including clearing, grubbing, tree removals, grading, and trenching. In conjunction with the archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources.

5.1.3.3 CUL-4 Inadvertent Discoveries of Human Remains

In the event that potential human remains are encountered, ground-disturbing activities within 100 feet of the discovery will be halted, and the requirements of California Health and Safety Code Section 7050.5 will be implemented. The archaeological monitor will immediately notify the Project Archaeologist, who will notify the County ME's Office. A representative of the ME's Office will determine whether the human remains appear to be Native American in origin. If so, the ME's Office will notify the

NAHC, who will designate the MLD. The MLD will make recommendations for the appropriate treatment of the remains and any associated grave goods. The County ME's office will make the determination of the origin of the remains within two working days and will notify the NAHC within 24 hours of their decision if the human remains are determined to be Native American. In the event human remains or burial items are discovered, all parties will refrain from publicly disclosing the reburial location unless otherwise required by law.

5.1.4 Housing Element 16B Mitigation Measures

5.1.4.1 CUL-2 Archaeological Monitoring

Prior to issuance of grading permits for any projects within HE 16B: The applicant/developer shall provide evidence to the City of Santee that a qualified professional archaeologist has been contracted to implement a CRMP. A CRMP shall be developed in coordination with the consulting tribe(s) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, as well as address potential impacts to undiscovered buried archaeological resources associated with this project.

For each construction project within HE 16B, the CRMP shall contain, at a minimum, the following:

Archaeological monitoring - An adequate number of qualified archaeological monitors shall be on-site to ensure all earth-moving activities are observed in areas being monitored. This includes all grubbing, grading, and trenching on-site and for all off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined and directed by the Project Archaeologist.

Cultural Resources Sensitivity Training - The Project Archaeologist and a representative designated by the consulting Tribe(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. Training will include a brief review of the cultural sensitivity of the project and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earth-moving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site.

Unanticipated Resources - In the event that previously unidentified potentially significant cultural resources are discovered, the Archaeological and/or Tribal Monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Project Archaeologist, in consultation with the Tribal monitor, shall determine the significance of the discovered resources. Further, before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The Project Archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Isolates and clearly non-significant deposits shall be minimally documented in the field, and the monitored grading can proceed.

Artifact Disposition - The landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.

5.1.4.2 CUL-3 Native American Monitoring

Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement(s) with the consulting tribe(s) for a Kumeyaay Native American Monitor(s).

In conjunction with the Archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. In addition, an adequate number of Kumeyaay Native American Monitor(s) shall be on-site during all initial ground-disturbing activities and excavation of each portion of the project site, including clearing, grubbing, tree removals, grading, and trenching. In conjunction with the archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources.

5.1.4.3 CUL-4 Inadvertent Discoveries of Human Remains

In the event that potential human remains are encountered, ground-disturbing activities within 100 feet of the discovery will be halted, and the requirements of California Health and Safety Code Section 7050.5 will be implemented. The archaeological monitor will immediately notify the Project Archaeologist, who will notify the County ME's Office. A representative of the ME's Office will determine whether the human remains appear to be Native American in origin. If so, the ME's Office will notify the NAHC, who will designate the MLD. The MLD will make recommendations for the appropriate treatment of the remains and any associated grave goods. The County ME's office will make the determination of the origin of the remains within two working days and will notify the NAHC within 24 hours of their decision if the human remains are determined to be Native American. In the event human remains or burial items are discovered, all parties will refrain from publicly disclosing the reburial location unless otherwise required by law.

5.1.5 Housing Element 20A Mitigation Measures

5.1.5.1 CUL-5 Edgemoor Polo Barn

Avoidance is the preferred measure to mitigate adverse effects to the Edgemoor Polo Barn. Future plans should, if possible, design around the Polo Barn. If avoidance is not possible, the preferred alternative is to preserve the Polo Barn by moving it to another location. This is in accordance with the mitigation measures published by Bull and Price (2004).

5.1.5.2 CUL-2 Archaeological Monitoring

Prior to issuance of grading permits for any projects within HE 20A: The applicant/developer shall provide evidence to the City of Santee that a qualified professional archaeologist has been contracted to implement a CRMP. A CRMP shall be developed in coordination with the consulting tribe(s) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, as well as address potential impacts to undiscovered buried archaeological resources associated with this project.

For each construction project within HE 20A, the CRMP shall contain, at a minimum, the following:

Archaeological monitoring - An adequate number of qualified archaeological monitors shall be on-site to ensure all earth-moving activities are observed in areas being monitored. This includes all grubbing, grading, and trenching on-site and for all off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined and directed by the Project Archaeologist.

Cultural Resources Sensitivity Training - The Project Archaeologist and a representative designated by the consulting Tribe(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. Training will include a brief review of the cultural sensitivity of the project and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earth-moving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site.

Unanticipated Resources - In the event that previously unidentified potentially significant cultural resources are discovered, the Archaeological and/or Tribal Monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Project Archaeologist, in consultation with the Tribal monitor, shall determine the significance of the discovered resources. Further, before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The Project Archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Isolates and clearly non-significant deposits shall be minimally documented in the field, and the monitored grading can proceed.

Artifact Disposition - The landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.

5.1.5.3 CUL-3 Native American Monitoring

Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement(s) with the consulting tribe(s) for a Kumeyaay Native American Monitor(s).

In conjunction with the Archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. In addition, an adequate number of Kumeyaay Native American Monitor(s) shall be on-site during all initial ground-disturbing activities and excavation of each portion of the project site, including clearing, grubbing, tree removals, grading, and trenching. In conjunction with the archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources.

5.1.5.4 CUL-4 Inadvertent Discoveries of Human Remains

In the event that potential human remains are encountered, ground-disturbing activities within 100 feet of the discovery will be halted, and the requirements of California Health and Safety Code Section 7050.5 will be implemented. The archaeological monitor will immediately notify the Project Archaeologist, who will notify the County ME's Office. A representative of the ME's Office will determine whether the human remains appear to be Native American in origin. If so, the ME's Office will notify the NAHC, who will designate the MLD. The MLD will make recommendations for the appropriate treatment of the remains and any associated grave goods. The County ME's office will make the determination of the origin of the remains within two working days and will notify the NAHC within 24 hours of their decision if the human remains are determined to be Native American. In the event human remains or burial items are discovered, all parties will refrain from publicly disclosing the reburial location unless otherwise required by law.

5.1.6 Housing Element 20B Mitigation Measures

5.1.6.1 CUL-2 Archaeological Monitoring

Prior to issuance of grading permits for any projects within HE 20B: The applicant/developer shall provide evidence to the City of Santee that a qualified professional archaeologist has been contracted to implement a CRMP. A CRMP shall be developed in coordination with the consulting tribe(s) that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant, as well as address potential impacts to undiscovered buried archaeological resources associated with this project.

For each construction project within HE 20B, the CRMP shall contain, at a minimum, the following:

Archaeological monitoring - An adequate number of qualified archaeological monitors shall be on-site to ensure all earth-moving activities are observed in areas being monitored. This includes all grubbing, grading, and trenching on-site and for all off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined and directed by the Project Archaeologist.

Cultural Resources Sensitivity Training - The Project Archaeologist and a representative designated by the consulting Tribe(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. Training will include a brief review of the cultural sensitivity of the project and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earth-moving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a mandatory training, and all construction personnel must attend prior to beginning work on the project site.

Unanticipated Resources - In the event that previously unidentified potentially significant cultural resources are discovered, the Archaeological and/or Tribal Monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Project Archaeologist, in consultation with the Tribal monitor, shall determine the significance of the discovered resources. Further, before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features

recorded using professional archaeological methods. The Project Archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Isolates and clearly non-significant deposits shall be minimally documented in the field, and the monitored grading can proceed.

Artifact Disposition - The landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.

5.1.6.2 CUL-3 Native American Monitoring

Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement(s) with the consulting tribe(s) for a Kumeyaay Native American Monitor(s).

In conjunction with the Archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall attend the pre-grading meeting with the contractors to provide Cultural Resources Sensitivity Training for all construction personnel. In addition, an adequate number of Kumeyaay Native American Monitor(s) shall be on-site during all initial ground-disturbing activities and excavation of each portion of the project site, including clearing, grubbing, tree removals, grading, and trenching. In conjunction with the archaeological monitor(s), the Kumeyaay Native American Monitor(s) shall have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources.

5.1.6.3 CUL-4 Inadvertent Discoveries of Human Remains

In the event that potential human remains are encountered, ground-disturbing activities within 100 feet of the discovery will be halted, and the requirements of California Health and Safety Code Section 7050.5 will be implemented. The archaeological monitor will immediately notify the Project Archaeologist, who will notify the County ME's Office. A representative of the ME's Office will determine whether the human remains appear to be Native American in origin. If so, the ME's Office will notify the NAHC, who will designate the MLD. The MLD will make recommendations for the appropriate treatment of the remains and any associated grave goods. The County ME's office will make the determination of the origin of the remains within two working days and will notify the NAHC within 24 hours of their decision if the human remains are determined to be Native American. In the event human remains or burial items are discovered, all parties will refrain from publicly disclosing the reburial location unless otherwise required by law.

6.0 REFERENCES

Alter, Ruth
2021 *Early History*. Mission Trails Regional Park. Electronic resource available at, https://mtrp.org/early-history/, accessed May 19, 2022.

Bean, Lowell J., and Florence Shipek
1978 Luiseño. In *California*, edited by R. F. Heizer, pp. 550–563. Handbook of North American Indians, Vol. 8, W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Beauchamp, R. Mitchell
1986 *A Flora of San Diego County, California*. Sweetwater River Press, National City.

Berryman, Stanley
2019 Santee Greens, One of The Best Known, Unknown Prehistoric Sites in San Diego County. *Proceedings of the Society for California Archaeology* 33:165–177.

Berryman, Judy
1981 *Archaeological Mitigation Report of Santee Greens, SDI-5669*. Report on file at the South Coastal Information Center, San Diego State University.

Birkett, Charles
1962 The Fiftieth Year. *The Journal of San Diego History* 8(4). Available at: https://sandiegohistory.org/journal/1962/october/fiftieth/, accessed on May 19, 2022.

Brodie, Natalie
2013 *The San Diego River: An Archaeological, Historical, and Applied Anthropological Perspective.* Master's thesis, Department of Anthropology, San Diego State University, San Diego, California.

Bowman, Roy H.
1973 *Soil Survey: San Diego Area*. United States Department of Agriculture. Beltsville, MD.

Bull, Charles S.
1983 Shaking the Foundations: The Evidence for San Diego Prehistory. *Casual Papers: Cultural Resource Management* 1(3):15-64. Cultural Resource Management Center, San Diego State University.

Bull, Charles and Harry Price
2004 Cultural Resources Survey Report for the Ryan Corporate Office Park Master Plan Santee, California. Report on file at the South Coastal Information Center, San Diego State University.

Campbell, B., D. Douglas, S. Duncan, C. Duran, K. Hunt, A. Menchaca, and K. Smolik
2017 *Data Recovery Excavations at CA-SDI-5669 Locus C: Confidential Phase III Archaeological Report, City of Santee, San Diego County, California.* Rincon Consultants Project No. 16-02614. Report on file at the South Coastal Information Center, San Diego State University, California.

Carrico, Richard L.
1977 Portolá's 1769 Expedition and Coastal Native Villages of San Diego County. *The Journal of California Anthropology* 4(1): 30–41.

2008 Ethnohistoric Period. In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. Prepared for the Metropolitan Wastewater Department, City of San Diego. ASM Affiliates, Encinitas, CA.

2018 *Strangers in a Stolen Land: Indians of San Diego County from Prehistory to the New Deal.* Sunbelt Publications, San Diego.

Carrico, Richard L., Theodore G. Cooley, and Joyce M. Clevenger
1993 *Archaeological Excavations at the Harris Site Complex, San Diego County, California.* Ogden Environmental and Energy Services, San Diego. Report on file at the South Coastal Information Center, San Diego State University.

Carrico, Richard L., Theodore G. Cooley, and Brian K. Glenn
1994 *East Mission Gorge Pump Station and Force Main Project Cultural Resources Data Recovery Report for Site CA-SDI-9243, San Diego, California*. Report on file at HELIX.

Carrico, Richard L., Joyce M. Clevenger, Danielle M. Huey, Patricia Mitchell, and Andrew Pigniolo
1991 *A Cultural Resources Testing, Evaluation, and Proposed Data Recovery Program for the East Mission Gorge Pump Station and Force Main Project*. Report on file at the South Coastal Information Center, San Diego State University, San Diego, California.

Chace, Paul G., and Janet Hightower
1979 *The Archaeology of the Nelson Site SDI-5680 Near Poway and a Test Assessment Program of the Cultural Remains of the C.B.N. Corporation Property (E.A.D. Log #78-14-19.* Report on file at the South Coastal Information Center, San Diego State University.

Chace, Paul G., and Mark Q. Sutton
1990 The Kelly Site Complex: An Inland Encinitas Tradition Settlement in San Diego County. *Pacific Coast Archaeological Society Quarterly* 26(1):42–59.

Christenson, Lynne E.
1990 *The Late Prehistoric Yuman People of San Diego County, California: Their Settlement and Subsistence System*. Ph.D. dissertation, Department of Anthropology, Arizona State University, Tempe. University Microfilms, Ann Arbor.

Christenson, Chris and Lynne Christenson
1981 DPR Site Update form for P-37-008594/CA-SDI-8594. Form on file at the South Coastal Information Center, San Diego State University.

City of San Diego
2001 Historical Resources Guidelines. Adopted September 28, 1999, Amended April 30, 2001 by City Manager Document No. C-10912.

2016 California Environmental Quality Act Significance Determination Thresholds. Adopted January 1991, Amended July 2016. Electronic document available at: https://www.sandiego.gov/sites/default/files/july_2016_ceqa_thresholds_final_0.pdf.

2018 Historical Resources Regulations. Adopted December 9, 1997 (City Council Ordinance No. O-18451, effective January 1, 2000. Amendments in 1999, 2008, 2011, 2013, 2015, 2016, 2018. Electronic document on file at: https://docs.sandiego.gov/municode/MuniCodeChapter14/Ch14Art03Division02.pdf.

2019a Mission Trails Regional Park Master Plan. Electronic document available at: https://www.sandiego.gov/sites/default/files/mtrp_mpu_aug2019_web.pdf, accessed on October 19, 2021.

2019b Final Program Environmental Impact Report for the Mission Trails Regional Park Master Plan Update. Electronic document available at: https://www.sandiego.gov/sites/default/files/mission_trails_regional_park_final_peir_no._349988reduced.pdf, accessed on October 19, 2021.

City of Santee
2018 Santee: A Look at the Past. Electronic document, available at: http://cityofsanteeca.gov/how-do-i/santee-s-history, accessed on May 19, 2022.

Cline, Lora L.
1984 *Just Before Sunset.* J and L Press, Jacumba, California.

Comeau, Brad
2020 Confidential Cultural Resources Records Search and Site Visit Summary for PDMWD Brine Line Alternative Assessment.

Cooley, Theodore G.
1995 Early Period Results from Data Recovery Conducted on a Portion of Stratified Prehistoric Site SDI-9243, San Diego County, California. *Proceedings of the Society for California Archaeology* 8:227–238.

Cooley, Theodore G., and Laura J. Barrie
2004 Archaeological Excavation at the Village of *Pa'Mu*, Ramona Valley, California. *Proceedings of the Society for California Archaeology* 17:43–56.

Cooley, Theodore G., and Brian K. Glenn
1994 *East Mission Gorge Pump Station and Force Main Project Pretrenching Report for Site CA-SDI-9243, San Diego, California*. Appendix H to *East Mission Gorge Pump Station and Force Main Project Cultural Resources Data Recovery Report for Site CA-SDI-9243, San Diego, California*. Richard L. Carrico, Theodore G. Cooley, and Brian K. Glenn. Reports on file at HELIX.

Cooley, Theodore G., and Patricia Mitchell
1992 DPR Site Update form for P-37-009243/CA-SDI-9243. Form on file at the South Coastal Information Center, San Diego State University.

Cooley, Theodore G., and Patricia T. Mitchell
1996 *Limited Data Recovery Investigations at Site CA-SDI-11,767, a La Jolla Complex Site Along the Lower San Diego River Valley, Mission Valley West Light Rail Transit Project, San Diego, California*. Ogden Environmental and Energy Services Company, San Diego. Report on file at the South Coastal Information Center, San Diego State University, San Diego.

Cooley, Theodore G., Richard L. Carrico, and Carol Serr
2000 *Data Recovery Excavations Conducted at Archaeological Site CA-SDI-10,238 (SDM-W-36) Locus B, Solana Beach, San Diego County, California*. Mooney & Associates, San Diego. Prepared for the City of Solana Beach. Report on file at ICF Jones & Stokes, San Diego.

Corum, Joyce
1985 First Addendum Archaeological Survey Report for Proposed State Route 52 Santo Road to State Route 67. Report on file at the South Coastal Information Center, San Diego State University, San Diego, California.

Dehoney, Betty
2008 *Edgemoor Facility Demolition Draft Environmental Impact Report.* HDR Engineering, Inc. San Diego. Prepared for the County of San Diego Department of General Services. On file with the County of San Diego, San Diego.

Des Lauriers, Matthew R.
2008 A Paleoindian Fluted Point from Isla Cedros, Baja, California. *Journal of Island & Coastal Archaeology* 3:271–276.

Dillion, Brian D.
2002 California Paleo-Indians: Lack of Evidence, or Evidence of a Lack? In *Essays in California Archaeology: A Memorial to Franklin Fenenga*. Edited by William J. Wallace and Francis A. Riddell. Contributions of the University of California Archaeological Research Facility, No. 60. Berkeley, California.

Dominici, Debra A., and Joyce M. Corum
1985 *Data Recovery Report of Archaeological Phase III Excavation and Analysis at CA-SDI-5680 (Nelson Site) 11-SD-67, PM 3.4 to 5.4, 209 – 8666*. Report prepared by the California Department of Transportation (Caltrans), District 11, San Diego, California and on file at the South Coastal Information Center (SCIC), San Diego State University.

Duran, C., B. Campbell, and H. Haas
2015 DPR Site form for P-37-005669/CA-SDI-5669. Rincon Consultants, Inc. On file at the South Coastal Information Center (SCIC), San Diego State University

Erlandson, Jon M., Torben C. Rick, Terry L. Jones, and Judith F. Porcasi
2007 One If by Land, Two If by Sea: Who Were the First Californians? In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 53–62. Altamira Press, Lanham, Maryland.

Ezell, Paul H.
1987 The Harris Site – an Atypical San Dieguito Site, or Am I Beating a Dead Horse? In *San Dieguito–La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 15-22. San Diego County Archaeological Society Research Paper Number 1. San Diego.

Farris, Glenn J.
1994 José Panto, Capitan of the Indian Pueblo of San Pascual, San Diego County. *The Journal of California and Great Basin Anthropology* 16(2): 149–161-41.

Fitzgerald, Richard T., and Michael F. Rondeau
2012 A Fluted Projectile Point from Crystal Cove State Park, Orange County, Alta California. *California Archaeology* 4(2):247-256.

Fryman, Leslie R.
2012 *Information Regarding the Stowe Trail, for the Pardee Homes Castlerock Project, Santee, San Diego County, California.* ASM Affiliates, San Diego.

Gallegos, Dennis R.
1985 Batiquitos Lagoon Revisited*. Casual Papers Cultural Resource Management* 2(1). Department of Anthropology, San Diego State University, California.

1987 A Review and Synthesis of Environmental and Cultural Material for the Batiquitos Lagoon Region. In *San Dieguito-La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 23-34. San Diego County Archaeological Society, Research Paper Number 1. San Diego.

1995 A Review and Synthesis of the Archaeological Record for the Lower San Diego River Valley. *Proceedings of the Society for California Archaeology* 8:195–206.

1991 Antiquity and Adaptation at Agua Hedionda, Carlsbad, California. In *Hunter-Gatherers of Early Holocene Coastal California*, edited by Jon M. Erlandson and Roger H. Colten., pp. 19–42. Perspectives in California Archaeology, Vol. 1, Jeanne E. Arnold, series editor. Institute of Archaeology, University of California, Los Angeles.

Gallegos, Dennis R., and Carolyn Kyle
1998 *Five Thousand Years of Maritime Subsistence at CA-SDI-48 on Ballast Point, San Diego County, California*. Archive of California Prehistory no. 40. Coyote Press, Salinas.

Gifford, E. W.
1940 California Bone Tools. *Anthropological Records* 3:2, Berkeley.

Gross, G. Timothy, and Mary Robbins-Wade

1992 *Investigations at Sabre Springs (CA-SDi-6669, SDM-W-230): A Multicomponent Site Located near Poway, San Diego County, California*. Report prepared for Pardee Construction Company, San Diego, by Affinis, El Cajon, and on file at HELIX Environmental Planning, Inc., La Mesa, California.

2010 *Cultural Resources Survey and Evaluation Report: Lazy A Ranch, Alpine, San Diego County, California GPA 07-010, REZ 07-011, LOG NO. 07-15-003, SP 07-002, TM 5546, P 07-016.* Affinis, El Cajon, CA. Draft report submitted to County of San Diego Department of Planning and Land Use and on file at HELIX Environmental Planning, Inc., La Mesa, CA.

Hall, Clarence A., Jr.

2007 *Introduction to the Geology of Southern California and its Native Plants*. University of California Press, Berkeley.

Harrington, John Peabody

1925 *The Papers of John Peabody Harrington in the Smithsonian*. Volume 3 Reel 169; Diegueno, U. S. Fieldnotes 1925-1927. Frames 494, 496, 547, 549, 329, 562, 468, 19, 59, 571, 578, 588, 590, 597, 598, 601, 602, 632, 634, 642, 741, 766. National Anthropological Archives, Washington D. C.

Head, W.S.

1952a Valley Mission Rule Ends as Rancho Era Begins. *El Cajon Valley News*. Available at: https://web.archive.org/web/20181118141729/http://elcajonhistory.org/echs_elcajonstory.html, accessed May 19, 2022.

1952b Valley Land Purchases Have Conflicting Story. *El Cajon Valley News*. Available at: https://web.archive.org/web/20181118141729/http://elcajonhistory.org/echs_elcajonstory.html, accessed May 19, 2022.

1952c Sale of El Cajon Ranch for $1 Per Acre Showed Profit. *El Cajon Valley News*. Available at: https://web.archive.org/web/20181118141729/http://elcajonhistory.org/echs_elcajonstory.html, accessed May 19, 2022.

1952d Chase's Investment in Valley Termed 'Foolish' By Associates. *El Cajon Valley News*. Available at: https://web.archive.org/web/20181118141729/ http://elcajonhistory.org/echs_elcajonstory.html, accessed May 19, 2022.

1972 *The California Chaparral: an Elfin Forest*. Naturegraph, Healdsburg, California.

Hector, Susan

1981 Investigations Conducted at Archaeological Site SDM-W-2409 (SDi-7603) Santee, California. RECON. Report on file at the South Coastal Information Center, San Diego State University, San Diego, California.

1988 A Cultural Resources Survey of the Proposed East Elliott Community Planning Area. Report on file at the South Coastal Information Center, San Diego State University, San Diego, California.

Hector, Susan (cont.)
2006 Cultural Resources Study for the Maintenance of Old Mission Dam, Mission Trails Regional Park, San Diego, California. Report on file at the South Coastal Information Center, San Diego State University, San Diego, California.

Hedges, Ken, and Christina Beresford
1986 *Santa Ysabel Ethnobotany*. San Diego Museum of Man Ethnic Technology Notes No. 20.

Hedges, Ken, and Diane Hamann
1995 DPR Site Record form for P-37-004505/CA-SDI-4505. Form on file at the South Coastal Information Center, San Diego State University.

Hood, Del
1981 El Cajon Valley grew from $500 debt payment. *The Daily Californian*. Electronic resource, available at https://elcajonhistory.org/echsmedia/pdf/500debtpayment.pdf, accessed May 19, 2022.

Hyland, Justin R., and Maria De La Luz Gutierrez
1995 An Obsidian Fluted Point from Central Baja California. *The Journal of California and Great Basin Anthropology* 17(1): 126–128.

Jackson, Robert, Michael Boynton, William Olsen, and Richard Weaver
1988 *California Archaeological Resource Identification and Data Acquisition Program: Sparse Lithic Scatters. A Program for the Identification and Management of an Archaeological Resource Class*. Office of Historic Preservation, Sacramento.

Jacques, Terri E., and Dennis K. Quillen
1983 *Archaeological and Historical Impact Report for Sycamore Canyon State Vehicular Recreation Area.* Report on file at the South Coastal Information Center, San Diego State University.

Jordan, Stacey C., Theodore G. Cooley, and Andrea M. Craft
2008 *Cultural Resources Phase I Survey and Inventory, Sycamore Canyon and Goodan Ranch Preserves, San Diego County, California.* Unpublished report prepared by ICF-Jones & Stokes, for, and on file with, the San Diego County Department of Parks and Recreation.

Kline, George E., and Victoria L. Kline
2007 Fluted Point Recovered from San Diego County Excavation. *Proceedings of the Society for California Archaeology* 20:55–59.

Knell, Edward J., and Mark S. Becker
2017 Early Holocene San Dieguito Complex Lithic Technologies at the C.W. Harris Site, San Diego County, California. *Journal of California and Great Basin Anthropology* 37(2):183-201.

Koerper, Henry C., Paul E. Langenwalter II, and Adella Schroth
1991 Early Holocene Adaptations and the Transition Phase Problem: Evidence from the Allan O. Kelly Site, Agua Hedionda Lagoon. In *Hunter-Gatherers of Early Holocene Coastal California*, edited by Jon M. Erlandson and Roger H. Colton, pp. 43–62. Perspectives in California Archaeology, Vol. 1, Jeanne E. Arnold, series editor. Institute of Archaeology, University of California, Los Angeles.

Kroeber, Alfred
1925 *Handbook of California Indians*. Dover, New York. *Bulletin 78* of the Bureau of American Ethnology of the Smithsonian Institution. Reprint (1976); Dover Publications, New York.

Kyle, Carolyn
2003 Cultural Resource Survey for the Town Center Park, City of Santee, California. Kyle Consulting. Report on file at the South Coastal Information Center, San Diego State University.

Lay, Eldonna
1989 *Valley of Opportunity: The History of El Cajon.* Eldonna P. Lay & Associates: El Cajon, California.

Luomala, Katherine
1978 Tipai-Ipai. In *California*, edited by Robert F. Heizer, pp. 592-608. *Handbook of North American Indians*, vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Masters, Patricia M., and Ivano W. Aiello
2007 Postglacial Evolution of Coastal Environments. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 25–51. Altamira Press, Lanham, Maryland.

Masters, Patricia M., and Dennis R. Gallegos
1997 Environmental Change and Coastal Adaptations in San Diego during the Middle Holocene. In *Archaeology of the California Coast during the Middle Holocene*, edited by Jon M. Erlandson and Michael A. Glassow. pp. 11–23. Perspectives in California Archaeology, Vol. 4, Jeanne. Arnold, series editor. Institute of Archaeology, University of California, Los Angeles.

McCown, B.E.
1945 An Archaeological Survey of the San Vicente Lake Bed, San Diego County, California. *American Antiquity* 10: 255–264.

McDonald, Meg
1995 *Phase II Evaluation of Six Prehistoric Sites in Ames Valley, Cleveland National Forest, San Diego, California*. Report prepared by ASM Affiliates for the U.S. Forest Service, Cleveland National Forest, San Diego California. Report on file at the Cleveland National Forest, Supervisor's Office, San Diego.

McDonald, Meg, and James D. Eighmey
2008 Late Period Prehistory in San Diego. In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. Prepared for the Metropolitan Wastewater Department, City of San Diego. ASM Affiliates, Encinitas, California.

McDonald, Meg, Carol Ser, and Daniel M. Sanders
1994 Phase III Data recovery of CA-SDI-9243, A Multicomponent Prehistoric Site in the San Diego River Valley, Santee, California. Mooney and Associates: San Diego, CA. Prepared for State of California Department of Transportation District 11. Ms. on file at South Coastal Information Center, San Diego State University.

Meighan, C. W.
1954 A Late Complex in Southern California Prehistory. *Southwestern Journal of Anthropology* 10(2):215-227.

Monserrate, Laurence
1995 Final and Draft Mitigation Monitoring and Reporting Program for the East Mission Gorge Trunk Sewer Rehabilitation Project San Diego, California. Report on file at the South Coastal Information Center, San Diego State University, San Diego, California.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, Orlando.

Moriarty, James R., III
1966 Cultural Phase Divisions Suggested by Typological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego. *The Anthropological Journal of Canada* 4 (4):20-30.

1967 Transitional Pre-Desert Phase in San Diego County. *Science* (155):37–62.

1968 The Environmental Variations of the Yuman Area of Southern California, Parts I and II. *Anthropological Journal of Canada* 6(2):1–20 and 6(3):9–23.

Munz, Philip A.
1974 *A Flora of Southern California*. University of California Press, Berkeley.

Natural Resource Conservation Service
1997 Antioch Series. United States Department of Agriculture. Electronic document available at: https://soilseries.sc.egov.usda.gov/OSD_Docs/A/ANTIOCH.html, accessed on April 21, 2021.

2003 Fallbrook Series. United States Department of Agriculture. Electronic document available at: https://soilseries.sc.egov.usda.gov/OSD_Docs/F/FALLBROOK.html, accessed on April 21, 2021.

2017 Diablo Series. United States Department of Agriculture. Electronic document available at: https://soilseries.sc.egov.usda.gov/OSD_Docs/D/DIABLO.html, accessed on April 21, 2021.

Natural Resource Conservation Service (cont.)
2021 Web Soil Survey. United States Department of Agriculture. Electronic document, available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed March 2020.

NETR Online
2022 Historic Aerials. Nationwide Environmental Title Research, LLC. Electronic document available at: http://www.historicaerials.com, accessed May 24, 2022.

Office of Historic Preservation
n.d. California Register of Historical Resources: Criteria for Designation. Available online at https://ohp.parks.ca.gov/?page_id=21238. Accessed on September 7, 2023.

Ogden, Hoffman
1862 *Reports of Land Cases Determined in the United States District Court for the Northern District of California,* Numa Hubert, San Francisco.

Padre Dam Municipal Water District (District)
2016 Strategic Plan Update: 2012-2022. http://www.padredam.org/DocumentCenter/View/2461/Strategic-Plan-2016-Update?bidId=, accessed May 19, 2022.

Parker, Patricia L., and Thomas F. King
1998 *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. National Park Service, Washington, D.C.

Pigniolo, Andrew R.
2004 Points, Patterns, and People: Distribution of the Desert Side-Notched Point in San Diego. *Proceedings of the Society for California Archaeology* 14:27–40.

2005 A Different Context: San Dieguito in the Mountains of Southern California. *Proceedings of the Society for California Archaeology* 18:247–254.

Pigniolo, Andrew, Theodore G. Cooley, Joyce M. Clevenger, and Lynne E. Christenson
1991 *The Archaeology of a La Jolla Complex Coastal Camp: Data Recovery at CA-SDI-10,945, Point Loma Naval Facilities, San Diego, California.* Report on file at the South Coastal Information Center, San Diego State University.

Polan, K.
1978 DPR Site Form for P-37-005669/CA-SDI-5669. On file at the South Coastal Information Center, San Diego State University.

Price, Harry
2005 Santee Town Center Specific Plan Amendment, Appendixes to the Draft Master Environmental Impact Report. RECON. Report on file at the South Coastal Information Center, San Diego State University.

Pryde, Philip R.
2004 *San Diego: an Introduction to the Region*. Sunbelt Publications; 4th edition.

Pourade, Richard F.
1969 *Historic Ranchos of San Diego.* A Copley Book, Union-Tribune Publishing, San Diego.

Raven-Jennings, Shelly, and Brian F. Smith
1999 *Report of Excavations at CA-SDI-4608: Subsistence and Technology Transitions during the Mid-to-Late Holocene in San Diego County*. Brian F. Smith and Associates. Report prepared for the City of Poway. Report on file at the South Coastal Information Center, San Diego State University.

Rogers, Malcolm J.
1929 The Stone Art of the San Dieguito Plateau. *American Anthropologist* 31:451-467.

1939 Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas. San Diego Museum of Man Papers No. 3. San Diego Museum of Man.

1938 Archaeological and Geological Investigations of the Cultural Levels in and Old Channel of the San Dieguito Valley. *Carnegie institution of Washington Yearbook*, No. 37 (for 1937-1938), pp. 344-345.

1966 *Ancient Hunters of the Far West*, edited by R. F. Pourade, pp. 21–108. Copley Press, La Jolla, California.

Rondeau, Michael F., James Cassidy, and Terry L. Jones
2007 Colonization Technologies: Fluted Projectile Points and the First Californians. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar. AltaMira Press, Lanham, Maryland.

Santee Historical Society
2020 History of Edgemoor Stock Farm. Electronic Document, available at: http://santeehistoricalsociety.org/exhibits/our-collections/edgemoor-history. Accessed May 19, 2022.

Scott, Chloris
1981 Our valley: "You've come a long way". *The Daily Californian*. Available at: https://web.archive.org/web/20170108015429/http:/elcajonhistory.org/pdf/our_valley.PDF, accessed May 19, 2022.

Shumway, George, Carl L. Hubbs, and James R. Moriarty
1961 Scripps Estates Site, San Diego, California: A La Jolla Site Dated 5,460 to 7,370 Years Before the Present. *Annals of the New York Academy of Sciences* 93(3):37–132.

Smith, Brian F., and James R. Moriarty
1985 *The Excavations at Site W-20, the Sierra del Mar Project. A Site Occupied by the La Jolla Complex from 7,140 B.P. (5,190 B.C.) to 2,355 B.P. (400 B.C.) on the Shores of Los Peñasquitos Lagoon near Del Mar, California*. Brian F. Smith and Associates, Poway. Prepared for Dr. Victor Fargo, Fargo Industries. Report on file at the South Coastal Information Center, San Diego State University.

Sorlie, H.E.
1985 *Historical Resources Letter Report for the Edgemoor Senior Center Expansion, Santee, San Diego County, California*. County of San Diego, Department of Public Works. On file at the South Coastal Information Center, San Diego State University.

Stevens, Leonard A.
1971 The Town That Launders Its Water. Coward, McCann &Geoghegan, Inc. New York. Copy available at Padre Dam Municipal Water District.

Stiegler, Ione R. and Jaye Furlonger
2008 *Edgemoor Farm Historical Resources Evaluation Report*. IS Architecture, La Jolla. Prepared for Heritage Architecture and Planning. Report on file at HELIX Environmental Planning, La Mesa.

Sutton, Mark Q., and Donn R. Grenda
2012 Defining Level 1 at Malaga Cove (CA-LAN-138), Alta California. *California Archaeology* 4(1):123–144.

Tan, Siang S.
2002 *Geologic Map of the El Cajon 7.5 Minute Quadrangle, San Diego County, California*. Digital preparation by Jonathan Williams and Sybil Jorgensen. California Geological Survey, California Department of Conservation, California Geological Survey.

Thesken, Jay
1984 DPR Site form for P-37-010148/CA-SDI-10148. Form on file at the South Coastal Information Center, San Diego State University.

Trafzer, Clifford E., and Richard L. Carrico
1992 American Indians: The County's First Residents. Chapter 4, in *San Diego: an Introduction to the Region*, edited by Philip R. Pryde. Kendall/Hunt Publishing, Dubuque, Iowa.

True, D.L.
1958 An Early Complex in San Diego County, California. *American Antiquity* 23(3): 255–263.

1970 *Investigation of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California*. Monograph 1. Archaeological Survey, University of California, Los Angeles.

1980 The Pauma Complex in Northern San Diego County: 1978. *Journal of New World Archaeology* 3(4): 1–30. Institute of Archaeology, University of California, Los Angeles.

True, D.L., and Eleanor Beemer
1982 Two Milling Stone Inventories from Northern San Diego County, California. *Journal of California and Great Basin Anthropology* 4(2):233–261.

True, D.L., and Paul D. Bouey
1990 Gladishill: A Probable San Dieguito Camp near Valley Center, California. *Journal of New* World Archaeology VII(4):1–28.

True, D.L., and Georgie Waugh
1982 Proposed Settlement Shifts during San Luis Rey Times: Northern San Diego County, California. *Journal of California and Great Basin Anthropology* 4(1):34–54.

USGS Online Historical Topographic Map Explorer
2020 *USGS Historical Topographic Map Explorer*. Electronic document available at: http://www.historicalmaps.arcgis.com/usgs/, accessed March 2020.

United States v. Sutherland, 60 U.S. 363
1856 United States Supreme Court.

Vaughan, Sheila J.
1982 *A Replicative Systems Analysis of the San Dieguito Component at the C.W. Harris Site.* Master's thesis, Department of Anthropology, University of Nevada, Las Vegas.

Wallace, William J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214-230.

Warren, Claude N.
1967 The San Dieguito Complex: A Review and Hypothesis. *American Antiquity* 32:168-185.

1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, edited by C. Irwin-Williams, pp. 1–14. *Eastern New Mexico Contributions in Anthropology* 1(3). Portales, New Mexico.

1987 The San Dieguito and La Jolla: Some Comments. In, *San Dieguito – La Jolla: Chronology and Controversy*, edited by D.R. Gallegos, pp. 73–85. San Diego County Archaeological Society Research Paper No. 1.

2012 Environmental Stress and Subsistence Intensification: Late La Jolla on the San Diego Coast (3000 B.C. to A.D. 500). *California Archaeology* 4(1):39-54.

Warren, Claude N. (editor)
1966 *The San Dieguito Type Site: M. J. Rogers' 1938 Excavation on the San Dieguito River*. San Diego Museum Paper No. 6, San Diego, California.

Warren, Claude N., and H.T. Ore
2011 Age of the San Dieguito Artifact Assemblage at the C. W. Harris Site. *Journal of California and Great Basin Anthropology* 31(1): 81–97.

Warren, Claude N., and D.L. True
1961 The San Dieguito Complex and Its Place in San Diego County Prehistory. *Archaeological Survey Annual Report*, *1960–1961*, pp. 246–291. University of California, Los Angeles.

Warren, Claude N., D.L. True, Ardith A. Eudey
1961 Early Gathering Complexes of Western San Diego County. *Archaeological Survey Annual Report, 1960–1961*, pp. 1–106. University of California, Los Angeles.

Warren, Claude N., Gretchen Siegler, and Frank Dittmer
2008 Paleoindian and Early Archaic Periods. In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. Draft. ASM Affiliates. Report submitted to Metropolitan Wastewater, San Diego.

Willey, H.I.
1886 Report of the Surveyor General of the State of California from August 1, 1884 to August 1, 1886. Sacramento, California. Available at: http://www.slc.ca.gov/wp-content/uploads/2018/08/Willey_1884_1886.pdf, accessed in July 2020.

Willey, Loraine M., and Christy Dolan
2004 *Above and Below the Valley: Report on Data Recovery at San Vicente Reservoir, San Diego County, California.* EDAW, San Diego. Prepared for the San Diego County Water Authority. Report on file at the South Coastal Information Center, San Diego State University.

Winterrowd, Cathy L., and D. Seán Cárdenas
1987 *An Archaeological Indexing of a Portion of the Village of La Rinconada de Jamo SDI-5017 (SDM-W-150)*. RBR & Associates, Inc., San Diego. Submitted to the City of San Diego, Planning Department. Report on file at South Coastal Information Center, San Diego State University.

Zepeda-Herman, Carmen, and Harry Price
2016 *Mission Trails Regional Park Master Plan Update and Natural Resources Management Plan Programmatic Environmental Impact Report: Cultural Resources Report.* Report prepared by RECON Environmental, Inc. for the City of San Diego Planning Department, available at: https://www.sandiego.gov/sites/default/files/app_c_cultural_resources_report_0.pdf, accessed April 2021.

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Appendix A

Resumes

MARY ROBBINS-WADE, RPA

Cultural Resources Group Manager

Ms. Robbins-Wade is HELIX's Cultural Resources Group Manager and Principal Archaeologist. With 43 years of experience, she manages and oversees archaeological, historic, and interpretive studies and programs, including contract management; design and implementation of survey, research, data recovery, and construction monitoring programs; preservation plans and report preparation. Ms. Robbins-Wade has experience with a broad range of project types, including private developments and public infrastructure. She manages the preparation of cultural resources studies both as stand-alone reports and also in support of CEQA and NEPA compliance efforts. Ms. Robbins-Wade has a strong working knowledge of local, state, and federal laws addressing the protection of archaeological and historical resources. Her Native American consultation experience includes coordinating Native American tribal consultations conducted pursuant to CEQA as revised by Assembly Bill 52 (2014 Session), as well as providing support for federal agency government-to-government consultations with federally recognized tribes pursuant to Section 106 of the National Historic Preservation Act (NHPA). Ms. Robbins-Wade is a Registered Professional Archaeologist (RPA) and meets the U.S. Secretary of the Interior's Professional Qualifications for prehistoric and historic archaeology.

Lake Elsinore Honda (Archaeological Services). Project Manager/Principal Investigator for a cultural resources survey of a proposed auto dealership project in the City of Lake Elsinore. Oversaw background research and field survey; responsible for Native American coordination and report preparation. Work performed for David Evans Associates, with the City of Lake Elsinore as the lead agency.

Diaz Road Expansion, PW17-25. Principal Investigator/Cultural Resources Task Lead for cultural resources survey in support of an IS/MND for proposed city infrastructure improvements associated with the widening and construction of Diaz Road in the City of Temecula. The cultural resources study included tribal outreach and coordination to address the cultural sensitivity of the project area. Oversaw cultural resources study; responsible for tribal outreach and senior oversight on technical report. Work performed for David Evans and Associates, with the City of Temecula as the lead agency.

Windsong/Skylar Place Residential Project (TTM 38123). Principal Cultural Resources Specialist for a proposed residential development in the City of Moreno Valley. The project includes construction of 177 single-family residential lots, a 2.2-acre park, water quality retention basins, open space areas, underground utilities, and internal streets/sidewalks. Responsibilities include providing senior technical oversight and quality control for cultural resources survey and technical report. Work performed for DR Horton with the City of Moreno Valley as lead agency.

Judson Potable Water Storage Tank and Transmission Pipeline IS/MND. Cultural Resources Task Lead for this project in the City of Moreno Valley. Eastern Municipal

EDUCATION

Master of Arts, Anthropology, San Diego State University, 1990

Bachelor of Arts, Anthropology, University of California, Santa Barbara, 1981

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Archaeologist No. 10294

Caltrans, Professionally Qualified Staff-Equivalent Principal Investigator for Prehistoric Archaeology

Bureau of Land Management Statewide Cultural Resource Use Permit (California), FLPMA Permit No. CA-18-35

County of San Diego, Approved CEQA Consultant for Archaeological Resources

Orange County Approved Archaeologist

Riverside County Approved Cultural Resources Consultant

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

San Diego Archaeological Center

San Diego History Center

San Diego Museum of Us

San Diego County Archaeological Society

Water District is proposing the construction and operation of a steel, 2.2-million-gallon (MG) potable water storage tank, approximately 2,300 linear feet of 18-inch-diameter transmission pipeline, a paved access road, a detention basin, and other appurtenances to support tank operations. Oversaw background research and field survey. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

EMWD Fox Tank Replacement IS/MND. Cultural Resources Task Lead for this project in the Mead Valley community of unincorporated Riverside County. Eastern Municipal Water District proposed to construct and operate a new 1.0-million-gallon (MG) welded steel water tank and 0.15-MG detention basin, install a new 12-inch-diameter pipeline within Fox Street and Ellis Road to connect the new tank to the existing water distribution network, and demolish the existing 0.15-MG Orange Tank. Oversaw background research, field survey, and report preparation. Responsible for Native American outreach for cultural resources survey. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Cactus II Feeder Transmission Pipeline IS/MND. Cultural Resources Task Lead for this project in the City of Moreno Valley. Eastern Municipal Water District proposed to construct approximately five miles of new 30-inch to 42 inch-diameter pipeline; the project would address existing system deficiencies within the City and provide supply for developing areas. Oversaw background research, field survey, and report preparation. Responsible for Native American outreach for cultural resources survey. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Sky Canyon Sewer Environmental Consulting. Cultural Resources Task Lead for this project adjacent to the City of Murrieta in southwestern Riverside County. Eastern Municipal Water District (District) proposed to implement the Sky Canyon Sewer Main Extension Project to construct approximately 6,700 linear feet of new gravity-fed 36-inch-diameter sewer main to provide additional sewer capacity for planned development. The proposed 36-inch-diameter sewer main would extend the existing 36-inch-diameter French Valley Sewer at Winchester Road further downstream to Murrieta Hot Springs Road. Oversaw background research and field survey for the cultural resources study in support of the IS/MND. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Assisted District with Native American outreach and consultation under AB 52. Work performed under an as-needed contract for Eastern Municipal Water District.

Dale 2199C Pressure Zone Looping Pipeline Project. Cultural Resources Task Lead for this project in Moreno Valley. Eastern Municipal Water District proposed construction of a new pipeline to connect two existing pipelines in the District's 2199C Pressure Zone. The pipeline would consist of an 18-inch-diameter pipeline between Kitching Street and Alta Vista Drive that would connect to an existing 12-inch-diameter pipeline in the northern end of Kitching Street and to an existing 18-inch-diameter pipeline at the eastern end of Alta Vista Drive. The project will improve reliability and boost the Dale Pressure Zone's baseline pressure and fire flow availabilities. Four potential alignments were under consideration; three of these bisect undeveloped land to varying degrees, while the other is entirely situated within developed roadways. Oversaw background research and field survey. Responsible for Native American outreach for cultural resources survey and co-authored technical report. Work performed under an as-needed contract for Eastern Municipal Water District.

Purified Water Replenishment Environmental Impact Report. Cultural Resources Task Lead for a project that would replenish the San Jacinto Upper Pressure Groundwater Management Zone aquifer with advanced treated water. New facilities are proposed to include advanced water treatment facilities and brine ponds near Eastern Municipal Water District's (EMWD) existing San Jacinto Valley Regional Water Reclamation Facility, a blending facility at the existing Alessandro Ponds, and water conveyance pipelines. Oversaw background research, field

survey, and report preparation and was responsible for Native American outreach and coordination. Work performed for EMWD.

Warm Springs Lift Station Replacement. Cultural Resources Task Lead/Principal Investigator for a cultural resources survey of this lift station replacement project in Temecula. The project is adjacent to Murrieta Creek, in an area that is of cultural significance to the Luiseño people. Oversaw background research, field survey, and report preparation. Responsible for Native American outreach and coordination; coordinated with Pechanga Cultural Resources on Native American concerns. Work performed for Eastern Municipal Water District.

Seraphina Project. Principal Investigator/Cultural Resources Task Lead for a cultural resources study in conjunction with biological permitting for a proposed residential development and associated drainage improvements along Santa Gertrudis Creek in the City of Temecula, Riverside County. The cultural resources study includes a records search and background research, Native American coordination and contacting the Native American Heritage Commission, field survey, coordination with U.S. Army Corps of Engineers, and preparation of a report addressing the National Historic Preservation Act Section 106 compliance. Work was performed for Hillcrest Homes, with the City of Temecula as the lead agency.

Downtown Riverside Metrolink Station Track & Platform Project. Cultural Resources Task Lead for this project involving changes to and expansion of the Downtown Metrolink Station in Riverside. Oversaw records search and background information, archaeological survey, and report preparation; served as primary report author. Responsible for coordination with Native American Heritage Commission, Riverside County Transportation Commission (RCTC), and Federal Transportation Authority (FTA) on Native American outreach. Work performed for Riverside County Transportation Commission as a subconsultant to HNTB Corporation.

Eastern Municipal Water District Well 59 Wellhead Treatment Facilities IS/MND. Senior Archaeologist providing quality control and oversight for cultural resources survey and report for this project, in the City of Moreno Valley, which includes a background research, field survey, report preparation, and Native American outreach. HELIX is performing an environmental review and CEQA document preparation, including assisting EMWD with Native American consultation in accordance with Assembly Bill 52. The project consists of the evaluation and design of wellhead treatment facilities to remove perfluorinated compounds from the existing Well 59. The approximately 0.68-acre project site is located within the 1627 zone, at the intersection of Nance Street and Indian Avenue. Work performed for Kennedy Jenks Consultants with EMWD as the lead agency.

EVMWD Near Term Water Supply Program, On-call Professional Environmental Services. Cultural Resources Task Lead/Principal Investigator for an on-call services contract to provide environmental services for water supply projects. Work performed for Elsinore Valley Municipal Water District. Diamond Regional Lift Station and Pipeline Project (2016 - 2018). Cultural Resources Task Lead/Principal Investigator for a cultural resources survey of the proposed Diamond Regional Lift Station project in the City of Lake Elsinore, located at the confluence of the San Jacinto River at the eastern shoreline of Lake Elsinore. Oversaw background research, field survey, site record updates, Native American coordination, and report preparation. Coordinated with Pechanga Cultural Resources on Native American concerns and development of mitigation measures for the project. Work performed for Elsinore Valley Municipal Water District (EVMWD). Regional Agricultural Pipeline Conversion Project (2016 - 2018). Cultural Resources Task Lead for the cultural resources study and archaeological monitoring for the proposed Ag Pipeline Conversion project, a three-agency partnership between Elsinore Valley Municipal Water District (EVMWD), the City of Lake Elsinore, and the Riverside County Flood Control and Water Conservation District (RCFCWCD). In conjunction with the cultural resources study, met with Pechanga Cultural Resources staff several times to discuss Native American concerns and alternative project approaches, due to the presence of extremely sensitive cultural resources. Assisted EVMWD with AB 52 consultation. Worked closely with tribal cultural monitors from two Tribes during construction monitoring. Work performed EVMWD.

Rady Murrieta Project. Principal Investigator/Cultural Resources Task Lead for a medical office building project in the City of Murrieta, Riverside County. The cultural resources survey included a records search at the Eastern Information Center, Sacred Lands File search from the Native American Heritage Commission (NAHC), tribal outreach and coordination, a field survey, and preparation of a report per CEQA and City requirements. Work was performed for Rady Children's, with the City of Murrieta as the lead agency.

Murrieta Hot Springs Road Improvements Project. Principal Investigator/Cultural Resources Task Lead for cultural resources survey in support of an IS/MND for the widening of Murrieta Hot Springs Road in the City of Murrieta. The project would widen/restripe Murrieta Hot Springs Road between Winchester Road and Margarita Road from four to six lanes, to improve traffic flow and provide bike lanes, a raised median, light poles, signage, stormwater catch basins, retaining walls, and sidewalks. The cultural resources study included tribal outreach and coordination to address the cultural sensitivity of the project vicinity. Oversaw cultural resources study; responsible for tribal outreach and senior oversight on technical report. Work performed for SB&O, Inc., with the City of Murrieta as the lead agency.

12 Oaks Winery Resort. Project Manager/ Principal Investigator for a cultural resources survey of approximately 650 acres for a proposed project in the County of Riverside. Oversaw background research, field survey, site record updates, Native American coordination, and report preparation. Met with Pechanga Cultural Resources staff to discuss Native American concerns. Worked with applicant and Pechanga to design the project to avoid impacts to cultural resources. Work performed for Standard Portfolio Temecula, LLC, with the County of Riverside as lead agency.

Oak Valley Town Center. Principal Cultural Resources Specialist/Cultural Resources Task Lead for a mixed-use project in the City of Calimesa, Riverside County. Proposed uses would include approximately 2,250,000 square feet of warehouses and approximately 751,800 square feet of commercial retail uses. Serving as lead for the cultural resources survey and historic resources evaluation, as well as cultural resources monitoring program (upcoming). Work performed for Terra Verde Group, with the City of Calimesa as the lead agency.

EMWD Quail Valley III Regional Water Tank Environmental Consulting. Cultural Resources Task Lead for a cultural resources survey for a proposed 1.63-million-gallon potable water storage tank in the City of Menifee. Overseeing background research, field survey, and report preparation. Responsible for Native American outreach and coordination. Work performed for Pulte Group, with Eastern Municipal Water District as the CEQA lead agency.

French Valley South Tract 30837 Project. Principal Investigator for a 153-acre residential project in the unincorporated community of French Valley, Riverside County. Oversaw background research, field survey, site record updates, Native American coordination, and preparation of a cultural resources report update in support of wetland permitting. The project proposes construction of 312 single-family residences.

Moreno Valley Tentative Tract Map 36760 Project. Principal Investigator for a cultural resources survey of a 53-acre site in the City of Moreno Valley, Riverside County. Oversaw background research, field survey, site record updates, Native American coordination, and preparation of a cultural resources report. Project proposed construction of 221 single-family residences, including the installation of necessary utilities and new connecting roadways.

Wildomar Crossings Retail Development Project. Principal Investigator for a cultural resources survey for a proposed retail development project in the City of Wildomar in Riverside County. The cultural resources survey included a records search, Sacred Lands File search and Native American outreach, review of historic maps and aerial photographs, an intensive field survey, and report preparation. Work performed for Mann Property Company, with the City of Wildomar as the lead agency.

Roripaugh Ranch Phase 2. Principal Investigator/Cultural Resources Task Lead for a cultural resources study in conjunction with biological permitting for roadway and drainage improvements along Santa Gertrudis Creek in the City of Temecula, Riverside County. The cultural resources study includes a records search and background research, Native American coordination and contacting the Native American Heritage Commission, field survey, coordination with U.S. Army Corps of Engineers, and preparation of a report addressing the National Historic Preservation Act Section 106 compliance. Work performed for Roripaugh Valley Restoration, LLC.

Lake Elsinore MEBO Resort Project. Cultural Resources Task Lead/Principal Investigator for a cultural resources survey of off-site parcels for a proposed resort development in the City of Lake Elsinore. Met with client and Pechanga to discuss the significance of cultural resources within and adjacent to the project site. Oversaw background research and field survey, responsible for Native American coordination and report preparation. Work performed for LK Investment Group, with the City of Lake Elsinore as the lead agency.

Yum Donuts Moreno Valley Project. Cultural Resources Lead and Project Manager for a project in the City of Moreno Valley that proposed to develop a vacant lot for a 5,515-square foot Yum Donuts restaurant and convenience store with car wash and gas station. HELIX provided technical reports (cultural resources and air quality/greenhouse gas analysis) and the Initial Study/Mitigated Negative Declaration. Oversaw cultural resources study and provided senior technical review. Work performed for A&S Engineering with City of Moreno Valley as the lead agency.

Ramona E-Commerce Warehouse Park EIR. Principal Cultural Resources Specialist/Cultural Resources Task Lead for a Specific Plan Amendment in the City of Perris, Riverside County to allow for 247,884 square feet of small-scale warehousing with 39 dock positions for delivery trucks, 415 parking stalls, a groundwater basin, and landscaping improvements. Led the cultural resources survey and technical report. Responsible for Native American outreach and coordination, served as primary report author, and oversaw archaeological fieldwork. Work performed for JM Realty Group, with the City of Perris as lead agency.

EDUCATION

Master of Arts, Anthropology, San Diego State University, 2018

Bachelor of Arts, Biology and Anthropology, San Diego State University, 2015

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Archaeologist No. 17338

PROFESSIONAL AFFILIATIONS

Society for Historical Archaeology

Society for California Archaeology

JAMES TURNER

Staff Archaeologist

Mr. Turner is a Registered Professional Archaeologist (RPA) with a Master's degree in Anthropology and field and college-level teaching experience in archaeology. He has five years of experience in Section 106, the Native American Graves Protection and Repatriation Act (NAGPRA) and writing detailed reports. Mr. Turner has archaeological research and fieldwork expertise throughout southern California. He has also received training in identifying and analyzing animal remains in archaeological contexts, historic artifact identification, and technical writing. Mr. Tuner's experience meets the Secretary of the Interior's Professional Qualification Standards for archaeology.

Coronado Strand Main Replacement. Archaeologist for a 46,300 linear-foot water main replacement in the City of Coronado, San Diego County. Prepared the cultural resource survey report. Work performed for Brown and Caldwell.

Casa de las Campanas Project. Archaeologist for a 10.1-acre expansion of the Casa de las Campanas Continuing Care Facility in San Diego, California. Conducted a field survey of the proposed project areas, as well as assisted with the production of the Archaeological Resources Report Form. Work completed for Casa de las Campanas.

Haymar Easement Protection Project. Archaeologist for an emergency easement erosion prevention project. Prepared cultural resources monitoring report. Work performed for the United States Army Corps of Engineers.

Ocean Beach Dog Beach Accessibility Improvements. Archaeologist for the implementation of Americans with Disabilities Act upgrades to an existing pathway at the Ocean Beach Dog Beach, located in the City of San Diego. Created Monitoring Work Plan. Work performed for the City of San Diego.

Southcrest Green Infrastructure Project. Staff Archaeologist for the replacement and installation of new storm drains and green infrastructure facilities in the community of Southcrest, San Diego. Prepared Native American Heritage Commission Sacred Land File search request. Work performed for the City of San Diego.

Sewer and AC Group 793. Staff Archaeologist for sewer line replacements and improvements in the City of San Diego. Prepared Native American Heritage Commission Sacred Land File Search request letter. Work performed for the City of San Diego.

Bounty & Waring Navajo Canyon Long Term Access Project. Archaeologist for the repair of erosion on a long-term access path for the sewer infrastructure in Navajo Canyon. Performed an intensive pedestrian survey of the project area. Work performed for the City of San Diego.

Stowe Trail Cultural Resources Assessment. Archaeologist for a proposed trail alignment in the Mission Trails Regional Park. Performed background research and assisted with report writing. Work performed for the City of San Diego Parks and Recreation Department.

Clairemont Community Plan Update EIR Phase 1. Archaeologist for the Clairemont Community Plan Update. Performed background research and assisted with preparing the Community Plan Update cultural resources section. Work performed for the City of San Diego.

Aliso Creek Canyon Restoration Project. Archaeologist for an erosion repair project in Lake Forest. Conducted a field survey of the project area, performed background research, and produced a cultural resources report. Work performed for the Orange County Department of Public Works.

Peutz Valley Preserve Cultural Surveys and Report. Archaeologist for the proposed construction of an ecological preserve located in the community of Alpine. Conducted historical and archival research regarding the area surrounding the proposed preserve. Work conducted for the County of San Diego.

Santa Ysabel Nature Center Monitoring. Archaeologist for a proposed 3-mile hiking trail in the unincorporated community of Julian. Performed background research and assisted with report writing. Work performed for the County of San Diego Department of Parks and Recreation.

Lakeside Equestrian Facility Monitoring. Archaeologist for the construction of a 13.91-acre equestrian facility in Lakeside, California. Created cultural resources monitoring plan. Work performed for the County of San Diego.

Greg Cox Bike Skills Park Construction Monitoring. Archaeologist for the construction of a 3.2-acre bike park facility in the Otay Valley Regional Park, San Diego, California. Created cultural resources monitoring plan. Work performed for the County of San Diego.

Diaz Road Expansion, PW17-25. Archaeologist for proposed city infrastructure improvements associated with the widening and/or construction of Diaz Road in the city of Temecula. Prepared cultural resources survey report. Work performed for David Evans and Associates, Inc.

San Jacinto Las Colinas DD. Archaeologist for a development project in the community of San Jacinto. Prepared a due diligence cultural assessment. Work performed for David Evans and Associates, Inc.

Downtown Riverside Metrolink Station Track & Platform Project. Archaeologist for the construction of an additional rail platform and tracks and extension of an existing pedestrian bridge at the existing Riverside-Downtown Station, Riverside. Assisted with report preparation. Work performed for the Riverside County Transportation Commission.

Painted Hills. Archaeologist for a proposed bridge repair program in the Temescal Valley area in Riverside County. Prepared the Phase IV cultural resources monitoring report. Work performed for KB Home.

Temescal Canyon - TR 37153. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 14.8-acre property located in an unincorporated area of Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Wasson Canyon Project. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 74.6-acre property located in the City of Lake Elsinore, Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Rosetta Hills Project. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 49.6-acre property located in the City of Lake Elsinore, Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Lake Morena's Oak Shores Eastside Pipeline Looping Project. Archaeologist for the Lake Morena's Oak Shores Mutual Water Company Eastside Pipeline Looping and Pipeline Abandonment Project. The project consisted of improvements to the existing water distribution system. Conducted archaeological monitoring and wrote a letter report summarizing the methods and results of the monitoring program. Work performed for Lake Morena's Oak Shores Mutual Water Company.

Escondido Country Club. Archaeological monitor for the redevelopment of the Escondido Country Club. Performed construction monitoring. Work performed for Lennar Homes.

Broadway Channel Improvements - Phase A. Archaeologist for an earthen channel improvement project in the city of El Cajon. Performed background research and prepared cultural resource survey report. Work performed for City of El Cajon.

Seawater Controls Project. Archaeologist for a proposed tank installation near the Scripps Institute of Oceanography in La Jolla. Performed monitoring of geotech borings and conducted a site survey. Work performed for University of California, San Diego.

Carmel Mountain Road Life Sciences Project. Archaeologist for a proposed commercial development project in the Torrey Hills Community Plan area. Responsibilities included performing background and archival research and producing an archaeological resources report. Work performed for Allen Matkins Leck Gabme Mallory & Natsis, LLP.

Parkway Drive and Alvarado Road Trunk Sewer Phase 3 Upgrade Project. Archaeologist for a sewer infrastructure improvement project in the city of La Mesa, San Diego County. Performed construction monitoring. Work performed for the City of La Mesa.

Diamond Sports Complex. Archaeologist for the construction of a sports complex in Lake Elsinore. Assisted with report preparation. Work performed for the City of Lake Elsinore.

City of Escondido's Trunk Sewer Main Replacement Environmental Services. Archaeologist for the replacement of the City of Escondido's trunk sewer main. Wrote a memo summarizing the methods and results for the records search and Sacred Lands File search. Work performed for Infrastructure Engineering Corporation, with the City of Escondido as the lead agency.

Mountain View Connector Pipeline Cultural Monitoring. Archaeologist for a waterline replacement project in the community of Alpine. Conducted cultural resource monitoring and prepared the final monitoring report. Work performed for Padre Dam Municipal Water District.

Cordial Road Pipeline. Archaeologist for a pipeline replacement project in the unincorporated portion of the City of El Cajon. Performed background research and field survey. Other responsibilities included the production of a letter report detailing the methods and results of the survey, as well as the completion of a site record update to submit to the South Coastal Information Center. Work performed for the Padre Dam Municipal Water District.

The Triangle Project. Archaeologist for an approximately 40.6-acre development center consisting of restaurant, commercial/retail, theater/entertainment, hotel, and office uses in Temecula, Riverside County, California. Prepared the cultural resources study update report and the records search update memo. Work performed for Domenigoni-Barton Properties, LLC.

TREVOR GITTELHOUGH, RPA

Cultural Resources Assistant Project Manager

EDUCATION

Master of Arts, Underwater Archaeology, East Carolina University, 2018

Bachelor of Arts, Anthropology, University of California, Santa Barbara, 2011

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Archaeologist No. 17387

American Academy of Underwater Sciences, Scientific Diver

Professional Association of Diving Instructors, Certified Diver No. 0110385008

Geographic Information Systems Professional (GISP) Certification,

HAZWOPER 40-Hour Certification

PROFESSIONAL AFFILIATIONS

Society of American Archaeology

Society of Historical Archaeology

Society of California Archaeology (Advisory Council of Underwater Archaeology)

Divers Alert Network

Mx. Gittelhough is an archaeologist and assistant project manager with 11 years of experience. They specialize in underwater cultural resources, with experience in archaeology, cultural resources management, site monitoring, surveys and excavations, laboratory sorting, cataloging and analysis, and conservation. They have conducted environmental, paleontological, and cultural resources work throughout California in support of compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA) for public and private sector clients. Mx. Gittelhough has experience in team management in the terrestrial and underwater archaeological management sectors, with expertise in implementing mitigation and monitoring projects, report production, and coordination with Indigenous groups. Their technical skills include terrestrial and submerged archaeological survey, excavation, and site testing. They have authored numerous site records and technical reports detailing the results of cultural resources work, as well as academic articles. They have also had thorough training in artifact analysis and specializes in lithic analysis and maritime conservation. Mx. Gittelhough meets the Secretary of Interior Professional Qualifications Standards in History and Archaeology.

Enchanted Hills Park Project. Cultural Resource Specialist for a 22.5-acre neighborhood park project in the City of Perris, Riverside County. Provided cultural resource monitoring during initial site work and prepared monitoring letter report. Work performed for the City of Perris.

Dam Maintenance Program. Cultural Resource Specialist for the City of San Diego Dam Maintenance Program in San Diego County. Assisted in preparing an archaeological and historic resources assessment in compliance with state and federal regulations. Scope included a cultural resource records search, review of historic maps and aerials, and preparation of a technical report. Work performed for the City of San Diego Public Utilities Department.

Bouquet Canyon Road Project. Cultural Resource Specialist for a private residential development project in the City of Santa Clarita, Los Angeles County. Monitored all ground-disturbing activities associated with geotechnical studies, such as drilling and trenching. Provided monitoring during ground-penetrating radar studies of portions of the project area. Produced monitoring report. Work performed for Integral Communities.

Lake Morena Oak Shores/Lake Morena Views Mutual Water Company Consolidation. Cultural Resource Specialist for a cultural resources study in support of a proposed water district consolidation project in eastern San Diego County. Assisted with the preparation of a cultural resources technical report in compliance with state and federal regulations and State Water Resources Control Board. Scope included a cultural

resource records search, review of historic maps and aerials, and assistance with the preparation of a technical report. Work performed for Lake Morena Oak Shores Mutual Water Company and Lake Morena Views Mutual Water Company as a subconsultant to NV5.

Shady View Residential Project Environmental Impact Report. Cultural Resource Specialist for a housing development project in the City of Chino Hills in San Bernardino County. The project involves the development of 159 single-family homes, open space and recreational amenities, and associated street, utility/infrastructure, and drainage improvements. Assisted in the preparation of the technical report in compliance with state and federal regulations. Project scope included a cultural resource records search, review of historic maps and aerials, field survey, and preparation of a technical report. Work performed for the City of Chino Hills.

California Crossings. Cultural Resource Specialist for a 29-acre industrial development in Otay Mesa, San Diego County. Conducted a cultural resources study in support of biological mitigation measures (burrowing owl habitat creation). Prepared an archaeological resources assessment in compliance with state and federal regulations. Scope included a cultural resources records search, review of historic maps and aerials, and preparation of a technical report. Work performed for Sudberry Development, Inc. with County of San Diego as the lead agency.

Oceanside Mission Basin Groundwater Purification Facility Well Expansion and Brine Minimization Design. Cultural Resource Specialist for a proposed groundwater wells and brine minimization project to improve water production at an existing groundwater purification facility in the City of Oceanside, San Diego County. Assisted with the preparation of the cultural resources technical report in compliance with state and federal regulations. Project scope included a cultural resources records search, tribal outreach, field survey, monitoring of geotechnical borings, preparation of a constraints memo, and preparation of a technical report. Work performed for the City of Oceanside Water Utilities Department as a subconsultant to GHD, Inc.

611 Island Ave Residential Tower. Cultural Resource Specialist for a residential tower project in the downtown area of the City of San Diego. The project plans include incorporating the existing historic façade into the new 32-story building. Assisted with the preparation of an archaeological and historic resources assessment in compliance with CEQA. Scope included a cultural resource records search, review of historic maps and aerials, and preparation of a technical report with a sensitivity assessment. Work performed for Cresleigh Homes.

EMWD Quail Valley III Regional Water Tank Environmental Consulting. Cultural Resource Specialist for a new water tank and associated piping and facilities in Riverside County. Prepared the technical report to summarize a records search, Native American outreach, archaeological survey, and research into the historic land uses of the project lands. Work performed for Pulte Group, with Eastern Municipal Water District as the CEQA lead agency.

Cactus II Feeder Pipeline Biological and Cultural Construction Monitoring. Cultural Resource Specialist for construction monitoring of the installation of a sewer line and associated facilities. Work performed for Eastern Municipal Water District.

Pasadena Water & Power Sunset Reservoir Replacement Historical Resources Evaluation. Cultural Resource Specialist for a reservoir replacement project in the City of Pasadena. Prepared a cultural resources technical analysis to support an EIR and provided support to the City of Pasadena for tribal consultation. Work performed as a subconsultant to Kennedy Jenks, with the City of Pasadena as the lead agency under CEQA.

Athletic Facility Borings Cultural Resources Monitoring. Cultural Resource Specialist for a cultural resource monitoring program in support of the proposed project on the Palomar College San Marcos Campus, San Diego County. Provided monitoring of ground disturbing activities in compliance with CEQA, resulting in the completion of a cultural resources monitoring letter report.

Arrow 32N Residential. Senior Cultural Resource Specialist for a cultural resources study in support of the proposed Project in the City of Upland, San Bernardino County. Co-authored an archaeological technical report and assisted with a historic resources assessment report in compliance with Section 106 and CEQA. Scope included a cultural resources records search, review of historic maps and aerials, preparation of a technical report and evaluation of historic resources for inclusion to the NRHP and CRHR.

Garland Battery Energy Storage System. Senior Cultural Resource Specialist for a cultural resources study in support of the proposed Project in the County of Los Angeles. Prepared an archaeological resources assessment and provided monitoring for all ground disturbing activities a in compliance with CEQA. Scope included a cultural resources records search, review of historic maps and aerials, pedestrian survey, preparation of a technical report, monitoring, and the preparation of a monitoring report.

NICOLE (NIKKI) FALVEY

Cultural Resources Project Manager

EDUCATION

Bachelor of Arts, Anthropology with a concentration in Archaeology, University of California, San Diego, 2013

Associate of Arts, Anthropology, Mira Costa Community College, California, 2011

CERTIFICATIONS

North County Transit District (NCTD) Roadway Worker ID #C00901, 2015

HAZWOPER, 24 hours

PROFESSIONAL AFFILIATIONS

Transportation Museum of San Diego and Imperial Counties, Board of Directors, Secretary (2021-2022)

San Diego County Archaeological Society, Board of Directors, Second Vice President (2014-2015), First Vice President (2015-2016)

Society for California Archaeology, Member

Ms. Falvey is a professional archaeologist and environmental planner. She has worked on approximately 100 cultural resource management projects and over 100 NEPA categorical exclusions in both local assistance and generalist capacities. Ms. Falvey has served in lab, field, and office capacities, completed record searches, co-authored technical reports, and authored NEPA process documents. Projects include commercial and residential developments, wind farms, utilities projects, and rail and road expansions. Project activities include pedestrian surveys, test excavations, data recovery programs, and construction monitoring. I am familiar with the National Historic Preservation Act, the National Environmental Policy Act, and the California Environmental Quality Act.

Archaeological Survey for the Alpine 21 Project (2016 - 2017). Crew Chief for this proposed residential development in the City of Alpine. Conducted records search, supervised field survey crew,and co-authored technical report.

Archaeological Monitoring for the Paseo Del Norte Project (2016 - 2016)**.** Staff Archaeologist for this commercial development in the City of Carlsbad. Conducted cultural resources construction monitoring.

Keystone Way Archaeological Survey Project (2016 - 2016)**.** Staff Archaeologist for this proposed commercialdevelopment in the City of Vista. Conducted records search, conducted field survey, and co-authored technical report. The City of Vista was the lead agency.

Presidio Apartments Survey Project (2016 - 2016)**.** Staff Archaeologist for this proposed multi-family residential development in the City of Oceanside. Conducted records search, conducted field survey, and co-authored technical report. The City ofOceanside was the lead agency.

City of Oceanside As-Needed Environmental Consulting Services (2013 - 2015)**.** Staff Archaeologist for construction of a new facility at the Mission Basin Desalting Facility near the San Luis Rey River. Responsible for fieldmonitoring, coordination with construction crew and Native Americanmonitors, identification of artifacts and cultural features, and daily field notes.Work performed for the City of Oceanside.

Vista Grande Archaeological Testing (2015 - 2016)**.** Crew Chief for this proposed residential development in theCity of Vista. Responsible for supervising test excavation of thearchaeological site, including placing shovel test pits (STPs), plotting in STPs using a Trimble GPS, supervision of a three-person crew in excavating STPs, completing documentation, collecting surface artifacts, andcoordination with a Native American monitor. Co-authored technical report. Work performed for the City of Vista.

City of Carlsbad Trails Master Plan Constraints Analysis (2015 - 2015). Staff Archaeologist for the constraints analysis for this proposed trails master planin the City of Carlsbad. Assisted in research for the cultural resources portionof the constraints analysis, including locating previously recordedarchaeological sites within the proposed trail system and determining theirpotential for effects. Work performed for the City of Carlsbad.

Pujols Shearwater Monitoring (2015 - 2016)**.** Staff Archaeologist for this residential development in the City of Temecula, Riverside County. Conducted cultural resources construction monitoring, completed Department of Parks and Recreation forms, and co-authored technical report.

Ticonderoga Street and Morena Boulevard (2015 - 2015)**.** Staff Archaeologist for this proposed residential development in the City of San Diego. Co-authored technical report.

Campo Creek Bridge Replacement Monitoring (2016 - 2017)**.** Staff Archaeologist for this bridge replacement project in the community of Campo, San Diego County. Conducted cultural resources monitoring. Work performed for CalTrans.

Grandview Pointe IS/MND Survey and Structres Evaluation (2016 - 2018)**.** Staff Archaeologist for this proposed residential development in the City of Oceanside. Conducted a historical evaluation and reconnaissance survey of the two historical residences on the property and co-authored technical report. Work performed for the City of Oceanside.

Archaeological Testing for the Buena Sanitation District Green Oak Sewer Replacement Project (2016 - 2017)**.** Staff Archaeologist for this sewer main replacement project located in the City of Vista. Assisted in archaeological testing set-up and co-authored technical report. Work performed for the City of Vista.

Archaeoogical Survey for the Riverpark Project (2015 - 2017)**.** Crew Chief for this mitigation bank project near the community of Nuevo in Riverside County. Supervised the survey of this 613-acre property with a three-person crew, including the recordation of encountered cultural resources.

964 Urania Avenue Archaeological Testing (2017 - 2018)**.** Crew Chief for this proposed residential development in the City of Encinitas. Responsible for supervising a two-person crew in excavating shovel test pits (STPs), including the completing notes and the collecting and labeling artifacts. Completed Department of Parks and Recreation forms for archaeological sites and co-authored technical report. Work performed for the City of Encinitas.

Daisy Avenue Archaeological Testing Project (2014 - 2018)**.** Staff Archaeologist for this proposed residential development in the City of Long Beach, Orange County. Participated in archaeological testing and co-authored technical report.

Villa Storia Archaeological Evaluation (2014 - 2015)**.** Crew Chief for the cultural resources assessment of this property in the City of Oceanside. Responsible for supervising a four-person crew in archaeological testing by the excavation of shovel test pits (STPs).

Buena Creek Due Dilligence Study (2015 - 2015)**.** Staff Archaeologist for this proposed residential development near the City of Vista, San Diego County. Conducted recordssearch, conducted field survey, and co-authored technical report. The County of San Diego is the lead agency.

312-400 South Euclid Historic Building Evaluation (2016 - 2017)**.** Staff Archaeologist for this proposed residential development in the City of Anaheim, Orange County. Conducted records search, conducted site visit, including historical building assessment, and co-authored technical report. Work performed for KB Homes.

Lakeside 6 Survey (2016 - 2016)**.** Staff Archaeologist for this proposed residential project in the community of Lakeside, San Diego County. Conducted cultural resources field survey, conducted historical property research, and co-authored technical report. Work performed for KB Homes.

San Elijo Joint Powers Authority Preliminary Design of Land Outfall Replacement and Permitting/CEQA Compliance Study (2015 - 2016)**.** Staff Archaeologist for this CEQA compliance project in the City of Encinitas. Conducted records search, conducted cultural resources field survey, and co-authored technical report. Work performed for the San Elijo Joint Powers Authority.

Palmdale Water District - Palmdale Regional Groundwater Recharge and Recovery Preliminary Design EIR, EA, FONSI. Staff Archaeologist for this water district project Environmental Impact Report in the Palmdale Water District, Los Angeles County. Co-authored the cultural section (section 5.3) of the Environmental Impact Report. Work performed for the Palmdale Water District.

Otay Crossings Commerce Park EIR Survey (2016 - 2019)**.** Staff Archaeologist for this proposed commercial project Environmental Impact Report in the Otay Mesa area of San Diego County. Conducted records search, conducted cultural resources field survey, completed Department of Parks and Recreation site record update, and co-authored technical report in accordance with Army Corps of Engineers standards. Work performed for the County of San Diego.

Orange County Sanitation District Newhope-Placentia Trunk Sewer Replacement, No. 2-72A (2015 - 2016)**.** Staff Archaeologist for this trunk sewer replacement project in the Orange County Sanitation District, Orange County. Conducted historical research at the Fullerton Library, conducted a site visit to determine the presence of historically significant or potentially significant structures within the project area, and co-authored technical report. Work performed for the Orange County Sanitation District.

Mast Park Monitoring (2015 - 2016)**.** Project Staff Archaeologist for this wetland habitat restoration project in the City of Santee. Conducted cultural resources construction monitoring, completed Department of Parks and Recreation site records, andco-authored technical report. Work performed for HELIX Construction Group and the City of Santee.

SDG&E Solar Sites Testing (2014 - 2017)**.** Crew Chief for solar project near Pala Indian Reservation in the County of San Diego. Supervised a three-person crew in Phase II testing; responsible for test unit placement and excavation, artifact identification, notes. Also conducted cultural resources construction monitoring for Pala solar project and solar project in the community of Ramona, San Diego County. Co-authored report for Pala solar project. Work performed for Merkel & Associates, Inc.

USD Master Plan and Conditional Use Permit (2015 - 2016)**.** Staff Archaeologist for the cultural resources technical report for USD's Master Plan EIR. Co-authored technical report. Work performed as a subconsultant to M.W. Steele Group, Inc., with University of San Diego as the lead agency.

Archaeological Montioring for the Old Mission San Luis Rey Cemetery Expansion Project (2016 - 2017)**.** Staff Archaeologist for a cultural resources monitoring program for the expansion of the cemetery at Old Mission

San Luis Rey, an area of sensitivity in terms of archaeological, historic, and Native American cultural resources. Conducted cultural resources construction monitoring. Worked performed for Old Mission San Luis Rey, with the City of Oceanside as the lead agency.

Interstate 8 Water Main Crossing at Viewside Lane Environmental and Cultural Resources Services (2015 - 2016). Staff Archaeologist for proposed water main crossing in the community of Alpine, San Diego County. Conducted records search, conducted cultural resources field survey, and co-authored technical report. Work performed for the Padre Dam Municipal Water District.

Green Oak Villas Greenhouse Gas and Cultural Resources Testing (2016 - 2016). Staff Archaeologist for proposed residential development in the City of Vista. Conducted records search, conducted cultural resources field survey, acted as co-crew chief for Phase II testing, and co-authored technical report. Work performed for Providence Capital Group, Inc. with the City of Vista as the lead agency.

Archaeological Testing for the F11 Development (2015 - 2017). Staff Archaeologist for a proposed mixed-use commercial and residential tower in downtown San Diego. Participated in Phase II archaeological testing and laboratory work, including cleaning, sorting, labeling, and researching historic artifacts. Work performed for the Richman Group of Companies with the City of San Diego as the lead agency.

San Ysidro Community Plan Update (2016 - 2016)**.** Staff Archaeologist for a Program EIR (PEIR) addressing a proposed update to the San Ysidro Community Planthat covers approximately 1,800 acres near the international border with Mexico. Co-authored PEIR Section 4.7 Historical Resources. Work performed for the City of San Diego.

Pottery Canyon Mitigation Monitoring (2014 - 2016). Staff Archaeologist for a cultural resources monitoring program in conjunction with contaminated soils remediation program at a significant historic archaeological site in Pottery Canyon Park in the City of San Diego. Responsible for monitoring of contaminated soils capping, collection and cataloging of artifacts outside the capped area, and co-authoring of a monitoring report. Work performed for the City of San Diego.

Archaeological Monitoring for 28th Street between Island Avenue and Clay Avenue (2014 - 2018)**.** Staff Archaeologist for undergrounding utilities project in the Sherman Heights neighborhood of the City of San Diego. Conducted field, laboratory, and office work including: cultural resources construction monitoring; cleaning, sorting, labeling, cataloging, and researching of artifacts; completing Department of Parks and Recreation site records; and co-authoring technical report. Work performed for the City of San Diego.

Surveys for the Nestor Creek Channel Maintenance - Permitting and MMP Individual Assessments (2015-2016)**.** Staff Archaeologist for creek channel maintenance program assessment in the City of San Diego. Conducted cultural resources field surveys and co-authored IHA. Work performed for the City of San Diego.

Survey for the Smythe Channel Maintenance - Permitting and MMP Individual Assessments (2015-2016). Staff Archaeologist for channel maintenance project in the City of San Diego. Conducted records search, conducted cultural resources field survey, and co-authored IHA. Work performed for the City of San Diego.

Archaeological Survey for the 12 Oaks Winery Resort and Golf Community (2015 - 2018)**.** Staff Archaeologist for a cultural resources survey of approximately 650 acres for a proposed project in the County of

Riverside. Participated in cultural resources field survey, completed Department of Parks and Recreation site records, and co-authored technical report. Work performed for Standard Portfolio Temecula, LLC.

Previous Experience

California Department of Transportation (Caltrans) Associate Environmental Planner (Archaeology) PQS Co-Principal Investigator 2020-Present.

Interstate 5 (I-5) North Coast Corridor Project. Archaeologist responsible for coordinating construction monitoring for the construction phase of the I-5 expansion from San Elijo Lagoon north to Jefferson Street in San Diego County.

State Route 163 Bridge Rail. Environmental Planner for this project proposing to upgrade the bridge rails of four bridges spanning the SR-163 in the Cabrillo Historic District in the City of San Diego.

Tennessee Department of Transportation, Environmental Studies Specialist, Advanced, 2019-2020

SR-266 Road Widening D-List Categorical Exclusion. Author for this Federal Highway Administration-approved NEPA document in Rutherford County, Tennessee. Completed the Section 4(f) De Minimis process for multiple recreation areas and authored the report based upon archaeology,historical preservation, ecology, hazardous materials, air and noise, Native American coordination, and multimodal transportation studies.

SR-13 Road Realignment D-List Categorical Exclusion. Author for this Federal Highway Administration-approved NEPA document in Perry County, Tennessee. Authored the report based upon archaeology, historical preservation, ecology, hazardous materials, air and noise, Native American coordination, and multimodal transportation studies.

Coachella Valley Pole Replacements. Staff archaeologist for electrical pole replacement for the County of Riverside. Conducted record search.

Juan Street Pothole Investigation. Staff archaeologist for storm drain project in the City of San Diego, Assisted in report preparation.

Southern California Edison Pole Surveys. Staff archaeologist for electrical pole replacement for the Counties of Riverside, Mono, and Inyo. Conducted record searched, pedestrian surveys and assisted in report preparation; responsible for artifact identification and field notes.

Sunset Cliffs Archaeological Monitoring. Staff archaeologist for sewer pipeline in the City of San Diego. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes, and assisting in report preparation.

Verizon Rose Creek Data Recovery. Staff archaeologist for cell phone tower installation in the City of San Diego. Participated in Phase I data recovery; responsible for excavation of shovel test pits, field notes.

Mission Cove Archaeological Data Recovery (2014 - 2015)**.** Project Staff archaeologist for residential development in the City of Oceanside. Participated in Phase II data recovery; responsible for excavation of shovel test units, field notes.

San Diego Fish and Game Wetland Rehab Survey. Staff archaeologist for wetland rehabilitation for the County of San Diego in the unincorporated community of Jamul. Conducted a pedestrian survey; responsible for artifact identification.

El Toro Recycled Water Monitoring. Staff archaeologist for recycled water pipeline in the City of El Toro. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.

Newland Sierra. Staff archaeologist for commercial development in the City of Escondido. Conducted laboratory analysis; responsible for artifact labeling, analysis, cataloging.

North County Transit District San Onofre Archaeological Monitoring and Testing. Staff archaeologist for the expansion of railroad tracks on Marine Corps Base Camp Pendleton. Conducted cultural resource monitoring, test excavations, laboratory analysis; responsible for artifact identification, monitoring notes, artifact labeling.

Ortega Highway Interchange Monitoring. Staff archaeologist for highway improvements in the City of San Juan Capistrano. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.

Poseidon Desalination Plant Monitoring. Staff archaeologist for water pipeline in the City of Carlsbad. Conducted cultural resource monitoring, laboratory analysis; responsible for artifact identification, monitoring notes, artifact analysis, cataloging.

Rincon Point. Staff archaeologist for residential development in the County of Santa Barbara. Assisted in laboratory analysis; responsible for artifact identification and labeling.

Smoking Tree Survey. Staff archaeologist for the installation of wind turbines in the City of Palm Springs. Conducted pedestrian survey; responsible for artifact identification, field notes.

Yokohl Ranch. Staff archaeologist for residential development in the County of Tulare. Conducted laboratory analysis; responsible for artifact analysis, cataloging, soil flotation, wet screening.

Cuyamaca Rancho School Camp Monitoring. Archaeological intern for landscaping in Cuyamaca Rancho State Park in the County of San Diego. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.

Silver Strand State Beach Monitoring. Archaeological intern for underground utilities in Silver Strand State Beach in the City of San Diego. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.

Selected Publications

"Wisdom in the Waste: Obsidian Studies and Late Prehistoric Social Systems" Presentation for the San Diego County Archaeological Society, 2013

Appendix B

Records Search Maps
(Confidential, Bound Separately)

Appendix C

Table of Previous Reports within One Quarter Mile

TABLE OF PREVIOUS STUDIES WITHIN ONE QUARTER MILE

Report No. (SD-)	Report Title	Author, Date
137	Results of an Archaeological Field Reconnaissance of Santee Greens, Santee,California	Berryman S., 1997
341	Archaeological Mitigation Report for Santee Greens SDI-5669	Berryman J., 1981
546*	An Archaeological Survey of the San Diego River Valley	Cupples, 1975
618**	The Archaeology of Cuyamaca Street Extension	Fink, 1973
771**	Extended Phase I and Phase II Archaeological Test Excavations at Sites CA-SDI-205, 5053, 8594, 9242, and 10, 148 Santee, California 11-SD-52 P.M. 7.3/17.2 11222-047050	Corum, 1986
779**	Archaeological Test Excavation at Sites CA-SDI-5655, 5658, 9239, 9240, 9246, 9247,9913 in Shepherd Canyon, San Diego, California 11-SD-52 P.M. 7.3/17.2 11222-047050	Corum and Crotteau, 1985
780**	First Addendum Archaeological Survey Report for Proposed State Route 52 Santo Road to State Route 67 (Portion) 11-SD-52 P.M. 7.3/17.2 11222-047050	Corum, 1985
863**	Archeological Survey for the Proposed Forester Creek Drainage Channel Project	Fink, 1973
866**	An Archaeological Survey of the Upper San Diego River Mosquito Abatement and Water Pollution Control Project Phase I	Fink, 1973
1269	A Cultural Survey of Portions of the Las Chollas, South Las Chollas, Los Coches Forester, and Loma Alta Stream Basins in San Diego County, California.	Pettus, 1979
1335*	Cultural Resources Survey of Three Alternate Jail Facilities in San Diego County, California.	Pigniolo, et al., 1986
1829**	Third Addendum Archaeological Survey for Proposed State Route 52, 11-SD-52 P.M. 7.3/17.2, 11222-047050	Corum, 1989
1909**	Investigations Conducted at Archaeological Site SDM-W-2409 (SDi-7603) Santee, California	Hector, 1981
2110	Draft Environmental Impact Report for Magnolia Meadows	RECON, 1976
2196*	Draft Environmental Impact Report Proposed Removal of San Upper San Diego River, San Diego County P79-112 RP79-16 EAD LOG#79-14-261	Parra, 1980
2929*	Results of A Cultural ResourceEvaluation Study for The PadreDam Municipal Water District Phase I Reclaimed Water System Project	Smith, 1993
3098*	Results of A Cultural ResourceStudy of the Padre Dam Municipal Water District Phase 1 Reclaimed Water System Project	Smith, 1992
3720	Historical/Archaeological Survey Report for the Water Repurification Pipeline and Advanced Water Treatment Facility, City of San Diego, California	Schroth, et al., 1996
4692**	First Supplemental Historic Property Survey 11-Sd-52 P.M. 7.3/17.2	Corum, 1986
4934**	Extended Phase I And Phase II Archaeological Test Excavations at Sites CA-SDI-205, 5053, 8594, 9242, 10148, Santee, Ca 11-Sd-52 P.M. 7.3/17.2	Corum, 1986
4981**	Environmental Impacts Analysis for the Santee Regional Shopping Center	RECON, 1980
5043**	First Addendum Archaeological Survey Report for Proposed State Route 52 Santo Road to State Route 67 (Portion) 11-SD-52 P.M. 7.3/17.2 11222-047050	Corum, 1985

Report No. (SD-)	Report Title	Author, Date
5138	Historic Property Survey Report for the Forester Creek Project Santee California	Pigniolo, 2001
7167	Archaeological Mitigation: TPM-20037-RPC	Wade, 1994
7464**	Santee Light Rail Transit Project: Cultural Resources Technical Report	ERCE, 1990
7892	Historic Property Survey Report I15-SR67	CALTRANS, 2001
8307*	An Archaeological Assessment for the Edgemoor Project	Smith, 2000
8816**	Cultural Resource Survey for the Santee Aquatic/ Gymnastic Center, City of Santee, California	Kyle, 2001
8888**	Cultural Resource Survey for the Town Center Park, City of Santee, California	Kyle, 2003
9048**	Cultural Resource Assessment for Cingular Wireless Facility SD487-03, City of Santee San Diego County, California	Kyle, 2002
9964**	Cultural Resources Survey Report for the Ryan Corporate Office Park Master Plan Santee, California	Price and Bull, 2004
10474	Results of a Minor Test Performed On A Milling Feature, Within Santee, California	Berryman, 1979
10799**	Nomination Form for theEdgemoor Farm Dairy Barn/ Edgemoor Polo Barn	Brandes and Alexander
10932*	Second Addendum to the Historical Architectural Survey Report For 11-SD-52, P.M. 7.3/17.2 11222-047050. Re-Evaluation of the Edgemoor Farm Home for The Aged & Indigent	O'Conner, 1987
11120	Cultural Resource Monitoring for the Forester Creek Improvement Project City of Santee, California	Kyle, 2007
11128**	Cultural Resource Survey for the San Diego River Restoration Project Edgemoor Property City of Santee, California	Kyle, 2006
11189**	Results of Archaeological Monitoring At Town Center Community Park Mass Grading, Santee, California (CIP 2004-31) (Negative Archaeological Monitoring Report)	Pierson, 2007
11190**	Paleontological Monitoring Report, Town Center Community Park Mass Grading Project, City of Santee, San Diego County, California (CIP2004-31)	Kennedy and Shiller, 2007
11412	Historic Property Survey Report: State Route 52 Stage 4	Crafts, 2000
11747*	Edgemoor Farm Historical Resources Evaluation Report San Diego, California	Heritage Architecture and Planning, 2008
12319*	Santee Town Center Specific Plan Amendment, Appendixes to the Draft Master Environmental Impact Report	Price, 2005
12612	Archaeological Survey Report: Biological Mitigation Parcel for the SR 163/Friars Road Interchange Improvements Project San Diego County, California	Robbins-Wade, 2010
12635	Historic Property Survey Report for the State Route 163 and Friars Road Interchange	Rosen, 2010
12757	Santana High School, Santee, CA.	McKenna, 2010
13226	Mast Park Habitat Restoration Project, City of Santee, San Diego County, California	U.S. Army Corps of Engineers, 2011
13413	eTS #22188, Cultural Resources Monitoring for the Carl Inspections, 1819 Poles, Carl Subarea Project, San Diego County, California (HDR #179459)	Tennesen, 2012
14043**	Cultural Resources Study for the Santee Walmart Expansion Project, City of Santee, San Diego County, California	Wolf, 2011

Report No. (SD-)	Report Title	Author, Date
14084**	Cultural And Historical Resource Assessment for the Mission Gorge Road Property Demolition	Ni Ghabhlain, 2009
14123	Draft Phase I Cultural Resources Survey And Assessment for the El Monte Valley Mining, Reclamation, and Groundwater Recharge Project	Pigniolo, et al., 2011
14149**	San Diego County Women's Detention Facility – Archaeological Survey of Three Drainages (Affinis Job No. 2496)	Robbins-Wade, 2012
14150*	Cultural Resources Assessment: Site LC-1, San Diego County Women's Detention Facility Santee, San Diego County, California	Van Wormer, 2012
14747	Cultural Resource Records Search and Site Survey AT&T Site SD0699 52 South and Prospect 8865 Cuyamaca Street Santee, San Diego County, California 92071	Loftus, 2013
15903*	San Diego County Women's Detention Facility Phase 2, Archaeological Monitoring (HELIX Project No. BAL-01)	Robbins-Wade, 2015
16089	Evidence Of Compliance With Section 106 of National Historic Preservation Act of 1966 Walker Preserve Trail, City of Santee, Project Number RT-37-026	Hosseinion, 2014
16147	Archaeological Resources Inventory, Mast Park Wetland Habitat Restoration Project, Santee, San Diego County, California	Robbins-Wade, 2011
16982	Cultural Resources Survey and Evaluation for the Braverman Drive Tentative Map Project Santee, San Diego County, California	Campbell, et al., 2015
17983	Archaeological Monitoring For MHPUUP - Santee Mobile Estates, Santee, San Diego County (SDG&E eTS #38406, PanGIS Project #1401.109)	Willhite, 2019
18209	Santee School Development Project, Phase II Cultural Resources Testing and Evaluation Report, Santee, California	Strother, et al., 2019
18555	Data Recovery Excavations at CA-SDI-5669 Locus C: Confidential Phase III Archaeological Report, City of Santee, San Diego County, California	Campbell, et al., 2017
18919**	Cultural Resources Survey Report For the County Animal Shelter, San Diego County, California	Zepeda-Herman, 2020
19277	Archaeological Monitoring For the SDG&E Walker Trails - Oh RFS, Santee, San Diego County, California (eTS #43137)	Noble and Tansey, 2020
19383**	Update To the Revised Preliminary Cultural Resource Study To Support the Padre Dam Municipal Water District Master Plan Update Peir, San Diego County, California	Daniels and Becker, 2016
19408*	Results of Archaeological Monitoring At the Walker Trails Project, City of Santee, San Diego County, California (APNS 381-160-41, -46, and -63; Tentative Map No. 2016-01)	Smith, 2020
19596**	Negative Cultural Resources Monitoring Report for the ARCC East County Operations Project, Santee, California	Zepeda-Herman and Yerka, 2018

*Within Project Area
**Overlapping Project Area

Appendix D

Native American Correspondence
(Confidential, Bound Separately)

Appendix E

Greenhouse Gas Emissions Technical Report

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HELIX Environmental Planning

Santee Town Center Specific Plan Update

Greenhouse Gas Emissions Technical Report

July 2024 | 01427.00004.001

Prepared for:

M.W. Steele Group
1805 Newton Avenue, Suite A
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Prepared by:

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LIST OF APPENDICES

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Acronyms and Abbreviations

AB	Assembly Bill
AEN	Arts and Entertainment Neighborhood
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor's Parcel Number
AR4	United Nations Intergovernmental Panel on Climate Change Fourth Assessment Report
AR5	United Nations Intergovernmental Panel on Climate Change Fifth Assessment Report
CAA	Clean Air Act (Federal)
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emission Estimator Model
CALGreen	CCR Title 24 Part 11, California Green Building Standards code
CalRecycle	California Department of Resources Recycling and Recovery
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbons
CH_4	methane
City	City of Santee
CNRA	California Natural Resources Agency
CO_2	carbon dioxide
CO_2e	CO_2-equivalent
EO	Executive Order
EU-27	European Union
EV	electric vehicle
°F	degrees Fahrenheit
GHG	greenhouse gases
GWP	Global Warming Potential
HAP	Housing Acceleration Program
HCD	California Department of Housing and Community Development
HE	Housing Element
HFCs	hydrofluorocarbons
IPCC	United Nations Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard

Acronyms and Abbreviations (cont.)

MMT	million metric tons
MPO	Metropolitan Planning Organization
MT	metric ton
N_2O	nitrous oxide
NASA	National Aeronautics and Space Administration
NHTSA	National Highway Traffic Safety Administration
PFCs	perfluorocarbons
ppm	parts per million
RHNA	Regional Housing Needs Allocation
RPS	Renewable Portfolio Standard
RTP	regional transportation plan
SANDAG	San Diego Association of Governments
SAR	United Nations Intergovernmental Panel on Climate Change Second Assessment Report
SARA	Solar Access Roof Area
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAPCD	San Diego County Air Pollution Control District
SDG&E	San Diego Gas and Electric
SF_6	sulfur hexafluoride
SMAQMD	Sacramento Metropolitan Air Quality Management District
SR	State Route
SWRCB	State Water Resources Control Board
TCSP	Town Center Specific Plan
UNFCCC	United Nations Framework Convention on Climate Change
USEPA	U.S. Environmental Protection Agency

EXECUTIVE SUMMARY

This report presents an assessment of potential greenhouse gas (GHG) impacts associated with the City of Santee (City) Town Center Specific Plan (TCSP) Amendment Project (project). The report evaluates the potential for GHG emission impacts during the construction and operation of the project. The project proposes updates to the existing TCSP and to the Santee Arts and Entertainment Neighborhood (AEN). It also proposes conceptual planning and objective design standards for four large strategic Housing Elements (HE) within the TCSP area. The HE sites include Properties 16A, 16B, 20A, and 20B as delineated in the Sixth Cycle Housing Element EIR. The overall TCSP is approximately 651.42 acres, of which 341.72 acres are within the AEN, 11.04 acres are within HE Property 16A, 8.65 acres are within HE Property 16B, 7.76 acres are within Property 20A, and 9.92 acres are within Property 20B. The entire TCSP is located in the City of Santee, bordered by North Magnolia Avenue to the east, Mast Boulevard to the north, and Mission Gorge Road to the south. The western border of the TCSP runs through the San Diego River approximately 0.43 mile west of Cuyamaca Street and 0.27 mile east of Carlton Hills Boulevard.

The project would result in a comprehensive update to the existing TCSP involving expanding the TCSP area by 42 acres, updating the boundaries of the TCSP districts to create five neighborhoods within the TCSP, and identifying potential future residential and non-residential development potential within the TCSP area. Future development allowed throughout the TCSP area would not be increased by the project; however, development regulations and criteria in the proposed TCSP would replace the current TCSP. the project would not increase emissions that are not already accounted for in the Sustainable Santee Plan.

The project includes several transportation projects including adding new multi-use pathways and bike routes to existing roadways as well as identifying roadway connections throughout the TCSP area and AEN consistent with Sustainable Santee Plan Goal 6, Measures 6.1 and 6.2, and Goal 8, Measure 8.1. The majority of the TCSP area, including the AEN, is located within a designated Transit Priority Area (TPA). By placing these uses within a TPA, the project would implement the Sustainable Santee Plan strategies by focusing projected future growth into mixed-use and multiple-use activity centers that are pedestrian- and bicycle-friendly and linked to transit. Increasing residential and commercial density in transit corridors and within a TPA would support the City in achieving the GHG emissions reduction targets of the Sustainable Santee Plan, and thus, TCSP area and AEN impacts associated with GHG emissions would be less than significant.

The Sustainable Santee Plan Project Consistency Checklist (Checklist) was completed for the development of HE sites 16A, 16B, 20A, and 20B. These sites are designated for residential land uses in the existing TCSP and zoned for residential development in the City's Housing Element. When compared to the existing zoning and land use designations, the project would not increase the development potential allowed at the four Housing Element sites. Therefore, under Step 1 of the Checklist, development of the HE sites would be consistent with the land use assumptions used in the Sustainable Santee Plan. Implementation of mitigation measures GHG-1 through GHG-5 related to energy efficiency, tree planting, electric vehicle charging, solid waste reduction, and clean energy, would be required to ensure the four HE sites would be consistent with the applicable strategies and actions for reducing GHG emissions included in Step 2 of the Checklist.

The development of the HE sites would be consistent with the Sustainable Santee Plan, a qualified GHG reduction plan consistent with California Environmental Quality Act (CEQA) guidelines Section 15183.5, with implementation of mitigation measures GHG-1 through GHG-5. Development projects consistent with an applicable local qualified GHG reduction plan are eligible for streamlined GHG analysis. Therefore, the project would not conflict with or obstruct the implementation of a GHG reduction plan or policy, the project would be consistent with statewide GHG reduction goals, and the project's GHG emissions would result in a less than significant impact with mitigation incorporated.

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report analyzes potential greenhouse gas (GHG) impacts associated with the City of Santee (City) Town Center Specific Plan (TCSP) Amendment Project (project) and includes an assessment of potential impacts associated with project construction and project operation. The project proposes to update the City of Santee General Plan, modify the Arts and Entertainment Neighborhood (AEN), and provide objective design standards and contextual designs for four strategic Housing Element (HE) sites within the TCSP. Analysis within this report was prepared to support impact analysis pursuant to the California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations).

1.2 PROJECT LOCATION

The project area is located in the City of Santee, in the eastern portion of the County of San Diego, north of State Route (SR) 52 and west of SR 67 (Figure 1, *Regional Location*). The proposed project area extends across over 1,000 Assessor's Parcel Numbers (APNs), within the TCSP Area in the central portion of the City, bounded by Mission Gorge Road to the south, Mast Boulevard to the north, and Magnolia Avenue to the east (Figure 2, *Aerial Photograph*). Cuyamaca Street runs north-south through the western portion of the project area, forming segments of the western project boundary, and the San Diego River runs through the central northern portion of the project area (Figure 2). The topography of the project area is bisected by the San Diego River, which originates within the Santa Ysabel Open Space Preserve East and flows west and southwest and ultimately reaches the Pacific Ocean.

The overall project area consists of 651.42 acres, which includes the proposed AEN (341.72 acres) and four HE Properties: Lot 16A is 11.04 acres, Lot 16B is 8.65 acres, Lot 20A is 7.76 acres, and Lot 20B is 9.92 acres.

1.3 PROJECT DESCRIPTION

The proposed project consists of a comprehensive update to the TCSP to modify or establish new land use designations, land uses, development standards, and conceptual guidelines that would apply to future development within the TCSP area. As part of this effort, the City would also make modifications to the AEN and provide objective design standards and conceptual designs for strategic HE sites within the TCSP. A more detailed description of each of the proposed project components is described below.

1.3.1 Town Center Specific Plan

Amendments to the TCSP would incorporate relevant updates to the plan's vision, land use permissions, and development standards. As part of the updates, new text and graphics would be developed and organized into a series of chapters, such as Introduction, Land Use and Urban Form, Mobility and Beautification, Infrastructure and Public Facilities, Implementation, and Administration. Text and concepts that remain relevant to the vision and goals of the TCSP would be maintained and incorporated into the updated TCSP document format and structure.

The amended TCSP would incorporate updated allowable and permitted land uses and development standards tailored to the project area. The updated TCSP would include graphics that illustrate the planned land use concepts and the plan's vision at key sites. As part of the TCSP, the circulation network exhibits of the plan would be updated, including the bicycle, pedestrian, and transit network maps, and street cross sections. The TCSP would include concepts for key improvements in the public right-of-way to enhance circulation within the project area. The TCSP would incorporate concepts to illustrate wayfinding and branding signage at important locations within the public right-of-way and public trails, such as signs tailored for pedestrian, bicyclists, and transit users, signs designed to direct vehicular traffic and refer to parking areas, as well as iconic gateway structures that enhance the identity and sense of place in the project area.

The TCSP would also outline fundamental elements for the administration of the plan, such as the process for future specific plan amendments, and the development review, permit, and approval process for projects within the TCSP area. Additionally, the TCSP would address the relationship between the TCSP document and other planning documents, as well as consistency with the General Plan. The TCSP would also include a section describing how to use the document and guide reviewers and applicants through the path for review and approval of proposals within the TCSP area.

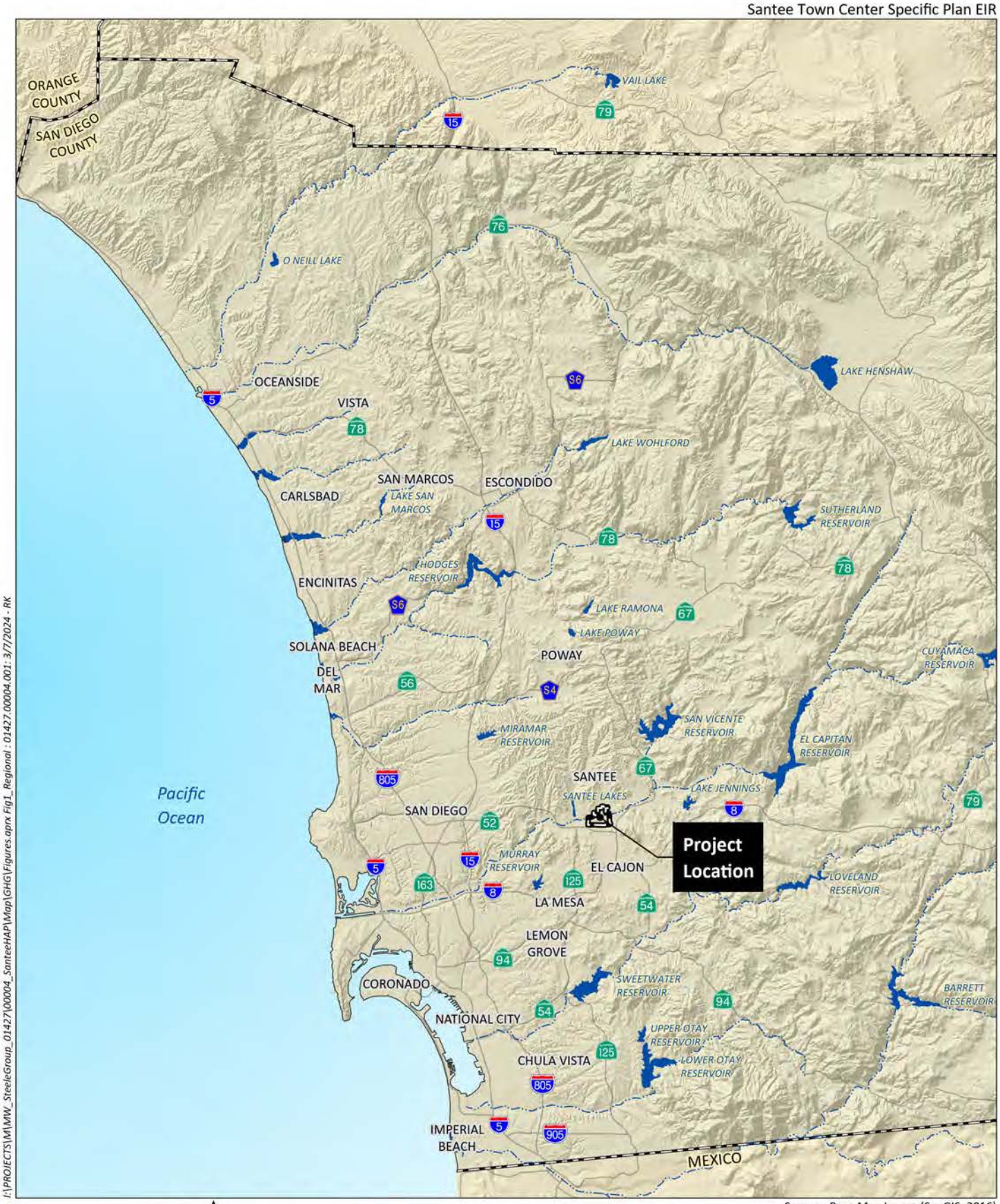
Finally, the TCSP amendment would also incorporate an adjustment to the Specific Plan boundaries to include additional sites such as the shopping center located at the northwest corner of Mission Gorge Road and Cuyamaca Road, and the shopping center located west of Cuyamaca Road, between Mission Creek Drive and River Park Drive. As a result of the boundary adjustment, the TCSP area would expand from 609.70 to 651.42 acres,[1] increasing by 41.72 acres.

1.3.2 Arts and Entertainment Neighborhood

The TCSP would include an amendment to the AEN. The City adopted the AEN in 2019 with the intent of encouraging the development of an Arts & Entertainment Neighborhood within a significant portion of the TCSP. The update would incorporate the vision, guidelines, and development standards specific to the AEN as a subsection of the Land Use and Urban Form chapter of the TCSP. This section of the TCSP would also incorporate tailored land use designations that support uses related to art and culture, entertainment, commercial recreation, visitor, and civic uses.

The update to the vision and development standards for the AEN would aim to enhance connections to the San Diego River, strengthen the sense of place by creating an attraction for residents and visitors to gather, and public space concepts that would incorporate streetscape concepts with features such as landscaping, water elements, shade, lighting, and wayfinding. The concepts would also aim to create a central destination within the TCSP area, with a strong emphasis on connecting Arts & Entertainment to the natural environment.

[1] The original Town Center Specific Plan published in 1986 cited the TCSP area as 706 acres, however amendments to the plan have reduced the Specific Plan total acreage. Additionally, the original acreage was based on an estimate; due to improved geographic information software over time, the number of reported acres in the TCSP has changed as the accuracy of the data has increased.



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

- Proposed Santee Town Center Specific Plan
- Proposed Arts and Entertainment Neighborhood
- Site 16A
- Site 16B
- Site 20A
- Site 20B

0 850 Feet

Source: Aerial (SanGIS, 2023)

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Aerial Photograph

Figure 2

Additionally, the update would incorporate an adjustment to the AEN boundaries to include additional sites such as the open space designated areas along the San Diego River, areas north of the San Diego River, south of Riverwalk Drive, west of River Park Drive, east of Cuyamaca Street, and west of Magnolia Avenue. As a result of the boundary adjustments, the AEN area would expand from 172.49[2] to 341.72 acres, increasing by a total of 169.23 acres.

1.3.3 Four Strategic Housing Element Sites (2021-2029 Sixth Cycle)

The City Council adopted the Housing Element (2021-2029 Sixth Cycle) on May 11, 2022. The HE was prepared in compliance with State housing law as determined by the California Department of Housing and Community Development (HCD) on December 6, 2022. The HE included a Sites Inventory map and table (Figure C-1 and Table C-1 of the HE), that included a series of sites that are currently undeveloped or underutilized. The identified sites provide an opportunity for the City to meet its Regional Housing Needs Allocation (RHNA) housing production goals. Four strategic undeveloped housing sites identified in the Sites Inventory are located within the boundary of the TCSP and the AEN. The sites are identified as 16A, 16B, 20A, and 20B. Sites 16A and 16B are undeveloped sites located just north of Mission Gorge Road and east of Riverview Parkway in the Santee Town Center. The area surrounding the sites is primarily developed with Santee Trolley Square immediately west of the site, the Las Colinas Detention Facility to the east, and open space associated with the San Diego River to the north. A portion of Site 16A is located within the Airport Safety Zone 4 as designated in the Gillespie Field Airport Land Use Compatibility Plan (ALUCP). Sites 20A and 20B are undeveloped sites located just west of Magnolia Avenue, south of Riverview Parkway, and east of Edgemoor Drive. Sites 20A and 20B surround the Historic Edgemoor Polo or Dairy Barn. To the west of Site 20A is the Las Colinas Detention Facility, to the east is a gated 55+ manufactured home community. Site 20B is bordered by single-family residential homes to the south, multifamily residential to the east, and Las Colinas and Riverview Office Park to the west. A portion of the site is located within the Gillespie Field ALUCP Airport Safety Zone 4. The sites are proposed to be developed with residential uses.

The HE Implementation Program identified specific sites that would require rezoning to allow for residential uses, and/or to allow for the estimated housing capacity included in the HE. The HE proposed zoning changes for sites 16A, 16B, 20A, and 20B. As part of the realization of the Housing Element Implementation Program, the City analyzed and approved the re-zone of the four above-mentioned sites and adopted the rezoning on October 26, 2022. The zoning for sites 16A, 16B, 20A, and 20B as a result of the HE Implementation Program can be found in Table 1, *Housing Element Sites Zoning.*

Table 1
HOUSING ELEMENT SITES ZONING

Site	Size (acres)	Current Zoning	Current Density (dwelling units per acre)
16A	11.11	Residential (TC-R-30)	30 to 36
16B	8.61	Residential (TC-R-14)	14 to 22
20A	7.75	Residential (TC-R-22)	22 to 30
20B	10.00	Residential (TC-R-30)	30 to 36

[2] The 2019 Art and Entertainment Overlay District refers to 155 acres; however, current GIS data shows 172 acres for the same area.

To further advance the housing production in Santee, City staff applied for a Housing Acceleration Program (HAP) grant from the San Diego Association of Governments (SANDAG), which was awarded. The HAP grant provides funding for project-level analysis of HE sites 16A, 16B, 20A, and 20B. The amended TCSP will include graphics and data that illustrate site planning and development concepts for each of these sites based on the maximum allowable density allowed by zoning.

2.0 REGULATORY SETTING

2.1 CLIMATE CHANGE OVERVIEW

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting light in but preventing heat from escaping, thus warming the Earth's atmosphere. These gases allow solar radiation (sunlight) into the Earth's atmosphere but prevent radiative heat from escaping, thus warming the Earth's atmosphere. GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The temperature record shows a decades-long trend of warming, with the most recent ten-year period marking the warmest years on record since 1880 (National Aeronautics and Space Administration [NASA] 2024). The newest release in long-term warming trends announced 2023 ranked as the warmest year on record with an increase of 2.11 degrees Fahrenheit (°F) compared to the late 19th-century (1850-1900) preindustrial average (NASA 2024). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (United Nations Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

2.2 GREENHOUSE GASES

The GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Although water vapor is the most abundant and variable GHG in the atmosphere, it is not considered a pollutant; it maintains a climate necessary for life.

Carbon Dioxide. CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady before the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the

concentration at the start of the Industrial Revolution (approximately 280 ppm in 1750). As of January 2024, the CO_2 concentration was 423 ppm, a 51 percent increase since 1750 (National Oceanic and Atmospheric Administration 2024).

Methane. CH_4 is a gas and is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

Nitrous Oxide. N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Fluorocarbons. Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol.

Sulfur Hexafluoride. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e.

Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). In 2007, IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories. In 2013, IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5) (IPCC 2013). However, the United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories require the use of GWP values from the AR4. To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values, and statewide and national GHG inventories have not yet updated their GWP values to the AR5 values. GHG emissions in this analysis are reported using the AR4 GWP values.

By applying the GWP ratios, CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 2, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 2
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-134a	14	1,430
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

2.3 FEDERAL GREENHOUSE GAS REGULATIONS

2.3.1 Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in Massachusetts v. U.S. Environmental Protection Agency (USEPA) that CO_2 is an air pollutant, as defined under the Clean Air Act (CAA), and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people (USEPA 2024a). This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

On June 30, 2022, the U.S. Supreme Court decision published in *West Virginia v. U.S. Environmental Protection Agency* overturned the USEPA's Clean Power Plan rule which cited Section 111(d) of the CAA for authority to set limits on CO_2 emissions from existing coal- and natural-gas-fired power plants. The June 30, 2022 decision does not overturn the April 2, 2007 decision; however, it may limit the USEPA's authority to develop rules limiting GHG emissions without clear congressional authorization.

2.3.2 Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA worked together on developing a national program of regulations to reduce GHG emissions and improve the fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025.

In December 2021, USEPA issued a new rule formally adopting standards previously proposed in August 2021 for model years 2023 and 2024 and finalizing more stringent standards than previously proposed for model years 2025 and 2026. The rule assumes a 17 percent electric vehicle (EV) market penetration by 2026. Although this is a departure from the NHTSA CAFE standards, USEPA did coordinate with NHTSA during the development of the new standards. On April 12, 2023, USEPA announced new, more

ambitious proposed standards to further reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027. The proposal builds upon USEPA's final standards for federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 and leverages advances in clean car technology to result in benefits to Americans ranging from reducing climate pollution to improving public health, to saving drivers money through reduced fuel and maintenance costs. The proposed standards would phase in over model years 2027 through 2032.

2.4 STATE GREENHOUSE GAS REGULATIONS

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, renewable energy and energy procurement, building energy, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders (EOs), legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

2.4.1 State Climate Change Targets

2.4.1.1 Executive Order S-3-05

On June 1, 2005, EO S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. EOs are not laws and can only provide the governor's direction to state agencies to act within their authority. Legislation is required to enact the goals of EO S-3-05 and establish a framework for statewide implementation. AB 32, described below, mandates the 2020 GHG emissions reduction goals of EO S-3-05. The 2050 GHG emissions reduction goal of EO S-3-05 has not been enacted by any legislation and remains only a goal of the EO.

2.4.1.2 Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), widely known as AB 32, requires that the California Air Resources Board (CARB) develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 enacts the goals of EO S-3-05.

2.4.1.3 Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28-nation European Union. The emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050. Senate Bill (SB) 32, described below, mandates the 2030 GHG emission reduction goals of EO B-30-15.

2.4.1.4 Senate Bill 32

SB 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the state's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

2.4.1.5 Assembly Bill 1279

Approved by Governor Newsom on September 16, 2022, AB 1279, *The California Climate Crisis Act*, declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO_2 from the atmosphere (carbon capture), and almost complete transition away from fossil fuels.

2.4.1.6 Senate Bill 905

Approved by Governor Newsom on September 16, 2022, SB 905, *Carbon sequestration: Carbon Capture, Removal, Utilization, and Storage Program*, requires CARB to establish a Carbon Capture, Removal, Utilization, and Storage Program to evaluate the efficacy, safety, and viability of carbon capture, utilization, or storage technologies and CO_2 removal technologies and facilitate the capture and sequestration of CO_2 from those technologies, where appropriate. SB 905 is an integral part of achieving the state policies mandated in AB 1279.

2.4.1.7 California Air Resources Board Scoping Plan

The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and making the case for using multiple tools to meet California's GHG emissions targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants. The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030.

On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in short-lived climate

pollutants; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

2.4.2 Renewable Energy and Energy Procurement

2.4.2.1 Senate Bill 1078

SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1 percent of sales, with an aggregate goal of 20 percent by 2017. This goal was subsequently revised as described below.

2.4.2.2 Senate Bill 1368

SB 1368 (September 2006) required the California Energy Commission (CEC) to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission.

2.4.2.3 Assembly Bill 1109

Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption 50 percent for indoor residential lighting and 25 percent for indoor commercial lighting.

2.4.2.4 Executive Order S-14-08

EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33 percent of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The California Natural Resources Agency (CNRA), through collaboration with the CEC and California Department of Fish and Wildlife (formerly the California Department of Fish and Game), was directed to lead this effort.

2.4.2.5 Executive Order S-21-09 and Senate Bill X1-2

EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the California Public Utilities Commission and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1-2 expanded the RPS by establishing a renewable energy target of 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, and 33 percent by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

2.4.2.6 Senate Bill 350

SB 350 (October 2015, Clean Energy and Pollution Reduction Act) further expanded the RPS by establishing a goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for the achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code Section 740.12).

2.4.2.7 Senate Bill 100

SB 100 (2018) increased the standards set forth in SB 350 establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

2.4.2.8 Senate Bill 1020

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers to come from eligible renewable energy resources and zero-carbon resources:

- 90 percent by December 31, 2035;
- 95 percent by December 31, 2040; and
- 100 percent by December 31, 2045.

2.4.3 Building Energy

2.4.3.1 California Code of Regulations, Title 24, Part 6

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest update to the Title 24 standards occurred in 2022 and went into effect on January 1, 2023. The Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. While all energy codes are moving toward a goal of net zero energy consumption buildings, California is aiming for the more aggressive target date of 2030 for commercial projects. Specifically, the Title 24 code's goal is for all new commercial construction, and 50 percent of commercial buildings retrofits, to achieve net zero energy consumption by 2030 (the state building target is 2025). To achieve incremental movement toward this goal, changes in the 2022 code are numerous and aggressive. For example, new buildings must comply with the new Solar Access Roof Area (SARA) requirements and all buildings required to have a photovoltaic system must also have a properly sized battery system. The standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards–the energy budgets–that vary by climate zone (of which there are 16 in California) and building type; thus, the standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are a recipe or a checklist compliance approach (CEC 2022).

2.4.3.2 California Green Building Standards Code

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including industrial buildings) throughout California. The code is Part 11 of the California Building Standards Code in Title 24 of the CCR. The current 2022 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings went into effect on January 1, 2023 (California Building Standards Commission [CBSC] 2022).

The development of CALGreen is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

CALGreen contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building

commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

2.4.4 Mobile Sources

2.4.4.1 Assembly Bill 1493 and Advanced Clean Cars

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepared California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2024a).

In January 2012, CARB approved Advanced Clean Cars I, a new emissions-control program for model years 2017 through 2025 including low emissions vehicle and zero-emissions vehicle criteria. The Advanced Clean Cars II regulations were adopted in 2022, imposing the next level of low-emission and zero-emission vehicle standards for model years 2026 through 2035 that contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality targets.

By 2035 all new passenger cars, trucks, and SUVs sold in California will have zero emissions. The Advanced Clean Cars II regulations take the state's already growing zero-emission vehicle market and robust motor vehicle emission control rules and augment them to meet more aggressive tailpipe emissions standards and ramp up to 100 percent zero-emission vehicles.

2.4.4.2 Executive Order S-01-07

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs the CARB to determine whether an LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit Court of Appeals reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB, therefore, is continuing to implement the LCFS statewide.

2.4.4.3 Senate Bill 375

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPOs' Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

2.4.4.4 Executive Order N-79-20

EO N-79-20, signed by Governor Newsom on September 23, 2020, establishes three goals for the implementation of zero-emissions vehicles in California: first, 100 percent of in-state sales of new passenger cars and trucks will be zero-emissions by 2035; second, 100 percent of medium- and heavy-duty vehicles in the state will be zero-emissions vehicles by 2045 for all operations where feasible, and by 2035 for drayage trucks; and third, 100 percent of off-road vehicles and equipment will be zero emissions by 2035 where feasible.

2.4.5 Solid Waste

2.4.5.1 Assembly Bill 939

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board to oversee a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25 percent by 1995 and 50 percent by the year 2000.

2.4.5.2 Assembly Bill 341

The state legislature enacted AB 341 (California Public Resource Code Section 42649.2), amending the Integrated Waste Management Act to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75 percent goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle 2019).

2.4.5.3 Assembly Bill 1826

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape, and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

2.4.5.4 Senate Bill 1383

SB 1383 (Chapter 395, Statutes of 2016) establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. CalRecycle was granted the regulatory authority required to achieve the organic waste disposal

reduction targets and establish an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025 (CalRecycle 2019).

2.4.6 Water

2.4.6.1 Executive Order B-29-15

In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

2.4.6.2 Executive Order B-37-16

Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25 percent reduction called for in EO B-29-15. The SWRCB and Department of Water Resources were required to develop new, permanent water use targets that build upon the existing state law requirements that the state achieve 20 percent reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibits water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

2.4.6.3 Executive Order N-10-21

In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15 percent from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

2.4.7 Other State Actions

2.4.7.1 Senate Bill 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (Governor's Office of Planning and Research 2008). The advisory further

recommended that the lead agency determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The Guidelines require a lead agency to consider the extent to which the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance-based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

2.4.7.2 Executive Order S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009, and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014. To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016. In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency.

2.5 LOCAL GREENHOUSE GAS PLANS

2.5.1 San Diego Association of Governments San Diego Forward: The Regional Plan

SANDAG's 2021 Regional Plan (Regional Plan) is a long-range planning document developed to address the region's housing, economic, transportation, environmental, and overall quality-of-life needs. The underlying purpose is to provide direction and guidance on future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout the region. The 2021 Regional Plan is a 30-year plan that considers how the community will grow, where residents will live, and how residents and visitors will move around the region. It combines the RTP, SCS, and Regional Comprehensive Plan. As such, the 2021 Regional Plan must comply with specific state and federal mandates. These include an SCS, per SB 375, that achieves GHG emissions reduction targets set by the CARB; compliance with federal civil rights requirements (Title VI); environmental justice considerations; air quality conformity; and public participation (SANDAG 2021).

2.5.2 Santee General Plan

The City's General Plan includes various goals, objectives, and policies related to GHG emissions, including the following:

Land Use Element Objective 3.0: Provide and maintain the highest level of service possible for all community public services and facilities.

> **Policy 3.2**: The City should encourage the development and use of recycled water for appropriate land uses to encourage the conservation of, and reduce demand for, potable water.
>
> **Policy 4.3**: The City should locate new neighborhood commercial uses along major roadways in consolidated centers that utilize common access and parking for commercial uses, discourage the introduction of strip commercial uses and require adequate pedestrian links to residential areas.

Mobility Element: The Mobility Element includes policies that enhance smart growth development, improve traffic flow, increase the use of public transit, encourage bicycling and walking, and increase use of alternative modes of travel, which would help to reduce GHG emissions from on-road transportation.

2.5.3 Sustainable Santee Plan

The City adopted the Sustainable Santee Plan on January 8, 2020, which, as a qualified GHG emissions reduction plan in accordance with CEQA Guidelines Section 15183.5, provides guidance for the reduction of GHG emissions within the City. The Sustainable Santee Plan provides policy direction and identifies actions the City and community will take to reduce GHG emissions consistent with State goals and targets including achieving 1990 emission levels by 2020 (which the state has achieved); 40 percent below 1990 levels by 2030; and 80 percent below 1990 levels by 2050. The Sustainable Santee Plan would also work to achieve a per-capita GHG emission level by 2030 in conformance with SB 32 and the CARB Scoping Plan.

3.0 EXISTING CONDITIONS

In an effort to evaluate and reduce the potential adverse impact of global climate change, international, state, and local organizations have conducted GHG inventories to estimate their levels of GHG emissions and removals. The following summarizes the results of these global, national, state, and local GHG inventories.

3.1 WORLDWIDE AND NATIONAL GREENHOUSE GAS INVENTORY

In 2022, total anthropogenic GHG emissions worldwide were estimated at 49,400 million metric tons (MMT) of CO_2e emissions (Climate Watch 2024). The five largest emitting countries and the European Union (EU-27), together account for about 63 percent of total global GHG emissions: China (29 percent), the United States (13 percent), the European Union (about 7 percent), India (7 percent), the Russian Federation (4.1 percent) and Japan (2.4 percent). These countries also have the highest CO_2 emission levels (Climate Watch 2024).

Per USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022, total United States GHG emissions were approximately 6,341 MMT CO_2e in 2022 (USEPA 2024b). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 79.8 percent of total GHG emissions (5,057 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil fuel combustion, which accounted for approximately 92.7 percent of CO_2 emissions in 2022 (4,690 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2022 were lower by 3.1 percent, down from a high of 15.2 percent above 1990 levels in 2007. Gross emissions increased from 2021 to 2022 by 0.3 percent (16.4 MMT CO_2e). Net emissions (i.e., including sinks) were 5,487 MMT CO_2e in 2022. Overall, net emissions increased by 1.3 percent from 2021 to 2022 and decreased by 16.6 percent from 2005 levels. Between 2021 and 2022, the increase in total greenhouse gas emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion across most end-use sectors due in part to increased energy use from the continued rebound of economic activity after the height of the COVID-19 pandemic. (USEPA 2024b).

3.2 STATE GREENHOUSE GAS INVENTORY

CARB performed statewide inventories for the years 2000 to 2020, as shown in Table 3, *California Greenhouse Gas Emissions by Sector*. The inventory is divided into five broad sectors of economic activity: agriculture, commercial and residential, electricity generation, industrial, and transportation. Emissions are quantified in MMT CO_2e

Table 3
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	Emissions (MMT CO_2e)			
	1990	2000	2010	2020
Agriculture and Forestry	18.9 (4%)	30.8 (7%)	33.6 (8%)	31.6 (8%)
Commercial and Residential	44.1 (10%)	44.2 (10%)	46.0 (10%)	38.7 (11%)
Electricity Generation	110.5 (26%)	104.7 (23%)	90.3 (20%)	59.5 (16%)
Industrial	105.3 (24%)	93.0 (20%)	87.8 (20%)	73.3 (20%)
Transportation	150.6 (35%)	175.7 (38%)	162.9 (37%)	135.8 (37%)
Unspecified Remaining	1.3 (<1%)	13.4 (3%)	21.6 (5%)	30.2 (8%)
Total	**430.7**	**461.8**	**442.2**	**369.1**

Source: CARB 2007 and CARB 2024b
MMT = million metric tons; CO_2e = carbon dioxide equivalent

As shown in Table 3, statewide GHG source emissions totaled 430.7 MMT CO_2e in 1990, 461.8 MMT CO_2e in 2000, 442.2 MMT CO_2e in 2010, and 369.1 MMT CO_2e in 2020. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2007 and CARB 2024b).

3.3 LOCAL GREENHOUSE GAS INVENTORY

As part of its Sustainable Santee Plan, the City compiled a GHG inventory. The inventory is presented in Table 4, *2013 City of Santee Greenhouse Gas Inventory*. As shown in Table 4, the on-road transportation sector contributed the most to GHG emissions in the City in 2013.

Table 4
2013 CITY OF SANTEE GREENHOUSE GAS INVENTORY

Sector	Emissions (MT CO_2e)
On-Road Transportation	242,499 (60%)
Residential Energy	78,651 (20%)
Commercial Energy	48,025 (12%)
Solid Waste	11,151 (3%)
Water	6,578 (2%)
Off-Road Sources	14,699 (4%)
Wastewater	971 (<1%)
Total	**402,574**

Source: City 2019
MT = metric tons; CO_2e = carbon dioxide equivalent

4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.1 GREENHOUSE GAS EMISSIONS

GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod is a computer model used to estimate emissions resulting from land development projects throughout the state of California. CalEEMod was developed by the California Air Pollution

Control Officers Association (CAPCOA) in collaboration with the California air quality management and pollution control districts (CAPCOA 2022).

In brief, CalEEMod is a computer model that estimates criteria air pollutant and GHG emissions from mobile (i.e., vehicular) sources, area sources (fireplaces, wood stoves, and landscape maintenance equipment), energy use (electricity and natural gas used in space heating, ventilation, and cooling; lighting; and plug-in appliances), water use and wastewater generation, solid waste disposal, and refrigerant leaks. Emissions are estimated based on land use information input to the model by the user. In various places, the user can input additional information and/or override the default assumptions to account for project- or location-specific parameters. For this assessment, the default parameters were adjusted as described below. The CalEEMod output files are included in Appendix A of this report.

4.1.1 Construction Emissions

The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related emissions that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

4.1.1.1 Housing Element Sites

Construction emissions for HE sites 16A, 16B, 20A, and 20B were estimated based on the timeline provided by the project applicant, which assumes construction would begin in January 2025 and last approximately 18 months. Construction activities would include site preparation, grading, building construction, architectural coatings, and paving. Construction is assumed to occur six days per week with equipment operating up to eight hours per day. Architectural coatings are assumed to occur concurrently with the last five months of building construction. The construction schedule assumed in the modeling is shown in Table 5, *Housing Element Sites Anticipated Construction Schedule.*

Table 5
HOUSING ELEMENT SITES ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period Start	Construction Period End	Number of Working Days
Site Preparation	1/1/2025	1/23/2025	20
Grading	1/24/2025	3/17/2025	45
Building Construction	3/18/2025	5/28/2026	375
Architectural Coatings	1/1/2026	7/8/2026	162
Paving	5/29/2026	7/8/2026	35

Construction would require the use of heavy off-road equipment. Construction equipment estimates are based on default values in CalEEMod, Version 2022.1. Table 6, *Housing Element Sites Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 6
HOUSING ELEMENT SITES CONSTRUCTION EQUIPMENT ASSUMPTIONS

Equipment	Horsepower	Number	Hours/Day
Site Preparation			
Rubber Tired Dozers	367	3	8
Tractors/Loaders/Backhoes	84	4	8
Grading			
Excavators	36	2	8
Graders	148	1	8
Rubber Tired Dozers	367	1	8
Scrapers	426	2	8
Tractors/Loaders/Backhoes	84	2	8
Building Construction			
Cranes	367	2	4.4
Forklifts	82	4	7.5
Generator Sets	14	2	5
Tractors/Loaders/Backhoes	84	4	6.6
Welders	46	2	5
Architectural Coating			
Air Compressors	37	1	6
Paving			
Pavers	81	2	8
Paving Equipment	89	2	8
Rollers	36	2	8

Source: CalEEMod

Worker commute trips and vendor delivery trips were modeled based on CalEEMod defaults. Worker trips are anticipated to vary between 18 and 1,279 trips per day, depending on construction phase. The CalEEMod default worker, vendor and haul trip distances were used in the model.

4.1.1.2 Remaining Town Center Specific Plan Land Uses

Construction-related activities are temporary, short-term sources of emissions. Sources of construction-related emissions include construction equipment exhaust and construction-related trips by workers, delivery, and hauling trucks. The quantity of emissions generated by the construction of projects within the proposed TCSP would vary depending on the number of projects occurring simultaneously and the size of each project. Since the proposed TCSP is a land use plan that guides physical development through 2035, specific construction details such as the exact number and timing of all development projects are unknown. The intensity of construction activity associated with the proposed TCSP could be the same during each year. It is more likely, however, that some periods of construction (and associated emissions) would be more intense than other periods due to market conditions and population and housing demands.

While neither San Diego County Air Pollution Control District (SDAPCD) nor the City of Santee provides additional guidance on construction assumptions for plan-level analyses, some air districts such as the Sacramento Metropolitan Air Quality Management District (SMAQMD) suggest that lead agencies conservatively assume that construction-generated emissions associated with the build-out of a plan should be evaluated assuming 25 percent of the total land uses would be constructed in a single year (SMAQMD 2020). This conservative assumption was used to evaluate the potential construction-related

air quality impacts from projects that could occur under the proposed TCSP Amendment. The land uses modeled in the 25 percent scenario are listed in Table 7, *Land Use Profile – First Year of Construction*. Modeling relied upon CalEEMod default activities, fleet mixes, and vehicle trips based on land use type and size.

Table 7
LAND USE PROFILE – FIRST YEAR OF CONSTRUCTION

Lande Use	Acres	Building Size
Retail	132.89	592,258 square feet
Regional Shopping	8.81	24,625 square feet
Civic/Institutional	45.74	187,223 square feet
Office Commercial	24.76	240,206 square feet
Park	59.36	59.36 acres
Residential (TC-R-14)	42.31	793 dwelling units
Residential (TC-R-22)	23.58	867 dwelling units

Note: HE Sites excluded, as they are provided in the analysis described in Section 4.1.1.1.

Given that exhaust emissions from the construction equipment fleet are expected to decrease over time as stricter standards take effect, 25 percent of the construction emissions were conservatively modeled to occur in 2027, following delivery of the HE Sites. Additional details are available in Appendix A. As construction occurs in later years, advancements in engine technology, retrofits, and turnover in the equipment fleet are anticipated to result in lower levels of emissions.

4.1.2 Operational Emissions

Operational emissions were estimated using CalEEMod. Operational sources of emissions include area, energy, mobile (on-road vehicles), water and wastewater, solid waste, and refrigerants.

4.1.2.1 Area Source Emissions

Area sources typically include emissions from landscaping equipment, the use of consumer products, the reapplication of architectural coatings for maintenance, and hearths. Project emissions associated with area sources were estimated using the CalEEMod default values except for hearths, as the project would not include wood burning stoves or fireplaces, or natural gas fireplaces.

4.1.2.2 Energy Emissions

Development within the project would use electricity for lighting, heating, and cooling. Natural gas and electricity would be supplied by San Diego Gas and Electric (SDG&E). Direct emissions from the burning of natural gas typically results from furnaces, hot water heaters, and kitchen appliances. Electricity generation typically entails the off-site generation of electricity, such as through combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with the off-site or indirect emission of GHGs at the source of electricity generation (power plant). CalEEMod conservatively assumes the use of natural gas appliances based on historical data while newer construction typically includes more electric appliances. Default natural gas and electricity demand quantities from CalEEMod were used in this analysis and the emissions factors for SDG&E provided in CalEEMod were applied to these energy demand values to calculate the resulting emissions.

4.1.2.3 Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with vehicle trip generation and trip length. Based on the project trip generation rate from the Local Transportation Study, the four strategic HE sites would generate 8,520 new average daily trips (ADT) while the remaining TCSP land uses would generate an additional 51,511 ADT (Intersecting Metrics 2024). Default vehicle speeds, trip purpose, and trip distances from CalEEMod were applied to these trips.

4.1.2.4 Water and Wastewater Sources

Water-related GHG emissions are from the energy use for the conveyance and treatment of water and wastewater. CalEEMod uses the Maximum Applied Water Allowance method established under the California Department of Water Resources' 2015 Model Water Efficient Landscape Ordinance and indoor residential water consumption based on per capita daily water use rates from the *Residential End Uses of Water* published by the Water Research Foundation to establish default water use (CAPCOA 2022). Modeling was conducted using these defaults.

4.1.2.5 Solid Waste Sources

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. Portions of these emissions are biogenic. CalEEMod methods for quantifying GHG emissions from solid waste are based on the IPCC method using the degradable organic content of waste. The default waste generation rate for by land use type was used in modeling.

4.1.2.6 Refrigerants

CalEEMod calculates GHG emissions associated with refrigerants (typically HFCs or blends of gases containing HFCs) which are emitted through leakage or maintenance from project refrigeration systems, freezers, and air conditioning systems. Refrigerant emissions were calculated using CalEEMod defaults.

4.2 GREENHOUSE GAS SIGNIFICANCE CRITERIA

Given the relatively small levels of emissions generated by a typical development in relationship to the total amount of GHG emissions generated on a national or global basis, individual development projects are not expected to result in significant, direct impacts concerning climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts to climate change. Therefore, the potential for a significant GHG impact is limited to cumulative impacts.

Thresholds used to evaluate potential GHG impacts are based on applicable criteria in the State's CEQA Guidelines Appendix G. A project would have a significant GHG impact if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As described in Section 2.5.2, the Sustainable Santee Plan is a qualified GHG reduction plan consistent with CEQA guidelines Section 15183.5. Development projects consistent with an applicable local qualified GHG reduction plan are eligible for streamlined GHG analysis. Development project within the City that are consistent with the Sustainable Santee Plan would be consistent with statewide GHG reduction goals for 2030 (per SB 32), thereby demonstrating progress towards the 2045 GHG reduction goal established by AB 1279 (City 2019).

5.0 IMPACT ANALYSIS

5.1 ISSUE 1: GREENHOUSE GAS EMISSIONS

The project would generate GHG emissions during construction and operation. CEQA Guidelines Section 15064.4(a) states that a lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Therefore, GHG emissions are estimated using the methods described in Section 4.1, above, and are provided below for informational purposes.

5.1.1 Construction Emissions

Project construction GHG emissions were estimated using the CalEEMod model as described in Section 4.1.1 with emissions estimated separately for the four strategic HE sites and the rest of the TCSP. Project-specific input was based on project-specific information described in Sections 1.0 and 4.1.1 and default model settings to estimate reasonably conservative conditions. Additional details of construction activities, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix A.

Emissions of GHGs related to the construction of the project would be temporary. As shown in Table 8, *Construction Greenhouse Gas Emissions*, peak annual GHG emissions associated with the construction of the project are estimated at 3,130 MT CO_2e.

Table 8
CONSTRUCTION GREENHOUSE GAS EMISSIONS

Year/Activity	Emissions (MT CO_2e)
2025 Four Strategic HE Sites	2,090
2026 Four Strategic HE Sites	1,135
2027 Town Center Specific Plan – Year 1	3,130

Source: CalEEMod (output data is provided in Appendix A)
MT = metric tons; CO_2e = carbon dioxide equivalent

5.1.2 Operation Emissions

Project operational GHG emissions were estimated using the CalEEMod model as described in Section 4.1.2 with emissions estimated separately for the four strategic HE sites and the rest of the TCSP. The calculated HE Site operational emissions for the first anticipated full year of operation (2027) and the TCSP for the horizon year (2035) are shown in Table 9, *Operational Greenhouse Gas Emissions*.

Table 9
OPERATIONAL GREENHOUSE GAS EMISSIONS

Emission Sources	MT CO_2e
Four Strategic HE Sites	
Vehicular (Mobile)	8,466
Area	18
Energy	909
Water/Wastewater	79
Solid Waste	342
Refrigerants	2
Total Annual HE Site Emissions[1]	**9,815**
Town Center Specific Plan	
Vehicular (Mobile)	52,808
Area	54
Energy	5,032
Water/Wastewater	449
Solid Waste	1,332
Refrigerants	5
Total Annual TCSP Emissions[1]	**59,680**

Source: CalEEMod (output data is provided in Appendix A)
[1] Totals may not sum due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

5.1.3 Greenhouse Gas Emissions Impact

The Sustainable Santee Plan, a qualified GHG emissions reduction plan in accordance with CEQA Guidelines Section 15183.5, provides policy direction and identifies actions the City and community will take to reduce GHG emissions consistent with State goals and targets including: achieving 1990 emission levels by 2020 (which the state has achieved); 40 percent below 1990 levels by 2030; and 80 percent below 1990 levels by 2050. The Sustainable Santee Plan would also work to achieve a per-capita GHG emission level by 2030 in conformance with SB 32 and the CARB Scoping Plan. Development projects within the City that are consistent with the Sustainable Santee Plan would be consistent with statewide GHG reduction goals for 2030 (per SB 32), thereby demonstrating progress towards the 2045 GHG reduction goal established by AB 1279 (City 2019). For the purposes of determining the significance of GHG emissions, the project is analyzed for consistency with the Sustainable Santee Plan.

5.1.3.1 Town Center Specific Plan and Arts and Entertainment Neighborhood

The project would result in a comprehensive update to the existing TCSP involving expanding the TCSP area by 42 acres, updating the boundaries of the TCSP districts to create five neighborhoods within the TCSP, and identifying potential future residential and non-residential development potential within the TCSP area. Future development allowed throughout the TCSP area would not be increased by the project; however, development regulations and criteria in the proposed TCSP would replace the current TCSP. As a result, the project would not increase the amount of vehicle traffic expected to be generated in the City. Similarly, the project would not increase the amount of traffic in the City and would not result in an increase in the average VMT per capita. As buildout of the project would not result in an increase in anticipated development or traffic generation over what would occur under buildout of the adopted zoning and land use designations, the project would not result in an increase in emissions that are not already accounted for in the Sustainable Santee Plan.

The Sustainable Santee Plan includes 10 goals across 5 categories. The proposed project consists of a comprehensive update to the TCSP to modify or establish new land use designations, land uses, development standards, and conceptual guidelines that would apply to future development within the TCSP area. The project is not proposing specific development that could be demonstrated as incorporating measures related to building space, energy use, or utilities; however, the project would not inhibit the City from implementing these measures or achieving these goals. The project includes several transportation projects which would be consistent with Goals 6 and 8 within the Transportation category, as detailed in Table 10, *Project Consistency with Sustainable Santee Plan Measures*.

Table 10
PROJECT CONSISTENCY WITH SUSTAINABLE SANTEE PLAN MEASURES

Measure	Project Compliance
Goal 6 – Reduction in VMT	
Measure 6.1 – Multimodal Infrastructure	The proposed TCSP includes multi-use paths and pedestrian connections. Multi-use pathways provide safe, convenient, and comfortable pedestrian access between the different land uses and neighborhoods and form the backbone of first mile and last mile connections between the transit center and proposed uses. Existing and planned multi-use pathways to be constructed are identified throughout the southern part of the TCSP, south of the San Diego River. One planned multi-use pathway, the River Bridge, is identified spanning the San Diego River along the east side of Cuyamaca Street.
Measure 6.1 – Bike Paths/Transit	The proposed TCSP updates the 1986 bicycle network to account for changes to existing and proposed development in the project area. The proposed TCSP specifies three types of bike facilities and their locations throughout the TCSP. The bicycle network would consist of the following types of facilities: Class I bike paths adjacent to but physically separated from motorists by a median; Class II bike lanes along a street or highway separated by striped lanes; and Class III bike routes, which are shared lanes for bikes and motorists indicated by road markings (i.e., sharrows).
Goal 8 – Traffic Flow	
Measure 8.1 – Traffic Flow Improvement Program	The TCSP identifies improvements along portions of existing Cuyamaca Street and Riverview Parkway, and identifies new roadways roadway connections including Riverview Parkway, Cottonwood Avenue, Main Street, and Park Center Drive. the proposed roadway connections along Riverview Parkway, Cottonwood Avenue, Main Street, and Park Center Drive would provide direct connections through the TCSP area and AEN, as well as onto major arterial roadways and would improve traffic congestion in the area.

Source: City 2019

The transportation projects identified in the TCSP meet the City's VMT Analysis Guidelines screening criteria of "closing gaps in the transportation network" and/or "adding new or enhanced bicycle or pedestrian facilities on existing streets" and are presumed not to increase vehicle travel. The transportation projects identified in the TCSP are intended to increase pedestrian and bicycle safety and connection within the TCSP area to aid in the reduction of VMT and mobile source emissions.

The majority of the TCSP area, including the AEN, is located within a designated Transit Priority Area (TPA). By placing these uses within a TPA, the project would implement the Sustainable Santee Plan strategies by focusing projected future growth into mixed-use and multiple-use activity centers that are pedestrian- and bicycle-friendly and linked to transit. Increasing residential and commercial density in

transit corridors and within a TPA would support the City in achieving the GHG emissions reduction targets of the Sustainable Santee Plan, and thus, impacts associated with GHG emissions would be less than significant.

5.1.3.2 Housing Element Sites

The Sustainable Santee Plan Project Consistency Checklist (Checklist) is intended to be a tool for development projects to demonstrate consistency with the Sustainable Santee Plan. The Checklist has been developed as part of the Sustainable Santee Plan implementation and monitoring process and supports the achievement of individual GHG reduction measures as well as the City's overall GHG reduction goals. Additionally, the Checklist supports the City's sustainability goals and policies that encourage sustainable development and aim to conserve and reduce the consumption of resources, such as energy and water, among others. Projects that meet the requirements of the Checklist are considered consistent with the Sustainable Santee Plan and would have a less than significant contribution to cumulative GHG impacts (i.e., the project's incremental contribution to cumulative GHG effects is not cumulatively considerable), pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b).

The Checklist includes a two-step process to determine if a project would result in a GHG impact. Step 1 consists of an evaluation to determine the project's consistency with existing General Plan land use and zoning designations for the site. Step 2 consists of an evaluation of the project's design features and compliance with the Sustainable Santee Plan's GHG emission reduction measures.

A Checklist was completed for the development of HE sites 16A, 16B, 20A, and 20B (see Appendix B). These sites are designated as residential land uses in the existing TCSP and zoned for residential development in the City's Housing Element. When compared to the existing zoning and land use designations, the project would not increase the development potential allowed at the four Housing Element sites. Therefore, under Step 1 of the Checklist, the project is consistent with the land use assumptions used in the Sustainable Santee Plan.

Consistency with Step 2 of the Checklist would require the implementation of applicable strategies and actions for reducing GHG emissions. This includes strategies related to energy efficiency, tree planting, electric vehicle charging, solid waste reduction, and clean energy. Specifically, Checklist Step 2, measures 2.1 (Increase Energy Efficiency in New Residential Units), 5.1 (Shade Trees), 7.1 (Increase Use of Electric Vehicles), 9.1 (Reduce Waste at Landfills), and 10.1 (Increased Clean Energy Use) are applicable to the project; however, because there are no uniformly applicable development codes that would require these measures be implemented, the impact would be potentially significant.

5.1.4 Mitigation Framework

The following mitigation measures would be required to demonstrate consistency of the HE Sites with the Sustainable Santee Plan, and reduce impacts to less than significant:

GHG-1 **Increase Energy Efficiency in New Residential Units**. New residential construction shall meet or exceed California Green Building Standards Tier 2 Voluntary Measures, such as obtaining green building ratings including LEED, Build it Green, or Energy Star Certified building certification in scoring development and explain the measures implemented.

GHG-2 **Shade Trees.** The project shall utilize tree planting for shade and energy efficiency such as tree planting in parking lots and streetscapes.

GHG-3 **Increased Use of Electric Vehicles**. The project shall install electric vehicle chargers for 13 percent of total parking provided.

GHG-4 **Reducing Solid Waste Generation.** The project shall provide exterior recycling storage space in accordance with California Green Building Standards and the Santee Municipal Code.

GHG-5 **Increased Clean Energy Use.** The project shall install at least 1 kilowatt per unit of photovoltaic solar systems, unless the installation is infeasible due to poor solar resources established in a solar feasibility study prepared by a qualified consultant submitted with an applicant's formal project submittal to City.

5.1.5 Significance After Mitigation

With implementation of mitigation measures GHG-1 through GHG-5 the development of the four HE sites would be consistent with the Sustainable Santee Plan, and the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The impact would be less than significant with mitigation incorporated.

5.2 ISSUE 2: CONFLICT WITH APPLICABLE PLANS ADOPTED FOR THE PURPOSE OF REDUCING GREENHOUSE GAS EMISSIONS

5.2.1 Impacts

There are numerous State plans, policies, and regulations adopted to reduce GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020, which the State achieved. SB 32 and AB 1279 require further reductions of 40 percent below 1990 levels by 2030 and 85 percent below 1990 levels by 2045, respectively. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

The project must also be constructed in accordance with the energy-efficiency standards, water reduction goals, and other standards contained in the applicable Title 24 Part 6 Building Energy Efficiency Standards and Part 11 CALGreen Building Standards. As discussed in Issue 1, the project would be consistent with the Sustainable Santee Plan with the implementation of mitigation measures GHG-1 through GHG-5. The Sustainable Santee Plan was developed to ensure community-wide GHG emissions in Santee would meet the state's 2030 GHG reduction goal mandated by SB 32, thereby demonstrating progress towards achieving the 2045 reduction goal established by AB 1279. Therefore, because the project would be consistent with the Sustainable Santee Plan, as discussed in Section 5.1.3, the project would not conflict with state GHG reduction plans developed to achieve the goals, including the CARB Scoping Plan.

5.2.2 Significance of Impacts

Because there are no uniformly applicable development codes that would enforce the applicable Sustainable Santee Plan GHG reduction measures, development of the four HE sites may not be consistent with the plan and the impact would be potentially significant.

5.2.3 Mitigation Framework

Mitigation measures GHG-1 through GHG-5, described above, would ensure the project would be consistent with the Sustainable Santee Plan.

5.2.4 Significance After Mitigation

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be less than significant with mitigation incorporated.

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7.0 REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2022. User's Guide for CalEEMod Version 2022.1. Available at: http://www.caleemod.com/.

California Air Resources Board (CARB). 2024a. Clean Car Standards – Pavley, Assembly Bill 1493. Accessed December. Available at: http://www.arb.ca.gov/cc/ccms/ccms.htm. Accessed January 29.

2024b. Current California GHG Emission Inventory Data. 2000-2020 GHG Inventory (2023 Edition). Available at: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed January 29.

2022. 2022 Scoping Plan for Achieving Carbon Neutrality. November 16. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents.

2007. 1990-2004 Greenhouse Gas Inventory – By Economic Sector. November 19. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/ghg_inventory_sector_all_90-04_AR4.pdf.

California Building Standards Commission (CBSC). 2022. CALGreen (CCR Title 24, Part 11). Available at: https://www.dgs.ca.gov/en/BSC/CALGreen.

California Department of Resources Recycling and Recovery (CalRecycle). 2019. California's Short-Lived Climate Pollutant Reduction Strategy. https://calrecycle.ca.gov/organics/slcp/.

California Energy Commission (CEC). 2022. CCR Title 24 Part 6, 2022 Building Energy Efficiency Standards Summary. Available at: https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf.

California Natural Resources Agency (CNRA). 2009. Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97. December 2009.

Climate Watch. 2024. Historical GHG Emissions. Available at: https://www.climatewatchdata.org/ghg-emissions?end_year=2022&source=PIK&start_year=1850. Accessed March 3.

Governor's Office of Planning and Research . 2008. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.

Intersecting Metrics. 2024. Santee Town Center Specific Plan Proposed Project Trip Generation. March

Intergovernmental Panel on Climate Change (IPCC). 2014. Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at: https://www.ipcc.ch/report/ar5/wg3/.

2013. Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/site/assets/uploads/2018/03/WG1AR5_SummaryVolume_FINAL.pdf.

Intergovernmental Panel on Climate Change (IPCC) (cont.)
2007. Climate Change 2007: The Physical Science Basis, Summary for Policy Makers (Working Group Fourth Assessment Report). February. Available at: http://www.ipcc.ch/SPM2feb07.pdf.

National Aeronautics and Space Administration, Goddard Institute for Space Studies (NASA). 2024. Global Temperature. Available at: https://climate.nasa.gov/vital-signs/global-temperature/#:~:text=Earth's%20global%20average%20surface%20temperature,average%20from%201951%20to%201980. Accessed March 3.

National Oceanic and Atmospheric Administration. 2024. Trends in Atmospheric Carbon Dioxide. Available at: https://www.esrl.noaa.gov/gmd/ccgg/trends. Accessed March 3.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2020. Program Level Analysis of General Plans and Area Plans. Available at https://www.airquality.org/LandUseTransportation/Documents/Ch9ProgramLevel4-30-2020.pdf.

San Diego Association of Governments (SANDAG). 2021. The 2021 Regional Plan. Available at: https://sdforward.com/mobility-planning/2021-regional-plan.

Santee, City of. 2019. Sustainable Santee Action Plan. December.

U.S. Environmental Protection Agency (USEPA). 2024a. Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act. Last updated April 4, 2023. Available at: https://www.epa.gov/climate-change/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a. Accessed January 29.

2024b. Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022 U.S. Environmental Protection Agency, EPA 430-D-24-001. February 14. Available at: https://www.epa.gov/ghgemissions/draft-inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022.

Appendix A

CalEEMod Output

Santee TCSP HE Sites Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Santee TCSP HE Sites
Construction Start Date	1/1/2025
Operational Year	2026
Lead Agency	City of Santee
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.60
Location	32.84193077423488, -116.9764861508951
County	San Diego
City	Santee
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6529
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Apartments Mid Rise	988	Dwelling Unit	13.8	948,480	94,848	—	2,757	Sites 16A and 20B
Apartments Low Rise	303	Dwelling Unit	5.04	321,180	32,118	—	845	Site 20A
Condo/Townhouse	189	Dwelling Unit	5.57	200,340	20,034	—	527	Site 16B
Other Asphalt Surfaces	571	1000sqft	13.1	0.00	0.00	—	—	Paved area for all 4 site

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.43	64.0	21.7	75.0	0.06	0.59	11.8	12.4	0.55	2.81	3.32	—	18,902	18,902	0.84	1.01	51.1	19,275
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.06	63.9	31.7	68.5	0.06	1.37	11.8	12.4	1.26	3.98	5.23	—	18,244	18,244	0.87	1.04	1.33	18,575
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.16	28.0	20.4	47.8	0.05	0.63	7.66	8.29	0.58	2.01	2.60	—	12,398	12,398	0.58	0.66	14.2	12,624
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.94	5.11	3.72	8.72	0.01	0.11	1.40	1.51	0.11	0.37	0.47	—	2,053	2,053	0.10	0.11	2.35	2,090

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.69	5.87	21.6	68.1	0.06	0.59	10.0	10.6	0.55	2.39	2.94	—	17,067	17,067	0.77	0.94	48.2	17,413
2026	7.43	64.0	21.7	75.0	0.06	0.55	11.8	12.4	0.51	2.81	3.32	—	18,902	18,902	0.84	1.01	51.1	19,275
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.62	5.79	31.7	62.0	0.06	1.37	10.0	10.6	1.26	3.98	5.23	—	16,506	16,506	0.81	0.96	1.25	16,813
2026	7.06	63.9	22.4	68.5	0.06	0.55	11.8	12.4	0.51	2.81	3.32	—	18,244	18,244	0.87	1.04	1.33	18,575
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	5.16	4.49	20.4	47.8	0.05	0.63	7.66	8.29	0.58	2.01	2.60	—	12,398	12,398	0.58	0.66	14.2	12,624
2026	2.62	28.0	8.59	25.9	0.02	0.22	4.28	4.50	0.21	1.02	1.22	—	6,732	6,732	0.32	0.37	7.98	6,858
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.94	0.82	3.72	8.72	0.01	0.11	1.40	1.51	0.11	0.37	0.47	—	2,053	2,053	0.10	0.11	2.35	2,090
2026	0.48	5.11	1.57	4.72	< 0.005	0.04	0.78	0.82	0.04	0.19	0.22	—	1,115	1,115	0.05	0.06	1.32	1,135

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	44.1	74.8	25.9	305	0.54	0.75	44.5	45.2	0.71	11.3	12.0	689	58,024	58,713	72.7	2.38	185	61,424

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	35.5	66.7	27.2	211	0.51	0.71	44.5	45.2	0.68	11.3	12.0	689	55,488	56,177	72.9	2.50	15.1	58,760
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	39.0	69.9	27.3	252	0.52	0.73	44.3	45.0	0.70	11.2	11.9	689	55,947	56,636	72.8	2.48	85.9	59,282
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.12	12.8	4.99	46.0	0.09	0.13	8.08	8.21	0.13	2.05	2.18	114	9,263	9,377	12.1	0.41	14.2	9,815

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	35.8	33.1	21.3	220	0.51	0.40	44.5	44.9	0.37	11.3	11.7	—	52,308	52,308	2.59	2.06	175	53,163
Area	7.86	41.5	0.81	83.9	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	224	224	0.01	< 0.005	—	225
Energy	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	5,445	5,445	0.89	0.07	—	5,487
Water	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Waste	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Total	44.1	74.8	25.9	305	0.54	0.75	44.5	45.2	0.71	11.3	12.0	689	58,024	58,713	72.7	2.38	185	61,424
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	35.1	32.4	23.5	210	0.49	0.40	44.5	44.9	0.37	11.3	11.7	—	49,997	49,997	2.78	2.19	4.53	50,724
Area	0.00	34.1	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Energy	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	5,445	5,445	0.89	0.07	—	5,487
Water	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Waste	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Total	35.5	66.7	27.2	211	0.51	0.71	44.5	45.2	0.68	11.3	12.0	689	55,488	56,177	72.9	2.50	15.1	58,760
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	34.7	32.0	23.1	209	0.49	0.40	44.3	44.7	0.37	11.2	11.6	—	50,345	50,345	2.72	2.17	75.4	51,135
Area	3.87	37.7	0.40	41.4	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	111	111	< 0.005	< 0.005	—	111
Energy	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	5,445	5,445	0.89	0.07	—	5,487
Water	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Waste	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Total	39.0	69.9	27.3	252	0.52	0.73	44.3	45.0	0.70	11.2	11.9	689	55,947	56,636	72.8	2.48	85.9	59,282
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.33	5.83	4.22	38.1	0.09	0.07	8.08	8.15	0.07	2.05	2.12	—	8,335	8,335	0.45	0.36	12.5	8,466
Area	0.71	6.89	0.07	7.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.3	18.3	< 0.005	< 0.005	—	18.4
Energy	0.08	0.04	0.69	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	—	902	902	0.15	0.01	—	909
Water	—	—	—	—	—	—	—	—	—	—	—	16.5	7.53	24.0	1.70	0.04	—	78.6
Waste	—	—	—	—	—	—	—	—	—	—	—	97.6	0.00	97.6	9.76	0.00	—	342
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.74	1.74
Total	7.12	12.8	4.99	46.0	0.09	0.13	8.08	8.21	0.13	2.05	2.18	114	9,263	9,377	12.1	0.41	14.2	9,815

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.73	1.65	< 0.005	0.07	—	0.07	0.07	—	0.07	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	157	157	0.01	0.01	0.02	159
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	< 0.005	26.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.67	8.67	< 0.005	< 0.005	0.01	8.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.44	1.44	< 0.005	< 0.005	< 0.005	1.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.39	3.66	3.49	0.01	0.15	—	0.15	0.14	—	0.14	—	814	814	0.03	0.01	—	816
Dust From Material Movement	—	—	—	—	—	—	0.44	0.44	—	0.18	0.18	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.67	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	135	135	0.01	< 0.005	—	135
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182

Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.0	25.0	< 0.005	< 0.005	< 0.005	26.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.3	22.3	< 0.005	< 0.005	0.04	22.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.09	3.09	< 0.005	< 0.005	< 0.005	3.22
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.69	3.69	< 0.005	< 0.005	0.01	3.74
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.51	0.51	< 0.005	< 0.005	< 0.005	0.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.41	13.1	16.3	0.03	0.54	—	0.54	0.50	—	0.50	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	1.41	13.1	16.3	0.03	0.54	—	0.54	0.50	—	0.50	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.14	0.96	8.86	11.1	0.02	0.37	—	0.37	0.34	—	0.34	—	2,034	2,034	0.08	0.02	—	2,041
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.62	2.02	< 0.005	0.07	—	0.07	0.06	—	0.06	—	337	337	0.01	< 0.005	—	338
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.67	4.30	3.26	49.3	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	10,110	10,110	0.47	0.35	37.9	10,265
Vendor	0.34	0.16	5.27	2.45	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,960	3,960	0.17	0.56	10.3	4,141
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.60	4.23	3.63	43.2	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	9,547	9,547	0.52	0.38	0.99	9,673
Vendor	0.33	0.15	5.47	2.52	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,962	3,962	0.17	0.56	0.27	4,133
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.09	2.84	2.45	29.8	0.00	0.00	6.09	6.09	0.00	1.43	1.43	—	6,537	6,537	0.33	0.25	11.1	6,633
Vendor	0.23	0.11	3.68	1.68	0.02	0.04	0.68	0.72	0.04	0.19	0.23	—	2,688	2,688	0.12	0.38	3.02	2,807
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.56	0.52	0.45	5.43	0.00	0.00	1.11	1.11	0.00	0.26	0.26	—	1,082	1,082	0.06	0.04	1.84	1,098

Vendor	0.04	0.02	0.67	0.31	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	445	445	0.02	0.06	0.50	465
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	1.34	12.3	16.2	0.03	0.47	—	0.47	0.44	—	0.44	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	1.34	12.3	16.2	0.03	0.47	—	0.47	0.44	—	0.44	—	2,997	2,997	0.12	0.02	—	3,007
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.28	5.63	0.01	0.16	—	0.16	0.15	—	0.15	—	1,041	1,041	0.04	0.01	—	1,045
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.78	1.03	< 0.005	0.03	—	0.03	0.03	—	0.03	—	172	172	0.01	< 0.005	—	173
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.48	3.85	2.95	46.1	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	9,905	9,905	0.47	0.35	34.7	10,056
Vendor	0.31	0.13	5.01	2.36	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,886	3,886	0.15	0.56	9.48	4,067
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.18	3.80	3.33	40.6	0.00	0.00	9.01	9.01	0.00	2.11	2.11	—	9,354	9,354	0.49	0.38	0.90	9,479
Vendor	0.30	0.13	5.21	2.40	0.03	0.05	1.01	1.07	0.05	0.28	0.33	—	3,889	3,889	0.15	0.56	0.25	4,060
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.44	1.31	1.15	14.3	0.00	0.00	3.12	3.12	0.00	0.73	0.73	—	3,280	3,280	0.17	0.13	5.20	3,328
Vendor	0.11	0.05	1.80	0.82	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,351	1,351	0.05	0.19	1.43	1,412
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.21	2.60	0.00	0.00	0.57	0.57	0.00	0.13	0.13	—	543	543	0.03	0.02	0.86	551
Vendor	0.02	0.01	0.33	0.15	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	224	224	0.01	0.03	0.24	234
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.68	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	145
Paving	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	139	139	0.01	< 0.005	0.49	142
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.1	49.1	< 0.005	0.01	0.12	51.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.7	12.7	< 0.005	< 0.005	0.02	12.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.71	4.71	< 0.005	< 0.005	< 0.005	4.92
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.11	2.11	< 0.005	< 0.005	< 0.005	2.14
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.82
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	57.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	57.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.38	0.50	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.3	59.3	< 0.005	< 0.005	—	59.5
Architectural Coatings	—	25.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.81	9.81	< 0.005	< 0.005	—	9.84
Architectural Coatings	—	4.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.90	0.77	0.59	9.21	0.00	0.00	1.80	1.80	0.00	0.42	0.42	—	1,981	1,981	0.09	0.07	6.93	2,011
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.76	0.67	8.13	0.00	0.00	1.80	1.80	0.00	0.42	0.42	—	1,871	1,871	0.10	0.08	0.18	1,896
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.33	0.29	3.64	0.00	0.00	0.80	0.80	0.00	0.19	0.19	—	838	838	0.04	0.03	1.33	850

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.66	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	139	139	0.01	0.01	0.22	141
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	21.8	20.2	13.0	134	0.31	0.24	27.1	27.3	0.23	6.87	7.10	—	31,857	31,857	1.58	1.26	106	32,377
Apartments Low Rise	7.63	7.07	4.56	46.9	0.11	0.09	9.49	9.58	0.08	2.41	2.49	—	11,165	11,165	0.55	0.44	37.3	11,348
Condo/Townhouse	6.35	5.88	3.79	39.0	0.09	0.07	7.89	7.97	0.07	2.00	2.07	—	9,286	9,286	0.46	0.37	31.0	9,438
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	35.8	33.1	21.3	220	0.51	0.40	44.5	44.9	0.37	11.3	11.7	—	52,308	52,308	2.59	2.06	175	53,163

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	21.4	19.7	14.3	128	0.30	0.24	27.1	27.3	0.23	6.87	7.10	—	30,449	30,449	1.69	1.34	2.76	30,892
Apartments Low Rise	7.49	6.91	5.01	44.8	0.10	0.09	9.49	9.58	0.08	2.41	2.49	—	10,672	10,672	0.59	0.47	0.97	10,827
Condo/Townhouse	6.23	5.75	4.16	37.3	0.09	0.07	7.89	7.97	0.07	2.00	2.07	—	8,876	8,876	0.49	0.39	0.80	9,005
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	35.1	32.4	23.5	210	0.49	0.40	44.5	44.9	0.37	11.3	11.7	—	49,997	49,997	2.78	2.19	4.53	50,724
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.85	3.55	2.57	23.2	0.05	0.04	4.92	4.96	0.04	1.25	1.29	—	5,076	5,076	0.27	0.22	7.60	5,156
Apartments Low Rise	1.35	1.25	0.90	8.14	0.02	0.02	1.72	1.74	0.01	0.44	0.45	—	1,779	1,779	0.10	0.08	2.66	1,807
Condo/Townhouse	1.12	1.04	0.75	6.77	0.02	0.01	1.43	1.45	0.01	0.36	0.38	—	1,480	1,480	0.08	0.06	2.22	1,503
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.33	5.83	4.22	38.1	0.09	0.07	8.08	8.15	0.07	2.05	2.12	—	8,335	8,335	0.45	0.36	12.5	8,466

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	414	414	0.30	0.04	—	432
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	131	131	0.10	0.01	—	137
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.4	96.4	0.07	0.01	—	101
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	641	641	0.47	0.06	—	670
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	414	414	0.30	0.04	—	432
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	131	131	0.10	0.01	—	137
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	96.4	96.4	0.07	0.01	—	101
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	641	641	0.47	0.06	—	670

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	68.5	68.5	0.05	0.01	—	71.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	21.7	21.7	0.02	< 0.005	—	22.6
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	0.01	< 0.005	—	16.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	106	106	0.08	0.01	—	111

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Apartments Low Rise	0.12	0.06	1.04	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,317	1,317	0.12	< 0.005	—	1,321
Condo/Townhouse	0.11	0.06	0.98	0.42	0.01	0.08	—	0.08	0.08	—	0.08	—	1,246	1,246	0.11	< 0.005	—	1,249
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	4,804	4,804	0.43	0.01	—	4,818
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Apartments Low Rise	0.12	0.06	1.04	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,317	1,317	0.12	< 0.005	—	1,321
Condo/Townhouse	0.11	0.06	0.98	0.42	0.01	0.08	—	0.08	0.08	—	0.08	—	1,246	1,246	0.11	< 0.005	—	1,249
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.44	0.22	3.78	1.61	0.02	0.31	—	0.31	0.31	—	0.31	—	4,804	4,804	0.43	0.01	—	4,818
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	371	371	0.03	< 0.005	—	372
Apartments Low Rise	0.02	0.01	0.19	0.08	< 0.005	0.02	—	0.02	0.02	—	0.02	—	218	218	0.02	< 0.005	—	219
Condo/Townhouse	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	206	206	0.02	< 0.005	—	207
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.69	0.29	< 0.005	0.06	—	0.06	0.06	—	0.06	—	795	795	0.07	< 0.005	—	798

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	31.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	7.86	7.44	0.81	83.9	< 0.005	0.04	—	0.04	0.03	—	0.03	—	224	224	0.01	< 0.005	—	225
Total	7.86	41.5	0.81	83.9	< 0.005	0.04	—	0.04	0.03	—	0.03	0.00	224	224	0.01	< 0.005	—	225
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	31.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	34.1	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer Products	—	5.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.71	0.67	0.07	7.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.3	18.3	< 0.005	< 0.005	—	18.4
Total	0.71	6.89	0.07	7.55	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.3	18.3	< 0.005	< 0.005	—	18.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	30.3	96.8	6.84	0.16	—	317
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.4	9.34	29.7	2.10	0.05	—	97.3
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	12.7	5.83	18.5	1.31	0.03	—	60.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	30.3	96.8	6.84	0.16	—	317
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.4	9.34	29.7	2.10	0.05	—	97.3
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	12.7	5.83	18.5	1.31	0.03	—	60.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	99.6	45.5	145	10.3	0.25	—	475
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.0	5.02	16.0	1.13	0.03	—	52.5
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3.38	1.55	4.92	0.35	0.01	—	16.1
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2.11	0.96	3.07	0.22	0.01	—	10.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.5	7.53	24.0	1.70	0.04	—	78.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	0.00	121	12.1	0.00	—	422
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	75.3	0.00	75.3	7.52	0.00	—	263
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	121	0.00	121	12.1	0.00	—	422
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	75.3	0.00	75.3	7.52	0.00	—	263
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	590	0.00	590	58.9	0.00	—	2,063

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	65.2	0.00	65.2	6.52	0.00	—	228
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	20.0	0.00	20.0	2.00	0.00	—	69.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	12.5	0.00	12.5	1.25	0.00	—	43.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	97.6	0.00	97.6	9.76	0.00	—	342

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.30	2.30
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.43	1.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.30	2.30
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.43	1.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.38	0.38
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.74	1.74

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Site Preparation	Site Preparation	1/1/2025	1/23/2025	6.00	20.0	—
Grading	Grading	1/24/2025	3/17/2025	6.00	45.0	—
Building Construction	Building Construction	3/18/2025	5/28/2026	6.00	375	—
Paving	Paving	5/29/2026	7/8/2026	6.00	35.0	—
Architectural Coating	Architectural Coating	1/1/2026	7/8/2026	6.00	162	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	2.00	4.38	367	0.29
Building Construction	Forklifts	Diesel	Average	4.00	7.50	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	5.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	4.00	6.56	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	5.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	1.00	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	1.00	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,066	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	158	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—

Architectural Coating	Worker	213	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	2,976,750	992,250	0.00	0.00	34,258

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	30.0	0.00	—
Grading	—	—	135	0.00	—
Paving	0.00	0.00	0.00	0.00	13.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Apartments Low Rise	—	0%
Condo/Townhouse	—	0%
Other Asphalt Surfaces	13.1	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	540	0.03	< 0.005
2026	0.00	45.1	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	5,187	5,187	5,187	1,893,255	38,359	38,359	38,359	14,000,900
Apartments Low Rise	1,818	1,818	1,818	663,570	13,444	13,444	13,444	4,907,198
Condo/Townhouse	1,512	1,512	1,512	551,880	11,181	11,181	11,181	4,081,234
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	988
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	303
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	189
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
2976750	992,250	0.00	0.00	34,258

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	3,350,179	45.1	0.0330	0.0040	6,993,495
Apartments Low Rise	1,058,452	45.1	0.0330	0.0040	4,110,320
Condo/Townhouse	780,448	45.1	0.0330	0.0040	3,886,734
Other Asphalt Surfaces	0.00	45.1	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	34,711,478	1,732,407
Apartments Low Rise	10,645,322	586,638
Condo/Townhouse	6,640,151	365,923
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	731	—
Apartments Low Rise	224	—
Condo/Townhouse	140	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4	annual days of extreme heat
Extreme Precipitation	3.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.98	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	45.1
AQ-DPM	25.7
Drinking Water	10.9
Lead Risk Housing	17.5
Pesticides	0.00
Toxic Releases	25.6
Traffic	48.6
Effect Indicators	—
CleanUp Sites	37.8
Groundwater	40.8
Haz Waste Facilities/Generators	84.7
Impaired Water Bodies	77.3

Solid Waste	9.67
Sensitive Population	—
Asthma	35.6
Cardio-vascular	30.2
Low Birth Weights	18.6
Socioeconomic Factor Indicators	—
Education	43.4
Housing	19.8
Linguistic	10.4
Poverty	16.6
Unemployment	28.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	66.11061209
Employed	1.296034903
Median HI	58.75785962
Education	—
Bachelor's or higher	47.36301809
High school enrollment	17.87501604
Preschool enrollment	14.26921596
Transportation	—
Auto Access	76.73553189
Active commuting	33.56858719
Social	—

2-parent households	27.65302194
Voting	75.72180162
Neighborhood	—
Alcohol availability	42.80764789
Park access	24.26536635
Retail density	59.4636212
Supermarket access	60.82381625
Tree canopy	8.135506224
Housing	—
Homeownership	43.19260875
Housing habitability	69.11330681
Low-inc homeowner severe housing cost burden	75.55498524
Low-inc renter severe housing cost burden	83.49801104
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	59.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	1.7
Cognitively Disabled	36.6
Physically Disabled	78.7

Heart Attack ER Admissions	49.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	83.1
English Speaking	76.6
Foreign-born	6.0
Outdoor Workers	58.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	55.9
Traffic Density	49.3
Traffic Access	51.5
Other Indices	—
Hardship	31.7
Other Decision Support	—
2016 Voting	76.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	18.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on acreage and total dwelling units provided in Town Center Specific Plan Buildout Summary (9-7-2023 Draft)
Construction: Construction Phases	Sites are vacant, no demo required. Building Construction phase working days reduced by 25% to achieve target buildout in 2026. Architectural coating phase adjusted to overlap second half of Building Construction and Paving.
Construction: Off-Road Equipment	Building construction equipment/hours increased by 25% due to shortened schedule.
Operations: Vehicle Data	Trip generation provided by Intersecting Metrics.
Operations: Hearths	No hearths installed.

Santee TCSP Program Construction Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Santee TCSP Program Construction
Construction Start Date	1/1/2027
Lead Agency	City of Santee
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.60
Location	32.84514001277044, -116.97668753144887
County	San Diego
City	Santee
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6529
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Strip Mall	148	1000sqft	33.2	148,060	0.00	—	—	—

Regional Shopping Center	6.16	1000sqft	2.20	6,160	0.00	—	—	—
Government (Civic Center)	46.8	1000sqft	11.4	46,810	0.00	—	—	—
Office Park	60.0	1000sqft	6.19	60,050	0.00	—	—	—
City Park	14.8	Acre	14.8	0.00	0.00	0.00	—	—
Condo/Townhouse	198	Dwelling Unit	10.6	209,880	0.00	—	552	—
Apartments Low Rise	217	Dwelling Unit	5.90	230,020	0.00	—	605	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.2	12.0	94.8	121	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,438	26,438	1.09	0.65	20.6	26,679
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.2	12.0	95.2	119	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,172	26,172	1.12	0.66	0.53	26,397
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.1	8.56	68.1	84.9	0.14	2.64	11.6	14.3	2.43	4.70	7.13	—	18,743	18,743	0.79	0.46	6.38	18,907

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.85	1.56	12.4	15.5	0.03	0.48	2.13	2.61	0.44	0.86	1.30	—	3,103	3,103	0.13	0.08	1.06	3,130

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	14.2	12.0	94.8	121	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,438	26,438	1.09	0.65	20.6	26,679
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	14.2	12.0	95.2	119	0.20	3.70	16.3	20.0	3.40	6.57	9.98	—	26,172	26,172	1.12	0.66	0.53	26,397
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	10.1	8.56	68.1	84.9	0.14	2.64	11.6	14.3	2.43	4.70	7.13	—	18,743	18,743	0.79	0.46	6.38	18,907
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.85	1.56	12.4	15.5	0.03	0.48	2.13	2.61	0.44	0.86	1.30	—	3,103	3,103	0.13	0.08	1.06	3,130

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.64	2.21	19.9	18.6	0.03	0.80	—	0.80	0.73	—	0.73	—	3,427	3,427	0.14	0.03	—	3,439
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	1.58	14.2	13.3	0.02	0.57	—	0.57	0.52	—	0.52	—	2,450	2,450	0.10	0.02	—	2,459
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.60	2.43	< 0.005	0.10	—	0.10	0.10	—	0.10	—	406	406	0.02	< 0.005	—	407
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.05	0.04	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	137	137	0.01	< 0.005	0.44	139
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.11	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.54	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	0.01	0.01	131
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	< 0.005	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.4	93.4	< 0.005	< 0.005	0.14	94.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	< 0.005	0.03	35.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.5	15.5	< 0.005	< 0.005	0.02	15.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.94
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63	3.05	28.0	28.3	0.05	1.17	—	1.17	1.08	—	1.08	—	5,298	5,298	0.21	0.04	—	5,316

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63	3.05	28.0	28.3	0.05	1.17	—	1.17	1.08	—	1.08	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.60	2.18	20.0	20.2	0.03	0.84	—	0.84	0.77	—	0.77	—	3,788	3,788	0.15	0.03	—	3,801
Dust From Material Movement	—	—	—	—	—	—	5.48	5.48	—	2.82	2.82	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.40	3.65	3.69	0.01	0.15	—	0.15	0.14	—	0.14	—	627	627	0.03	0.01	—	629
Dust From Material Movement	—	—	—	—	—	—	1.00	1.00	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.04	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	160	160	0.01	0.01	0.52	162
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.63	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	151	151	0.01	0.01	0.01	153
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	109	109	0.01	< 0.005	0.16	110
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.0	18.0	< 0.005	< 0.005	0.03	18.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.51	2.95	25.6	27.3	0.06	1.04	—	1.04	0.96	—	0.96	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.51	2.11	18.3	19.5	0.04	0.75	—	0.75	0.69	—	0.69	—	4,718	4,718	0.19	0.04	—	4,734
Dust From Material Movement	—	—	—	—	—	—	2.57	2.57	—	1.02	1.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.38	3.34	3.56	0.01	0.14	—	0.14	0.13	—	0.13	—	781	781	0.03	0.01	—	784
Dust From Material Movement	—	—	—	—	—	—	0.47	0.47	—	0.19	0.19	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.82	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.59	186
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.1	72.1	< 0.005	0.01	0.16	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.72	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	72.2	72.2	< 0.005	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	125	125	0.01	< 0.005	0.18	126
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.6	51.6	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	20.6	20.6	< 0.005	< 0.005	0.03	20.9
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.72	9.25	0.02	0.24	—	0.24	0.22	—	0.22	—	1,714	1,714	0.07	0.01	—	1,720
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.23	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	284	284	0.01	< 0.005	—	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.47	1.35	0.94	15.7	0.00	0.00	3.23	3.23	0.00	0.76	0.76	—	3,494	3,494	0.16	0.13	11.3	3,547
Vendor	0.16	0.07	2.64	1.25	0.01	0.03	0.56	0.59	0.03	0.15	0.18	—	2,095	2,095	0.08	0.29	4.68	2,190
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.45	1.31	1.18	13.8	0.00	0.00	3.23	3.23	0.00	0.76	0.76	—	3,300	3,300	0.18	0.13	0.29	3,344
Vendor	0.15	0.07	2.74	1.27	0.01	0.03	0.56	0.59	0.03	0.15	0.18	—	2,097	2,097	0.08	0.29	0.12	2,187
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.03	0.93	0.84	9.96	0.00	0.00	2.30	2.30	0.00	0.54	0.54	—	2,381	2,381	0.12	0.09	3.50	2,414
Vendor	0.11	0.05	1.94	0.90	0.01	0.02	0.40	0.42	0.02	0.11	0.13	—	1,499	1,499	0.06	0.21	1.45	1,564
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.15	1.82	0.00	0.00	0.42	0.42	0.00	0.10	0.10	—	394	394	0.02	0.01	0.58	400
Vendor	0.02	0.01	0.35	0.17	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	248	248	0.01	0.03	0.24	259
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	4.97	7.12	0.01	0.21	—	0.21	0.20	—	0.20	—	1,081	1,081	0.04	0.01	—	1,084
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.91	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	179	179	0.01	< 0.005	—	180
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	137	137	0.01	< 0.005	0.44	139
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.11	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.54	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	129	129	0.01	0.01	0.01	131

Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	< 0.005	50.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.4	93.4	< 0.005	< 0.005	0.14	94.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.4	34.4	< 0.005	< 0.005	0.03	35.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.5	15.5	< 0.005	< 0.005	0.02	15.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.94
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.59	0.80	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.5	95.5	< 0.005	< 0.005	—	95.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.27	0.19	3.13	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	699	699	0.03	0.03	2.27	709
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.24	2.75	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	660	660	0.04	0.03	0.06	669
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.17	1.99	0.00	0.00	0.46	0.46	0.00	0.11	0.11	—	476	476	0.02	0.02	0.70	483
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	78.8	78.8	< 0.005	< 0.005	0.12	79.9

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2027	12/31/2027	5.00	261	—
Site Preparation	Site Preparation	1/1/2027	12/31/2027	5.00	261	—
Grading	Grading	1/1/2027	12/31/2027	5.00	261	—
Building Construction	Building Construction	1/1/2027	12/31/2027	5.00	261	—
Paving	Paving	1/1/2027	12/31/2027	5.00	261	—
Architectural Coating	Architectural Coating	1/1/2027	12/31/2027	5.00	261	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	12.0	LDA,LDT1,LDT2
Demolition	Vendor	2.00	7.63	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	3.00	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	382	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	87.2	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	76.5	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	392	0.00	—
Grading	—	—	783	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Strip Mall	0.00	0%
Regional Shopping Center	0.00	0%
Government (Civic Center)	0.00	0%
Office Park	0.00	0%
City Park	0.00	0%
Condo/Townhouse	—	0%
Apartments Low Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	589	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4	annual days of extreme heat
Extreme Precipitation	3.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.98	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	45.1
AQ-DPM	25.7
Drinking Water	10.9
Lead Risk Housing	17.5
Pesticides	0.00
Toxic Releases	25.6
Traffic	48.6
Effect Indicators	—
CleanUp Sites	37.8
Groundwater	40.8
Haz Waste Facilities/Generators	84.7
Impaired Water Bodies	77.3
Solid Waste	9.67
Sensitive Population	—
Asthma	35.6
Cardio-vascular	30.2
Low Birth Weights	18.6
Socioeconomic Factor Indicators	—
Education	43.4
Housing	19.8

Linguistic	10.4
Poverty	16.6
Unemployment	28.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	66.11061209
Employed	1.296034903
Median HI	58.75785962
Education	—
Bachelor's or higher	47.36301809
High school enrollment	17.87501604
Preschool enrollment	14.26921596
Transportation	—
Auto Access	76.73553189
Active commuting	33.56858719
Social	—
2-parent households	27.65302194
Voting	75.72180162
Neighborhood	—
Alcohol availability	42.80764789
Park access	24.26536635
Retail density	59.4636212
Supermarket access	60.82381625
Tree canopy	8.135506224

Housing	—
Homeownership	43.19260875
Housing habitability	69.11330681
Low-inc homeowner severe housing cost burden	75.55498524
Low-inc renter severe housing cost burden	83.49801104
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	59.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	1.7
Cognitively Disabled	36.6
Physically Disabled	78.7
Heart Attack ER Admissions	49.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	83.1
English Speaking	76.6
Foreign-born	6.0
Outdoor Workers	58.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	55.9
Traffic Density	49.3
Traffic Access	51.5
Other Indices	—
Hardship	31.7
Other Decision Support	—
2016 Voting	76.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	18.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Assuming 25% of SP construction occurs in one year. Residences in Sites 16A, 16B, 20A, and 20B not included.
Construction: Construction Phases	Default construction activities assumed to occur over one year.

Santee TCSP Program 2035 Operations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Santee TCSP Program 2035 Operations
Operational Year	2035
Lead Agency	City of Santee
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	7.60
Location	32.845263451000434, -116.97647155078744
County	San Diego
City	Santee
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6529
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Strip Mall	592	1000sqft	133	592,258	59,225	—	—	—

Regional Shopping Center	24.6	1000sqft	8.81	24,625	2,462	—	—	—
Government (Civic Center)	187	1000sqft	45.7	187,223	18,722	—	—	—
Office Park	240	1000sqft	24.8	240,206	24,020	—	—	—
City Park	59.4	Acre	59.4	0.00	59.4	59.4	—	—
Condo/Townhouse	982	Dwelling Unit	50.9	1,040,920	104,092	—	2,740	—
Apartments Low Rise	1,170	Dwelling Unit	31.3	1,240,200	124,020	—	3,264	—
Apartments Mid Rise	988	Dwelling Unit	21.1	948,480	94,848	—	2,757	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	207	282	113	1,430	3.36	3.15	330	333	3.00	83.7	86.7	2,751	363,224	365,975	294	13.5	399	377,736
Mit.	183	259	111	1,206	3.35	2.99	330	333	2.88	83.7	86.6	2,751	362,615	365,366	294	13.5	399	377,125
% Reduced	12%	8%	2%	16%	< 0.5%	5%	—	< 0.5%	4%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
Mit.	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	189	265	119	1,232	3.19	3.05	324	327	2.91	82.2	85.1	2,751	346,040	348,791	294	13.9	186	360,470
Mit.	177	254	118	1,121	3.19	2.97	324	327	2.86	82.2	85.1	2,751	345,739	348,490	294	13.9	186	360,169
% Reduced	6%	4%	1%	9%	< 0.5%	3%	—	< 0.5%	2%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	34.5	48.3	21.7	225	0.58	0.56	59.2	59.7	0.53	15.0	15.5	455	57,291	57,746	48.7	2.30	30.8	59,680
Mit.	32.3	46.3	21.5	205	0.58	0.54	59.2	59.7	0.52	15.0	15.5	455	57,241	57,697	48.7	2.30	30.8	59,630
% Reduced	6%	4%	1%	9%	< 0.5%	3%	—	< 0.5%	2%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Area	24.4	114	2.03	224	0.01	0.16	—	0.16	0.12	—	0.12	0.00	663	663	0.03	0.01	—	665
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713

Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	207	282	113	1,430	3.36	3.15	330	333	3.00	83.7	86.7	2,751	363,224	365,975	294	13.5	399	377,736
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	175	161	103	1,113	3.09	1.76	324	326	1.64	82.2	83.9	—	314,741	314,741	13.8	12.5	158	318,966
Area	12.0	103	1.00	111	0.01	0.08	—	0.08	0.06	—	0.06	0.00	327	327	0.01	< 0.005	—	328
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	189	265	119	1,232	3.19	3.05	324	327	2.91	82.2	85.1	2,751	346,040	348,791	294	13.9	186	360,470
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808
Area	2.19	18.8	0.18	20.2	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	54.1	54.1	< 0.005	< 0.005	—	54.3
Energy	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	5,001	5,001	0.64	0.05	—	5,032
Water	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449
Waste	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63

Total	34.5	48.3	21.7	225	0.58	0.56	59.2	59.7	0.53	15.0	15.5	455	57,291	57,746	48.7	2.30	30.8	59,680

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,260	30,260	3.87	0.30	—	30,447
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	183	259	111	1,206	3.35	2.99	330	333	2.88	83.7	86.6	2,751	362,615	365,366	294	13.5	399	377,125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,207	30,207	3.86	0.30	—	30,392
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	181	258	121	1,135	3.21	2.99	330	333	2.88	83.7	86.6	2,751	347,713	350,464	294	14.2	37.6	362,092
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	175	161	103	1,113	3.09	1.76	324	326	1.64	82.2	83.9	—	314,741	314,741	13.8	12.5	158	318,966
Area	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Energy	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	30,233	30,233	3.86	0.30	—	30,419
Water	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Waste	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Total	177	254	118	1,121	3.19	2.97	324	327	2.86	82.2	85.1	2,751	345,739	348,490	294	13.9	186	360,169
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808
Area	0.00	16.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	5,005	5,005	0.64	0.05	—	5,036
Water	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449
Waste	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63
Total	32.3	46.3	21.5	205	0.58	0.54	59.2	59.7	0.52	15.0	15.5	455	57,241	57,697	48.7	2.30	30.8	59,630

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.9	83.6	49.4	621	1.71	0.93	173	174	0.87	44.0	44.9	—	173,908	173,908	6.88	6.24	195	176,133
Regional Shopping Center	7.77	7.35	3.25	37.0	0.09	0.05	8.73	8.78	0.05	2.21	2.26	—	8,965	8,965	0.48	0.40	9.80	9,104

Governm (Civic Center)	6.90	6.35	3.74	47.1	0.13	0.07	13.2	13.2	0.07	3.34	3.40	—	13,194	13,194	0.52	0.47	14.8	13,363
Office Park	14.7	13.6	8.01	101	0.28	0.15	28.1	28.3	0.14	7.14	7.28	—	28,213	28,213	1.12	1.01	31.6	28,574
City Park	1.05	0.97	0.57	7.17	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	2,008	2,008	0.08	0.07	2.25	2,034
Condo/T ownhous e	23.4	21.6	12.1	150	0.40	0.22	41.0	41.2	0.21	10.4	10.6	—	41,233	41,233	1.70	1.52	46.0	41,775
Apartme nts Low Rise	20.9	19.3	10.8	134	0.36	0.20	36.6	36.8	0.19	9.29	9.48	—	36,845	36,845	1.52	1.36	41.1	37,329
Apartme nts Mid Rise	15.4	14.3	8.00	99.2	0.27	0.15	27.1	27.2	0.14	6.86	7.00	—	27,224	27,224	1.12	1.00	30.4	27,582
Total	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.2	82.8	54.3	582	1.63	0.93	173	174	0.87	44.0	44.9	—	166,103	166,103	7.25	6.60	5.05	168,257
Regional Shopping Center	7.72	7.28	3.59	36.7	0.08	0.05	8.73	8.78	0.05	2.21	2.26	—	8,576	8,576	0.52	0.42	0.25	8,714
Governm ent (Civic Center)	6.84	6.29	4.12	44.2	0.12	0.07	13.2	13.2	0.07	3.34	3.40	—	12,602	12,602	0.55	0.50	0.38	12,765
Office Park	14.6	13.4	8.81	94.5	0.26	0.15	28.1	28.3	0.14	7.14	7.28	—	26,947	26,947	1.18	1.07	0.82	27,296
City Park	1.04	0.96	0.63	6.72	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	1,918	1,918	0.08	0.08	0.06	1,943
Condo/T ownhous e	23.2	21.4	13.3	142	0.39	0.22	41.0	41.2	0.21	10.4	10.6	—	39,390	39,390	1.80	1.61	1.19	39,917

Apartments Low Rise	20.7	19.1	11.9	127	0.35	0.20	36.6	36.8	0.19	9.29	9.48	—	35,198	35,198	1.61	1.44	1.07	35,669
Apartments Mid Rise	15.3	14.1	8.81	93.7	0.26	0.15	27.1	27.2	0.14	6.86	7.00	—	26,008	26,008	1.19	1.06	0.79	26,355
Total	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	16.2	14.9	9.76	106	0.30	0.17	31.5	31.7	0.16	7.99	8.15	—	27,696	27,696	1.18	1.08	13.9	28,061
Regional Shopping Center	1.37	1.29	0.62	6.30	0.01	0.01	1.47	1.47	0.01	0.37	0.38	—	1,327	1,327	0.08	0.07	0.65	1,350
Government (Civic Center)	0.88	0.81	0.53	5.77	0.02	0.01	1.71	1.72	0.01	0.43	0.44	—	1,501	1,501	0.06	0.06	0.75	1,521
Office Park	2.63	2.42	1.58	17.3	0.05	0.03	5.11	5.14	0.03	1.30	1.32	—	4,493	4,493	0.19	0.18	2.26	4,552
City Park	0.19	0.17	0.11	1.23	< 0.005	< 0.005	0.36	0.37	< 0.005	0.09	0.09	—	320	320	0.01	0.01	0.16	324
Condo/Townhouse	4.17	3.85	2.39	25.9	0.07	0.04	7.45	7.49	0.04	1.89	1.93	—	6,568	6,568	0.29	0.26	3.29	6,657
Apartments Low Rise	3.73	3.44	2.14	23.1	0.06	0.04	6.65	6.69	0.03	1.69	1.72	—	5,869	5,869	0.26	0.24	2.94	5,948
Apartments Mid Rise	2.75	2.54	1.58	17.1	0.05	0.03	4.92	4.94	0.03	1.25	1.27	—	4,336	4,336	0.19	0.17	2.17	4,395
Total	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.9	83.6	49.4	621	1.71	0.93	173	174	0.87	44.0	44.9	—	173,908	173,908	6.88	6.24	195	176,133
Regional Shopping Center	7.77	7.35	3.25	37.0	0.09	0.05	8.73	8.78	0.05	2.21	2.26	—	8,965	8,965	0.48	0.40	9.80	9,104
Government (Civic Center)	6.90	6.35	3.74	47.1	0.13	0.07	13.2	13.2	0.07	3.34	3.40	—	13,194	13,194	0.52	0.47	14.8	13,363
Office Park	14.7	13.6	8.01	101	0.28	0.15	28.1	28.3	0.14	7.14	7.28	—	28,213	28,213	1.12	1.01	31.6	28,574
City Park	1.05	0.97	0.57	7.17	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	2,008	2,008	0.08	0.07	2.25	2,034
Condo/Townhouse	23.4	21.6	12.1	150	0.40	0.22	41.0	41.2	0.21	10.4	10.6	—	41,233	41,233	1.70	1.52	46.0	41,775
Apartments Low Rise	20.9	19.3	10.8	134	0.36	0.20	36.6	36.8	0.19	9.29	9.48	—	36,845	36,845	1.52	1.36	41.1	37,329
Apartments Mid Rise	15.4	14.3	8.00	99.2	0.27	0.15	27.1	27.2	0.14	6.86	7.00	—	27,224	27,224	1.12	1.00	30.4	27,582
Total	181	167	95.9	1,197	3.26	1.78	330	332	1.66	83.7	85.4	—	331,590	331,590	13.4	12.1	371	335,895
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	90.2	82.8	54.3	582	1.63	0.93	173	174	0.87	44.0	44.9	—	166,103	166,103	7.25	6.60	5.05	168,257
Regional Shopping Center	7.72	7.28	3.59	36.7	0.08	0.05	8.73	8.78	0.05	2.21	2.26	—	8,576	8,576	0.52	0.42	0.25	8,714
Government (Civic Center)	6.84	6.29	4.12	44.2	0.12	0.07	13.2	13.2	0.07	3.34	3.40	—	12,602	12,602	0.55	0.50	0.38	12,765

Office Park	14.6	13.4	8.81	94.5	0.26	0.15	28.1	28.3	0.14	7.14	7.28	—	26,947	26,947	1.18	1.07	0.82	27,296
City Park	1.04	0.96	0.63	6.72	0.02	0.01	2.00	2.01	0.01	0.51	0.52	—	1,918	1,918	0.08	0.08	0.06	1,943
Condo/Townhouse	23.2	21.4	13.3	142	0.39	0.22	41.0	41.2	0.21	10.4	10.6	—	39,390	39,390	1.80	1.61	1.19	39,917
Apartments Low Rise	20.7	19.1	11.9	127	0.35	0.20	36.6	36.8	0.19	9.29	9.48	—	35,198	35,198	1.61	1.44	1.07	35,669
Apartments Mid Rise	15.3	14.1	8.81	93.7	0.26	0.15	27.1	27.2	0.14	6.86	7.00	—	26,008	26,008	1.19	1.06	0.79	26,355
Total	180	165	106	1,127	3.11	1.78	330	332	1.66	83.7	85.4	—	316,742	316,742	14.2	12.8	9.62	320,916
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	16.2	14.9	9.76	106	0.30	0.17	31.5	31.7	0.16	7.99	8.15	—	27,696	27,696	1.18	1.08	13.9	28,061
Regional Shopping Center	1.37	1.29	0.62	6.30	0.01	0.01	1.47	1.47	0.01	0.37	0.38	—	1,327	1,327	0.08	0.07	0.65	1,350
Government (Civic Center)	0.88	0.81	0.53	5.77	0.02	0.01	1.71	1.72	0.01	0.43	0.44	—	1,501	1,501	0.06	0.06	0.75	1,521
Office Park	2.63	2.42	1.58	17.3	0.05	0.03	5.11	5.14	0.03	1.30	1.32	—	4,493	4,493	0.19	0.18	2.26	4,552
City Park	0.19	0.17	0.11	1.23	< 0.005	< 0.005	0.36	0.37	< 0.005	0.09	0.09	—	320	320	0.01	0.01	0.16	324
Condo/Townhouse	4.17	3.85	2.39	25.9	0.07	0.04	7.45	7.49	0.04	1.89	1.93	—	6,568	6,568	0.29	0.26	3.29	6,657
Apartments Low Rise	3.73	3.44	2.14	23.1	0.06	0.04	6.65	6.69	0.03	1.69	1.72	—	5,869	5,869	0.26	0.24	2.94	5,948
Apartments Mid Rise	2.75	2.54	1.58	17.1	0.05	0.03	4.92	4.94	0.03	1.25	1.27	—	4,336	4,336	0.19	0.17	2.17	4,395
Total	32.0	29.4	18.7	203	0.56	0.32	59.2	59.5	0.30	15.0	15.3	—	52,109	52,109	2.28	2.07	26.2	52,808

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,426	2,426	0.47	0.06	—	2,455
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,444	1,444	0.28	0.03	—	1,461
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,885	1,885	0.37	0.04	—	1,907
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,899	1,899	0.37	0.04	—	1,922
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,557	1,557	0.30	0.04	—	1,576
Total	—	—	—	—	—	—	—	—	—	—	—	—	11,165	11,165	2.17	0.26	—	11,298
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,426	2,426	0.47	0.06	—	2,455

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,444	1,444	0.28	0.03	—	1,461
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,885	1,885	0.37	0.04	—	1,907
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,899	1,899	0.37	0.04	—	1,922
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,557	1,557	0.30	0.04	—	1,576
Total	—	—	—	—	—	—	—	—	—	—	—	—	11,165	11,165	2.17	0.26	—	11,298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	402	402	0.08	0.01	—	406
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	16.7	16.7	< 0.005	< 0.005	—	16.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	239	239	0.05	0.01	—	242
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	307	307	0.06	0.01	—	310
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	312	312	0.06	0.01	—	316

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	314	314	0.06	0.01	—	318
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	258	258	0.05	0.01	—	261
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,848	1,848	0.36	0.04	—	1,870

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,434	2,434	0.47	0.06	—	2,463
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,446	1,446	0.28	0.03	—	1,464
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,856	1,856	0.36	0.04	—	1,878
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,897	1,897	0.37	0.04	—	1,920
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,914	1,914	0.37	0.05	—	1,937
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,570	1,570	0.31	0.04	—	1,588

Total	—	—	—	—	—	—	—	—	—	—	—	—	11,218	11,218	2.18	0.26	—	11,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,426	2,426	0.47	0.06	—	2,455
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	101	101	0.02	< 0.005	—	102
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	1,444	1,444	0.28	0.03	—	1,461
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,885	1,885	0.37	0.04	—	1,907
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,899	1,899	0.37	0.04	—	1,922
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,557	1,557	0.30	0.04	—	1,576
Total	—	—	—	—	—	—	—	—	—	—	—	—	11,165	11,165	2.17	0.26	—	11,298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	402	402	0.08	0.01	—	407
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	16.7	16.7	< 0.005	< 0.005	—	16.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	239	239	0.05	0.01	—	242

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	307	307	0.06	0.01	—	311
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	313	313	0.06	0.01	—	317
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	316	316	0.06	0.01	—	319
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	259	259	0.05	0.01	—	262
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,853	1,853	0.36	0.04	—	1,875

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2
Government (Civic Center)	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2
Government (Civic Center)	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Strip Mall	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	136	136	0.01	< 0.005	—	136
Regional Shopping Center	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.65	5.65	< 0.005	< 0.005	—	5.67
Government (Civic Center)	0.03	0.02	0.29	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	318	318	0.03	< 0.005	—	319
Office Park	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	408	408	0.04	< 0.005	—	409
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.11	0.05	0.93	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,072	1,072	0.09	< 0.005	—	1,074
Apartments Low Rise	0.09	0.04	0.73	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	—	842	842	0.07	< 0.005	—	844
Apartments Mid Rise	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	371	371	0.03	< 0.005	—	372
Total	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	3,153	3,153	0.28	0.01	—	3,161

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2

Government	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101
Apartments Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.08	0.04	0.69	0.58	< 0.005	0.05	—	0.05	0.05	—	0.05	—	821	821	0.07	< 0.005	—	824
Regional Shopping Center	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.2
Government (Civic Center)	0.18	0.09	1.61	1.35	0.01	0.12	—	0.12	0.12	—	0.12	—	1,921	1,921	0.17	< 0.005	—	1,927
Office Park	0.23	0.11	2.07	1.74	0.01	0.16	—	0.16	0.16	—	0.16	—	2,465	2,465	0.22	< 0.005	—	2,472
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	0.60	0.30	5.10	2.17	0.03	0.41	—	0.41	0.41	—	0.41	—	6,472	6,472	0.57	0.01	—	6,490
Apartments Low Rise	0.47	0.23	4.01	1.71	0.03	0.32	—	0.32	0.32	—	0.32	—	5,087	5,087	0.45	0.01	—	5,101

Apartme Mid Rise	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,241	2,241	0.20	< 0.005	—	2,248
Total	1.76	0.88	15.3	8.32	0.10	1.21	—	1.21	1.21	—	1.21	—	19,042	19,042	1.69	0.04	—	19,095
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.01	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	136	136	0.01	< 0.005	—	136
Regional Shopping Center	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.65	5.65	< 0.005	< 0.005	—	5.67
Governm ent (Civic Center)	0.03	0.02	0.29	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	318	318	0.03	< 0.005	—	319
Office Park	0.04	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	408	408	0.04	< 0.005	—	409
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Condo/T ownhous e	0.11	0.05	0.93	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,072	1,072	0.09	< 0.005	—	1,074
Apartme nts Low Rise	0.09	0.04	0.73	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	—	842	842	0.07	< 0.005	—	844
Apartme nts Mid Rise	0.04	0.02	0.32	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	371	371	0.03	< 0.005	—	372
Total	0.32	0.16	2.79	1.52	0.02	0.22	—	0.22	0.22	—	0.22	—	3,153	3,153	0.28	0.01	—	3,161

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	24.4	22.9	2.03	224	0.01	0.16	—	0.16	0.12	—	0.12	—	663	663	0.03	0.01	—	665
Total	24.4	114	2.03	224	0.01	0.16	—	0.16	0.12	—	0.12	0.00	663	663	0.03	0.01	—	665
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.19	2.06	0.18	20.2	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.1	54.1	< 0.005	< 0.005	—	54.3
Total	2.19	18.8	0.18	20.2	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	54.1	54.1	< 0.005	< 0.005	—	54.3

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	91.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	91.5	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	16.7	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425
Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425

Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.9	23.3	37.3	1.43	0.03	—	83.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	0.58	0.97	1.55	0.06	< 0.005	—	3.46
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	11.8	19.6	31.4	1.21	0.03	—	70.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	13.5	22.5	36.1	1.39	0.03	—	80.9
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	10.9	18.8	29.8	1.13	0.03	—	66.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	13.0	22.5	35.5	1.34	0.03	—	78.7
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.0	18.9	29.9	1.13	0.03	—	66.4
Total	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425
Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	84.1	141	225	8.65	0.21	—	503

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.50	5.86	9.36	0.36	0.01	—	20.9
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	71.3	118	190	7.33	0.18	—	425
Office Park	—	—	—	—	—	—	—	—	—	—	—	81.8	136	218	8.42	0.20	—	488
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	66.1	114	180	6.80	0.16	—	399
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	78.8	136	214	8.10	0.20	—	475
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	66.5	114	181	6.84	0.16	—	401
Total	—	—	—	—	—	—	—	—	—	—	—	452	765	1,217	46.5	1.12	—	2,713
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.9	23.3	37.3	1.43	0.03	—	83.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	0.58	0.97	1.55	0.06	< 0.005	—	3.46
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	11.8	19.6	31.4	1.21	0.03	—	70.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	13.5	22.5	36.1	1.39	0.03	—	80.9
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	10.9	18.8	29.8	1.13	0.03	—	66.0

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	13.0	22.5	35.5	1.34	0.03	—	78.7
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	11.0	18.9	29.9	1.13	0.03	—	66.4
Total	—	—	—	—	—	—	—	—	—	—	—	74.8	127	201	7.70	0.19	—	449

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012
Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631

Apartme Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Governm ent (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012
Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/T ownhous e	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631
Apartme nts Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	55.5	0.00	55.5	5.55	0.00	—	194
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.07

Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	95.2	0.00	95.2	9.52	0.00	—	333
Office Park	—	—	—	—	—	—	—	—	—	—	—	19.9	0.00	19.9	1.99	0.00	—	69.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.46	0.00	0.46	0.05	0.00	—	1.59
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	64.8	0.00	64.8	6.48	0.00	—	227
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.71	0.00	—	270
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	65.2	0.00	65.2	6.52	0.00	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012

Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,173
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	575	0.00	575	57.5	0.00	—	2,012
Office Park	—	—	—	—	—	—	—	—	—	—	—	120	0.00	120	12.0	0.00	—	421
City Park	—	—	—	—	—	—	—	—	—	—	—	2.75	0.00	2.75	0.27	0.00	—	9.63
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	391	0.00	391	39.1	0.00	—	1,369
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	466	0.00	466	46.6	0.00	—	1,631

Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	394	0.00	394	39.4	0.00	—	1,378
Total	—	—	—	—	—	—	—	—	—	—	—	2,299	0.00	2,299	230	0.00	—	8,043
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	55.5	0.00	55.5	5.55	0.00	—	194
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.07
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	95.2	0.00	95.2	9.52	0.00	—	333
Office Park	—	—	—	—	—	—	—	—	—	—	—	19.9	0.00	19.9	1.99	0.00	—	69.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.46	0.00	0.46	0.05	0.00	—	1.59
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	64.8	0.00	64.8	6.48	0.00	—	227
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	77.2	0.00	77.2	7.71	0.00	—	270
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	65.2	0.00	65.2	6.52	0.00	—	228
Total	—	—	—	—	—	—	—	—	—	—	—	381	0.00	381	38.0	0.00	—	1,332

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.23	1.23
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.69	3.69

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.58	0.58
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.46	7.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.88	8.88
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.79	6.79
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.61	0.61
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Government (Civic Center)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.23	1.23

Apartment Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.63	4.63

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use																		
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Strip Mall	29,613	29,613	29,613	10,808,709	245,789	245,789	245,789	89,712,877
Regional Shopping Center	2,955	2,955	2,955	1,078,575	11,061	12,364	12,364	4,173,039
Government (Civic Center)	2,247	0.00	0.00	585,742	18,648	0.00	0.00	4,861,689
Office Park	4,804	4,804	4,804	1,753,504	39,874	39,874	39,874	14,554,178
City Park	342	342	342	124,798	2,838	2,838	2,838	1,035,834
Condo/Townhouse	7,856	7,856	7,856	2,867,440	58,096	58,096	58,096	21,205,141
Apartments Low Rise	7,020	7,020	7,020	2,562,300	51,914	51,914	51,914	18,948,586
Apartments Mid Rise	5,187	5,187	5,187	1,893,255	38,359	38,359	38,359	14,000,900

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Strip Mall	29,613	29,613	29,613	10,808,709	245,789	245,789	245,789	89,712,877
Regional Shopping Center	2,955	2,955	2,955	1,078,575	11,061	12,364	12,364	4,173,039

Government (Civic Center)	2,247	0.00	0.00	585,742	18,648	0.00	0.00	4,861,689
Office Park	4,804	4,804	4,804	1,753,504	39,874	39,874	39,874	14,554,178
City Park	342	342	342	124,798	2,838	2,838	2,838	1,035,834
Condo/Townhouse	7,856	7,856	7,856	2,867,440	58,096	58,096	58,096	21,205,141
Apartments Low Rise	7,020	7,020	7,020	2,562,300	51,914	51,914	51,914	18,948,586
Apartments Mid Rise	5,187	5,187	5,187	1,893,255	38,359	38,359	38,359	14,000,900

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	982
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1170
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	988
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	982
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1170
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	988
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

—	—	—	—	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Strip Mall	5,220,493	170	0.0330	0.0040	2,562,947
Regional Shopping Center	217,059	170	0.0330	0.0040	106,563
Government (Civic Center)	3,106,885	170	0.0330	0.0040	5,995,447
Office Park	3,986,114	170	0.0330	0.0040	7,692,123
City Park	0.00	170	0.0330	0.0040	0.00
Condo/Townhouse	4,055,026	170	0.0330	0.0040	20,194,567
Apartments Low Rise	4,087,093	170	0.0330	0.0040	15,871,531
Apartments Mid Rise	3,350,179	170	0.0330	0.0040	6,993,495

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Strip Mall	5,220,493	170	0.0330	0.0040	2,562,947
Regional Shopping Center	217,059	170	0.0330	0.0040	106,563
Government (Civic Center)	3,106,885	170	0.0330	0.0040	5,995,447
Office Park	3,986,114	170	0.0330	0.0040	7,692,123
City Park	0.00	170	0.0330	0.0040	0.00
Condo/Townhouse	4,055,026	170	0.0330	0.0040	20,194,567
Apartments Low Rise	4,087,093	170	0.0330	0.0040	15,871,531
Apartments Mid Rise	3,350,179	170	0.0330	0.0040	6,993,495

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Strip Mall	43,870,043	885,068
Regional Shopping Center	1,824,036	36,793
Government (Civic Center)	37,193,742	279,785
Office Park	42,692,713	358,959
City Park	0.00	1,971
Condo/Townhouse	34,500,680	1,901,250
Apartments Low Rise	41,105,698	2,265,236
Apartments Mid Rise	34,711,478	1,732,407

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Strip Mall	43,870,043	885,068
Regional Shopping Center	1,824,036	36,793
Government (Civic Center)	37,193,742	279,785
Office Park	42,692,713	358,959
City Park	0.00	1,971
Condo/Townhouse	34,500,680	1,901,250
Apartments Low Rise	41,105,698	2,265,236
Apartments Mid Rise	34,711,478	1,732,407

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Strip Mall	622	—
Regional Shopping Center	25.9	—
Government (Civic Center)	1,067	—
Office Park	223	—
City Park	5.10	—
Condo/Townhouse	726	—
Apartments Low Rise	865	—
Apartments Mid Rise	731	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Strip Mall	622	—
Regional Shopping Center	25.9	—

Government (Civic Center)	1,067	—
Office Park	223	—
City Park	5.10	—
Condo/Townhouse	726	—
Apartments Low Rise	865	—
Apartments Mid Rise	731	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Government (Civic Center)	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government (Civic Center)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Government (Civic Center)	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Government (Civic Center)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.4	annual days of extreme heat
Extreme Precipitation	3.90	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth

Wildfire	7.98	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	45.1
AQ-DPM	25.7
Drinking Water	10.9
Lead Risk Housing	17.5
Pesticides	0.00
Toxic Releases	25.6
Traffic	48.6

Effect Indicators	—
CleanUp Sites	37.8
Groundwater	40.8
Haz Waste Facilities/Generators	84.7
Impaired Water Bodies	77.3
Solid Waste	9.67
Sensitive Population	—
Asthma	35.6
Cardio-vascular	30.2
Low Birth Weights	18.6
Socioeconomic Factor Indicators	—
Education	43.4
Housing	19.8
Linguistic	10.4
Poverty	16.6
Unemployment	28.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	66.11061209
Employed	1.296034903
Median HI	58.75785962
Education	—
Bachelor's or higher	47.36301809
High school enrollment	17.87501604

Preschool enrollment	14.26921596
Transportation	—
Auto Access	76.73553189
Active commuting	33.56858719
Social	—
2-parent households	27.65302194
Voting	75.72180162
Neighborhood	—
Alcohol availability	42.80764789
Park access	24.26536635
Retail density	59.4636212
Supermarket access	60.82381625
Tree canopy	8.135506224
Housing	—
Homeownership	43.19260875
Housing habitability	69.11330681
Low-inc homeowner severe housing cost burden	75.55498524
Low-inc renter severe housing cost burden	83.49801104
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	74.51559091
Arthritis	0.0
Asthma ER Admissions	59.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0

Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	1.7
Cognitively Disabled	36.6
Physically Disabled	78.7
Heart Attack ER Admissions	49.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	48.8
Elderly	83.1
English Speaking	76.6
Foreign-born	6.0
Outdoor Workers	58.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	55.9
Traffic Density	49.3

Traffic Access	51.5
Other Indices	—
Hardship	31.7
Other Decision Support	—
2016 Voting	76.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	18.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land Uses and acreages based on Town Center Specific Plan Buildout Summary (9-7-2023 Draft).
Operations: Vehicle Data	Trip generation rates provided by Intersecting Metrics

Operations: Hearths	No hearths

Appendix B

Sustainable Santee Plan Checklist

Sustainable Santee Action Plan Consistency and Implementation Tracking Checklist

The Sustainable Santee Action Plan Project Consistency Checklist (Checklist) is intended to be a tool for development projects to demonstrate consistency with Santee's (City's) Sustainable Santee Action Plan, which is a qualified greenhouse gas (GHG) emissions reduction plan in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15183.5. This Checklist has been developed as part of the Sustainable Santee Action Plan implementation and monitoring process and will support the achievement of individual GHG reduction measures as well as the City's overall GHG reduction goals. In addition, this Checklist will further the City's sustainability goals and policies that encourage sustainable development and aim to conserve and reduce the consumption of resources, such as energy and water, among others.

CEQA Guidelines Section 15183.5 allows lead agencies to analyze the impacts associated with GHG emissions at a programmatic level in plan-level documents such as Climate Action Plans or sustainability plans, so that project-level environmental documents may tier from the programmatic review. Projects that meet the requirements of this Checklist will be deemed to be consistent with the Sustainable Santee Action Plan and will be found to have a less than significant contribution to cumulative GHG (i.e., the project's incremental contribution to cumulative GHG effects is not cumulatively considerable), pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b). Projects that do not meet the requirements in this Checklist will be deemed to be inconsistent with the Sustainable Santee Action Plan and must prepare a project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. This GHG Checklist can be updated to reflect adoption of new GHG reduction strategies or to comply with any changes and updates in the Plan or local, State or federal regulations.

1. Project Information	
Contact Information	
Project No./Name:	Santee Town Center Specific Plan (TCSP) Sites 16A, 16B, 20A, & 20B
Address:	Civic Center Site I, Civic Center Site II, 9200 Magnolia Ave.
Applicant Name:	City of Santee
Contact Information:	Michael Coyne, Principal Planner
	10601 Magnolia Ave., Bldg 3, Santee, CA 92071
	619-258-4100 x160 / mcoyne@cityofsanteeca.gov
Project Description Characteristics	
1. What is the size of the Project (acres)?	37.47 acres total
2. Identify all Applicable Proposed Land uses:	
a. Residential-Single Family (Indicate number of single-family units)	
b. Residential-Multifamily (Indicate number of multifamily units)	1,480 dwelling units
c. Commercial (total square footage)	
d. Industrial (total square footage)	
e. Other (describe)	
3. Provide a brief description of the project proposed:	See below

The City Council adopted the Housing Element (2021-2029 Sixth Cycle) on May 11, 2022. The HE was prepared in compliance with State housing law as determined by the California Department of Housing and Community Development on December 6, 2022. The HE included a Sites Inventory map and table (Figure C-1 and Table C-1 of the HE), that included a series of sites that are currently undeveloped or underutilized. The identified sites provide an opportunity for the City to meet its Regional Housing Needs Allocation housing production goals. Four of the strategic undeveloped housing sites are identified as 16A, 16B, 20A, and 20B. Sites 16A and 16B are located just north of Mission Gorge Road and east of Riverview Parkway in the Santee Town Center. The area surrounding the sites is primarily developed with Santee Trolley Square immediately west of the site, the Las Colinas Detention Facility to the east, and open space associated with the San Diego River to the north. A portion of Site 16A is located within the Airport Safety Zone 4 as designated in the Gillespie Field Airport Land Use Compatibility Plan (ALUCP). Sites 20A and 20B are located just west of Magnolia Avenue, south of Riverview Parkway, and east of Edgemoor Drive. Sites 20A and 20B surround the Historic Edgemoor Polo or Dairy Barn. To the west of Site 20A is the Las Colinas Detention Facility, to the east is a gated 55+ manufactured home community. Site 20B is bordered by single-family residential homes to the south, multifamily residential to the east, and Las Colinas and Riverview Office Park to the west. A portion of the site is located within the Gillespie Field ALUCP Airport Safety Zone 4. The sites are proposed to be developed with residential uses.

The HE Implementation Program identified specific sites that would require rezoning to allow for residential uses, and/or to allow for the estimated housing capacity included in the HE. The HE proposed zoning changes for sites 16A, 16B, 20A, and 20B. As part of the realization of the Housing Element Implementation Program, the City analyzed and approved the re-zone of the four above-mentioned sites and adopted the rezoning on October 26, 2022.

To further advance the housing production in Santee, City staff applied for a Housing Acceleration Program grant from the San Diego Association of Governments, which was awarded. The grant provides funding for project-level analysis of HE sites 16A, 16B, 20A, and 20B. The amended TCSP will include graphics and data that illustrate site planning and development concepts for each of these sites based on the maximum allowable density allowed by zoning.

2. Determining Land Use Consistency		
Checklist Item		
As the first step in determining the consistency with the Sustainable Santee Action Plan for the discretionary development projects, this section allows the City to determine the project's consistency with the land use assumptions used in the Plan.		
	Yes	**No**
1. Is the proposed project consistent with the existing General Plan and land use zoning designations? OR	✓	
2. If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that is identified in the Sustainable Santee Action Plan Land Use Buffer (see Appendix A, Table 11)?		
3. If the proposed project is not consistent with the existing land use plan, zoning designations, or Land Use Buffer, does the project include a land use plan and/or zoning designation ammendment that will result in an equivalent or less GHG-intensive project when compared to the existing designations?		

Notes:

For questions 1, if the answer is **Yes**, proceed to the Sustainable Santee Action Plan Consistency Checklist. If the answer is **No**, procced to question 2.

For question 2, if the answer is **Yes**, proceed to the Sustainable Santee Action Plan Consistency Checklist. If the answer is **No**, proceed to question 3.

For question 3, if the answer is **Yes** provide estimated project emissions under both existing and proposed designation (s) for comparison. Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation. If the answer of question 3 is **No** then, in accordance with the City's Significance Determination Thresholds, the project's GHG impact may be significant. The project must nonetheless incorporate each of the applicable measures identified in the Checklist to mitigate cumulative GHG emissions impacts unless the decision maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091.

Sustainable Santee Action Plan CEQA Project Consistency Checklist					Notes
Greenhouse Gas Reduction Measure	**Measure Applicability**				This checklist is to be filled out by the applicant
	Yes	**No**	**N/A**	**Description**	
Emissions Measures Category: Energy Efficiency					
Land Use Sector-Residential					Measure 1.1 is not on checklist because it focuses on minor residental alterations not subject to CEQA
Goal 1. Increase Energy Efficiency in Existing Residential Units					
Measure 1.2. For existing Residential Unit Permit for Major Modifications (more than 30% of dwelling unit size, including bathroom and kitchen) that is considered a Project under CEQA must implement energy efficiency retrofits recommended from City Energy Audit and explain the energy efficiency retrofits implemented.			✔	The project does not include existing residential uses.	Measure 1.2 only applies if alteration is subject to CEQA
Goal 2. Increase Energy Efficiency in the New Residential Units					
Measure 2.1. New residential construction meet or exceed California Green Building Standards Tier 2 Voluntary Measures, such as obtaining green building ratings including LEED, Build it Green, or Energy Star Certified building certifications in scoring development and explain the measures implemented.	✔			Draft Environmental Impact Report (DEIR) Mitigation Measure (MM) GHG-1 requires implementation of this measure	
Land Use Sector-Commercial					Measure 3.1 is not on checklist because it focuses on minor alterations which are not subject to CEQA
Goal 3. Increase Energy Efficiency in Existing Commercial Units					
Measure 3.2. For existing commercial units of 10,000 sq. ft. or more seeking building permits for modifications representing 30% or more sq. ft, and considered a Project under CEQA must implement energy efficiency retrofits recommended by the City to meet California Green Building Standards Tier 1 Voluntary Measures and explain the retrofits implemented.			✔	The project does not include existing commercial or industrial uses.	Measure 3.2 only applies if alteration is subject to CEQA
Goal 4. Increase Energy Efficiency in New Commercial Units					
Measure 4.1. New commercial units meet or exceed California Green Building Standards Tier 2 Voluntary Measures such as obtain green building ratings including: LEED, Build it Green, or Energy Star Certified buildings certifications in scoring development and explain the measures implemented.			✔	The project does not include new commercial or industrial uses.	
Emissions Measures Category: Advanced Goals Measures					
Land Use Sector-Commercial					
Goal 5. Decrease Energy Demand through Reducing Urban Heat Island Effect					
Measure 5.1. Project utilizes tree planting for shade and energy efficiency such as tree planting in parking lots and streetscapes.	✔			DEIR MM GHG-2 requires implementation of this measure.	
Measure 5.2. Project uses light-reflecting surfaces such as enhanced cool roofs on commercial buildings.			✓	The project does not include new commercial buildings.	
Emissions Measures Category: Transportation					
Land Use Sector-Residential and Commercial					
Goal 6. Decrease GHG Emissions through a Reduction in VMT					
Measure 6.1. Proposed project streets include sidewalks, crosswalks, and other infrastructure that promotes non-motorized transportation options.			✓	The project would not include street work.	
Measure 6.2. Proposed project installs bike paths to improve bike transit.			✓	The project would not include street work.	

Land Use Sector-Residential and Commercial **Goal 7: Increase Use of Electric Vehicles**					
Measure 7.1. Install electric vehicle chargers in all new residential and commercial developments.					
a. For new Single-Family Residential, install complete 40 Amp electrical service and one e-charger.			✓	The project does not include single-family residential uses.	
b. For new Multifamily Residential, install e-chargers for 13 percent of total parking.	✔			DEIR MM GHG-3 requires implementation of this measure.	
c. For new Office Space, Regional Shopping Centers, and Movie Theaters, install e-chargers for 5 percent of total parking spaces.			✓	The project does not include office uses, regional shopping centers, or movie theaters.	
d. For new Industrial and other Land Uses employing 200 or more employees, install e-charges for 5 percent of total parking spaces.			✓	The project does not include new industrial or other land uses employing 200 or more employees.	
Land Use Sector-Residential and Commercial **Goal 8. Improve Traffic Flow**					
Measure 8.1. Implement traffic flow improvement program.					Projects that include traffic controls need to show consistency with one of these
a. Install smart traffic signals at intersections warranting a traffic signal, OR			✓	The project would not require the installation of new traffic signals.	
b. Install roundabout.			✓	The project would not require the installation of a roundabout.	
Emissions Measures Category: Solid Waste **Land Use Sector-Residential and Commercial** **Goal 9: Decrease GHG Emissions through Reducing Solid Waste Generation**					
Measure 9.1. Reduce waste at landfills.	✔			DEIR MM GHG-4 requires implementation of this measure.	
waste.					
Emissions Measures Category: Clean Energy **Land Use Sector-Residential and Commercial** **Goal 10. Decrease GHG Emissions through Increased Clean Energy Use**					
Measure 10.1. Increase distributed energy generation within City of Santee by implementing the following applicable photovoltaic solar systems:					
a. Single-family residential to install at least 2kW per unit of PV solar systems, unless the installation is infeasible due to poor solar resources established in a solar feasibility study prepared by a qualified solar consultant submitted with an application			✓	The project does not include single-family residential uses.	
b. Multifamily residential to install at least 1kW per unit of PV solar systems, unless the installation is infeasible due to poor solar resources established in a solar feasibility study prepared by a qualified solar consultant submitted with an applicant's formal project submittal to City.	✓			DEIR MM GHG-5 requires implementation of this measure.	
c. On commercial buildings, install at least 2 kW per square foot of building area (e.g., 2,000 sq. ft. = 3 kW) unless the installation is infeasible due to poor solar resources.			✓	The project does not include commercial buildings.	

Appendix F

Noise Technical Report

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HELIX Environmental Planning

Santee Town Center Specific Plan Update

Noise Technical Report

July 2024 | 01427.00004.001

Prepared for:

M.W. Steele Group
1805 Newton Avenue, Suite A
San Diego, CA 92113

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
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ACRONYMS AND ABBREVIATIONS

µPa	micro-Pascals
ADT	average daily trips/traffic
AEN	Arts and Entertainment Neighborhood
ALUCP	Airport Land Use Compatibility Plan
ANSI	American National Standards Institute
APN	Assessor's Parcel Number
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Santee
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
EIR	Environmental Impact Report
FTA	Federal Transit Administration
HVAC	Heating, ventilation, and air conditioning
Hz	Hertz
kHz	kilohertz
L_{DN}	Day-Night level
L_{EQ}	equivalent sound level
L_{MAX}	maximum noise level
NSLU	noise-sensitive land use
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
SANDAG	San Diego Association of Governments
SPL	sound pressure level
S_{WL}	sound power level
TCSP	Town Center Specific Plan
USDOT	U.S. Department of Transportation

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EXECUTIVE SUMMARY

The Town Center Specific Plan (TCSP) and Arts and Entertainment Neighborhood (AEN) areas are within the City of Santee (City). The proposed TCSP and AEN areas are intended to provide a policy framework to guide future development within these areas of the City. This report presents an assessment of the potential construction and operational noise and vibration impacts associated with the proposed implementation of the TCSP and AEN.

Construction noise impacts due to the implementation of the proposed TCSP and AEN and construction of the Housing Element sites would be potentially significant. Mitigation measure NOI-1 would require a construction noise management plan for future projects where construction noise may exceed existing ambient conditions.

Operational noise from implementation of the proposed TCSP and AEN and construction of the Housing Element sites would be potentially significant. Mitigation measures NOI-2 would require future operational noise to be below the conversational noise threshold of 60 dBA. The proposed outdoor performance space would also be required to be reduced to 60 dBA, through implementation of NOI-3 which would require a future study to ensure noise level compliance.

A site-specific vibration study would be required within specified distances from major construction sites, and pile driving activities. Implementation of mitigation measures Noi-4. Vibration impacts from construction of the Housing Element sites would be less than significant.

Traffic noise levels would increase resulting from implementation of the TCSP and AEN and construction of the Housing Element sites, however noise levels would not increase by more than 3 A-weighted decibels (dBA). Traffic noise increases would not be perceptible, and impacts would be less than significant.

Exterior noise levels from implementation of the proposed TCSP and AEN may exceed the City's Noise Element exterior noise level standards and Title 24 interior noise standards. As a condition of approval, a site-specific acoustical study would be required for future projects where noise levels exceed the conditionally compatible exterior noise levels as defined in the City's Noise Compatibility Guidelines for land uses. The completion of an exterior-to-interior noise analysis where exterior noise levels exceed 65 dBA CNEL for residential land uses and the subsequent implementation of applicable attenuation measures (e.g., noise barriers and architectural enhancements including dual pane windows reduce interior noise) would reduce interior noise levels below the 45 dBA CNEL interior standard for residences. Application of noise attenuation measures identified in the noise analysis would ensure that proposed new uses would be consistent with City policies and standards.

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1.0 INTRODUCTION

This report analyzes potential noise and vibration impacts associated with the Santee Town Center Specific Plan Housing Acceleration Program (project). The report analyzes the potential impacts of future development within the Santee Town Center Specific Plan (TCSP) area, and, as appropriate, identifies measures which can be taken to avoid adverse impacts related to noise and vibration. The analysis within this report was prepared pursuant to the California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations).

1.1 PROJECT LOCATION

The project area is located in the City of Santee, in the eastern portion of the County of San Diego, north of State Route (SR) 52 and west of SR 67 (Figure 1, *Regional Location*). The proposed project area extends across over 1,000 Assessor Parcel Numbers (APNs), within the TCSP Area in the central portion of the City, bounded by Mission Gorge Road to the south, Mast Boulevard to the north, and Magnolia Avenue to the east (Figure 2, *Aerial Photograph*). Cuyamaca Street runs north-south through the western portion of the project area, forming segments of the western project boundary, and the San Diego River runs through the central northern portion of the project area (Figure 2). The topography of the project area is bisected by the San Diego River, which originates within the Santa Ysabel Open Space Preserve East and flows west and southwest and ultimately reaches the Pacific Ocean.

The overall project area consists of 651.42 acres, which includes the proposed Arts and Entertainment Neighborhood (341.72 acres) and four Housing Element Properties: Lot 16A is 11.04 acres, Lot 16B is 8.65 acres, Lot 20A is 7.76 acres, and Lot 20B is 9.92 acres.

1.2 PROJECT DESCRIPTION

The project proposes to update the City of Santee General Plan, modify the Arts and Entertainment Neighborhood (AEN), and provide objective design standards and contextual designs for four strategic Housing Element sites within the TCSP.

The proposed project consists of a comprehensive update to the TCSP to modify or establish new land use designations, land uses, development standards, and conceptual guidelines that would apply to future development within the TCSP area. As part of this effort, the City would also make modifications to the AEN and provide objective design standards and conceptual designs for strategic Housing Element sites within the TCSP. A more detailed description of each of the proposed project components is described below. Refer to Figure 3, *TCSP Land Uses*.

1.2.1 Town Center Specific Plan

Amendments to the TCSP would incorporate relevant updates to the plan's vision, land use permissions, and development standards. As part of the updates, new text and graphics would be developed and organized into a series of chapters, such as: Introduction, Land Use and Urban Form, Mobility and Beautification, Infrastructure and Public Facilities, Implementation, and Administration. Text and concepts that remain relevant to the vision and goals of the TCSP would be maintained and incorporated into the updated TCSP document format and structure.

The amended TCSP would incorporate updated allowable and permitted land uses and development standards tailored to the project area. The updated TCSP would include graphics that illustrate the planned land use concepts and the plan's vision at key sites. As part of the TCSP, the circulation network exhibits of the plan would be updated, including the bicycle, pedestrian, and transit network maps, and street cross sections. The TCSP would include concepts for key improvements in the public right-of-way to enhance circulation within the project area. The TCSP would incorporate concepts to illustrate wayfinding and branding signage at important locations within the public right-of-way and public trails, such as signs tailored for pedestrian, bicyclists and transit users, signs designed to direct vehicular traffic and refer to parking areas, as well as iconic gateway structures that enhance the identity and sense of place in the project area.

The TCSP would also outline fundamental elements for the administration of the plan, such as the process for future specific plan amendments, and the development review, permit, and approval process for projects within the TCSP area. Additionally, the TCSP would address the relationship between the TCSP document and other planning documents, as well as consistency with the General Plan. The TCSP would also include a section describing how to use the document and guide reviewers and applicants through the path for review and approval of proposals within the TCSP area.

Finally, the TCSP amendment would also incorporate an adjustment to the Specific Plan boundaries to include additional sites such as the shopping center located at the northwest corner of Mission Gorge Road and Cuyamaca Street, and the shopping center located west of Cuyamaca Street, between Mission Creek Drive and River Park Drive. As a result of the boundary adjustment, the TCSP area would expand from 609.70 to 651.42 acres[1], increasing by 41.72 acres.

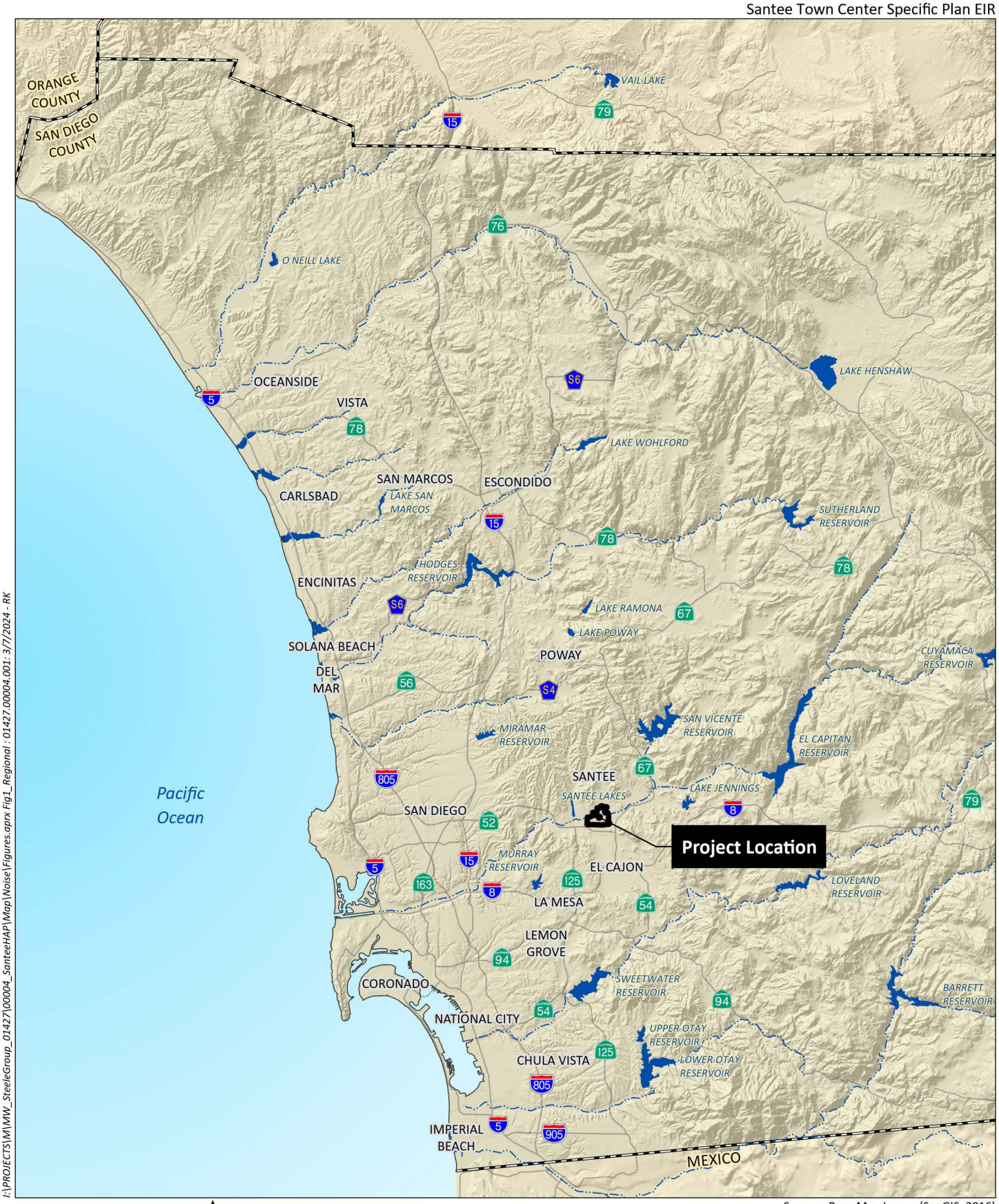
1.2.2 Arts & Entertainment Neighborhood

The TCSP would include an amendment to the AEN. As discussed above, the City adopted the AEN in 2019, with the intent of encouraging the development of an Arts & Entertainment Neighborhood within a significant portion of the TCSP. The update would incorporate the vision, guidelines, and development standards specific to the AEN as a subsection of the Land Use and Urban Form chapter of the TCSP. This section of the TCSP would also incorporate tailored land use designations that support uses related to art and culture, entertainment, commercial recreation, visitor, and civic uses.

The update to the vision and development standards for the AEN would aim to enhance connections to the San Diego River, strengthen the sense of place by creating an attraction for residents and visitors to gather, and public space concepts that would incorporate streetscape concepts with features such as landscaping, water elements, shade, lighting, and wayfinding. The concepts would also aim to create a central destination within the TCSP area, with a strong emphasis on connecting Arts & Entertainment to the natural environment.

Additionally, the update would incorporate an adjustment to the AEN boundaries to include additional sites such as the open space designated areas along the San Diego River, areas north of the San Diego River, south of Riverwalk Drive, west of River Park Drive, east of Cuyamaca Street, and west of Magnolia

[1] The original Town Center Specific Plan published in 1986 cited the TCSP area as 706 acres, however amendments to the plan have reduced the Specific Plan total acreage. Additionally, the original acreage was based on an estimate; due to improved geographic information software over time, the number of reported acres in the TCSP has changed as the accuracy of the data has increased.



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0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

Proposed Santee Town Center Specific Plan

Proposed Arts and Entertainment Neighborhood

Via Debbie
Via Mavis
Via Rita
Via Nina
Via Francis
Bell Gardens Dr
Greencastle St
Grandfork Dr
Bend St
Mast Blvd
Hinsdale St
Keresaw Ct
Notnil Ct
Jeremy St
Eucalyptus Ct
Ramsgate Dr
Ramsgate Way
Bundy Dr
Follett Dr
Braverman Dr
Hillcreek Rd
Cambury Dr
Cecilwood Dr
Ree Dr
Dragave Dr
Lutheran Way
Lake Hill Rd
Pennywood Rd
Terrywood Rd
Pearlwood Rd
Vomac Rd
Halberns Blvd
Derald Rd
Les Rd
Wharton Rd
Doheny Rd
E Heaney Cir
Pike Rd
Domer Rd
Dunbarton Rd
Ruffin Rd
Maranda Dr
Ellenbee Rd
Woodruff Way
Carlton Oaks Dr
Stoyer Dr
Mandeville Rd
Willow Pond Rd
Carlton Hills Blvd
Willowgrove Ave
Gorge Ave
Mission Gorge Rd
Fanita Dr
Hazelton Rd
52
Olive Ln
Ryder Rd
Hume Rd
Castaic Ct
Frascati Way
Rawlins Way
Hartland Cir
Corey Ct
Ramo Rd
Nicole Way
Abbeywood Rd
Abbeyfield Rd
Mission Creek Dr
Clearcreek Pl
Whispering Willow Dr
Silvercreek Dr
River Trail Pl
River Rock Ct
Brookview Ct
River Park Dr
Cuyamaca St
Town Center Pky
Transit Way
Mission Greens Rd
Riverview Pky
Judy Dr
Erin Way
Magnolia Park Dr
Bilteer Dr
Conejo Rd
San Remo Rd
Bilteer Ct
Jennifer Dr
Day Creek Trl
Leavesly Trl
Riverwalk Dr
Park Center Dr
Palm Glen Dr
Rochelle Ave
Frank Ln
Mavin Dr
Amster Dr
Hinton Dr
Jim Ln
Claudia Ave
Cottonwood Ave
Edgemoor Dr
Park Ave
4th St
1st St
Chubb Ln
Happy Ln
Railroad Ave
Shirley Ln
N Magnolia Ave
Rockvill St
Sevilla St
Cole Grade Dr
Copper Ridge Rd
Iron Wheel St
Eddington Rd
Collinwood Dr
Wheatlands Ave
Wheatlands Rd
Stevens Rd
Hartley Rd
Abraham Way
Isaac St
N Woodside Ave
Woodside Ave
67
Granada St
Paloma St
Sierra St
Valle Jo St
Coronado St
Riderwood Ter
Crazy Horse Trl
South Roundup Cir
Buck Board Trl
East Roundup Cir
West Roundup Cir
Wagon Wheel Dr
Cow Ln
Horseshoe Ln
Bridle Path
Stagecoach Trl
North Roundup Cir

0 850 Feet

Source: Aerial (SanGIS, 2023)

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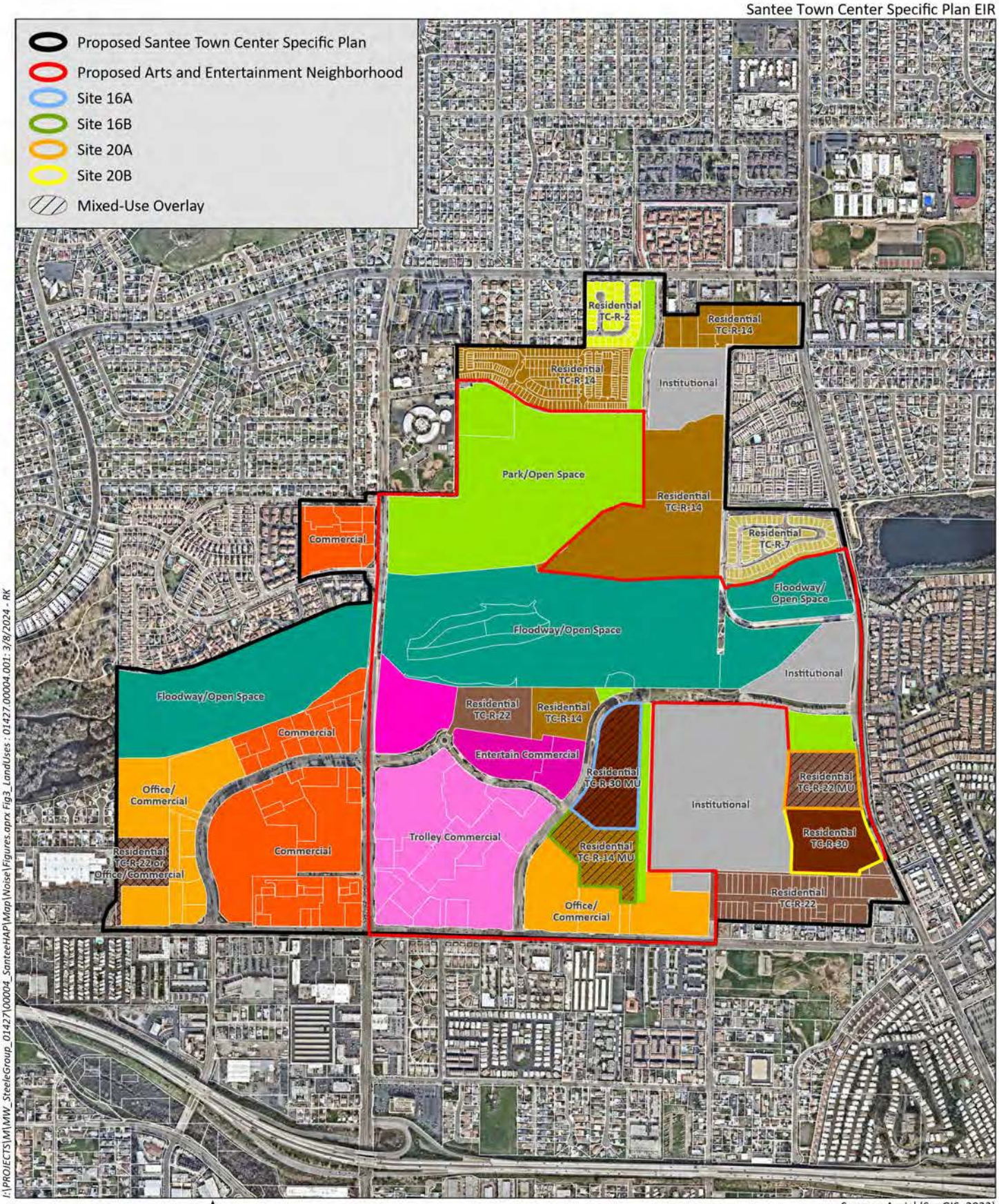
Aerial Photograph

Figure 2



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0 1,200 Feet

Source: Aerial (SanGIS, 2023)

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TCSP Land Uses

Figure 3

Avenue. As a result of the boundary adjustments, the AEN area would expand from 172.49[2] to 341.72 acres, increasing by a total of 169.23 acres.

1.2.3 Four Strategic Housing Element Sites (2021-2029 Sixth Cycle)

The City Council adopted the Housing Element (2021-2029 Sixth Cycle) on May 11, 2022. The Housing Element was prepared in compliance with State housing law as determined by the California Department of Housing and Community Development on December 6, 2022. The Housing Element included a Sites Inventory map and table (Figure C-1 and Table C-1 of the Housing Element), that included a series of sites that are currently undeveloped or underutilized. The identified sites provide an opportunity for the City to meet its Regional Housing Needs Allocation housing production goals. Four strategic undeveloped housing sites identified in the Sites Inventory are located within the boundary of the TCSP and the AEN. The sites are identified as 16A, 16B, 20A, and 20B. Sites 16A and 16B are undeveloped sites located just north of Mission Gorge Road and east of Riverview Parkway in the Santee Town Center. The area surrounding the sites is primarily developed with Santee Trolley Square immediately west of the site, the Las Colinas Detention Facility to the east, and open space associated with the San Diego River to the north. A portion of Site 16A is located within the Airport Safety Zone 4 as designated in the Gillespie Field Land Use Compatibility Plan (ALUCP). Sites 20A and 20B are undeveloped sites located just west of Magnolia Avenue, south of Riverview Parkway, and east of Edgemoor Drive. Sites 20A and 20B surround the Historic Edgemoor Polo or Dairy Barn. To the west of Site 20A is the Las Colinas Detention Facility, to the east is a gated 55+ manufactured home community. Site 20B is bordered by single-family residential homes to the south, multifamily residential to the east, and Las Colinas and Riverview Office Park to the west. A portion of the site is located within the Gillespie Field ALUCP Airport Safety Zone 4. The sites are proposed to be developed with residential uses.

The Housing Element Implementation Program identified specific sites that would require rezoning to allow for residential uses, and/or to allow for the estimated housing capacity included in the Housing Element. The Housing Element proposed zoning changes for sites 16A, 16B, 20A, and 20B. As part of the realization of the Housing Element Implementation Program, the City analyzed and approved the re-zone of the four above-mentioned sites and adopted the rezoning on October 26, 2022. The zoning for sites 16A, 16B, 20A, and 20B as a result of the Housing Element Implementation Program can be found in Table 1, *Housing Element Sites Zoning.*

Table 1
HOUSING ELEMENT SITES ZONING

Site	Size (acres)	Current Zoning	Current Density
16A	11.11	Residential (TC-R-30)	Minimum of 30 du/ac, Maximum of 36 du/ac
16B	8.61	Residential (TC-R-14)	Minimum of 14 du/ac, Maximum of 22 du/ac
20A	7.75	Residential (TC-R-22)	Minimum of 22 du/ac, Maximum of 30 du/ac
20B	10.00	Residential (TC-R-30)	Minimum of 30 du/ac, Maximum of 36 du/ac

To further advance the housing production in Santee, City staff applied for a Housing Acceleration Program (HAP) grant from the San Diego Association of Governments (SANDAG), which was awarded. The HAP grant provides funding for project-level analysis of Housing Element sites 16A, 16B, 20A, and 20B. The amended TCSP will include graphics and data that illustrate site planning and development

[2] The 2019 Art and Entertainment Overlay District refers to 155 acres; however, current GIS data shows 172 acres for the same area.

concepts for each of these sites based on the maximum allowable density allowed by zoning. The Environmental Impact Report (EIR) will analyze these sites at a project-level of detail.

1.3 NOISE AND SOUND LEVEL DESCRIPTORS AND TERMINOLOGY

1.3.1 Descriptors

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ}, with a specified duration. The CNEL is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. This is similar to the Day Night sound level (L_{DN}), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on dBA. These metrics are used to express noise levels for both measurement and municipal regulations, as well as for land use guidelines and enforcement of noise ordinances.

1.3.2 Terminology

1.3.2.1 Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

1.3.2.2 Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (µPa). One µPais approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 µPa. Because of this wide range of values, sound is rarely expressed in terms of µPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of dBA. The threshold of hearing for the human ear is about 0 dBA, which corresponds to 20 µPa.

1.3.2.3 Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than from one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dBA—rather, they would combine to produce 73 dBA. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dBA louder than one source.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dBA changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dBA are generally not perceptible. It is widely accepted, however, that people begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dBA increase is generally perceived as a distinctly noticeable increase, and a 10-dBA increase is generally perceived as a doubling of loudness.

No known studies have directly correlated the ability of a healthy human ear to discern specific levels of change in traffic noise over a 24-hour period. Many ordinances, however, specify a change of 3 CNEL as the significant impact threshold. This is based on the concept of a doubling in noise energy resulting in a 3 dBA change in noise, which is the amount of change in noise necessary for the increase to be perceptible to the average healthy human ear.

1.3.3 Vibration Descriptors and Terminology

Vibration is measured in feet or inches (in). Acceleration is measured by comparing acceleration to that of the Earth's gravity, and this unit is "G." These units of acceleration or velocity are relative to time in seconds (sec) and are noted as in/sec^2 for acceleration and in/sec for velocity. Displacement is not relative to time and is only shown as inches.

Vibration effects can be described by its peak and root mean square amplitudes. Building damage is often discussed in terms of peak velocity, or peak particle velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration signal. PPV is related to the stresses that are experienced by buildings; it is often used in monitoring of blasting vibration and to discuss construction vibration.

2.0 REGULATORY FRAMEWORK

2.1 STATE REGULATIONS

2.1.1 California Noise Control Act

The California Noise Control Act is a section within the California Health and Safety Code that describes excessive noise as a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and

welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

2.1.2 California Noise Insulation Standards [California's Title 24 Noise Standards, Cal. Adm. Code Title 24, Chap. 2-35]

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (California Code of Regulations Title 24, Part 2). Title 24 establishes standards for interior noise (attributable to outside noise sources) within habitable rooms. Where standard building materials would not ensure compliance with this requirement, additional acoustical analysis is required. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior noise level below 45 CNEL (or L_{DN}).

2.1.3 California Environmental Quality Act

Under CEQA, lead agencies are directed to assess conformance to local or other agency noise standards; measure and identify the potentially significant exposure of people to (or generation of) excessive ground-borne vibration or noise levels; and measure and identify potentially significant permanent or temporary increases in ambient noise levels. Implementation of CEQA ensures that during the decision-making stage of development, decision-makers and the public will be informed of any potentially excessive noise levels and available mitigation measures to reduce them to acceptable levels.

2.1.4 Assembly Bill 1307

Assembly Bill 1307, approved on September 7, 2023, specifies that the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment for residential projects for purposes of CEQA.

2.2 LOCAL REGULATIONS

2.2.1 City of Santee Municipal Code Noise Control Ordinance

On-site generated noise is regulated by the City's Municipal Code, Title 5 Health and Safety, Chapter 5.04 Noise Abatement and Control.

2.2.1.1 Section 5.04.040 General Noise Regulations

A. General Prohibitions. It is unlawful for any person to make, continue, or cause to be made or continued, within the limits of the City, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area. The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

1. The level of the noise;
2. Whether the nature of the noise is usual or unusual;
3. Whether the origin of the noise is natural or unnatural;
4. The level of the background noise;

5. The proximity of the noise to sleeping facilities;
6. The nature and zoning of the area within which the noise emanates;
7. The density of the inhabitation of the area within which the noise emanates;
8. The time of day or night the noise occurs;
9. The duration of the noise;
10. Whether the noise is recurrent, intermittent, or constant; and
11. Whether the noise is produced by a commercial or noncommercial activity

B. Disturbing, Excessive or Offensive Noises. The following acts, among others, are declared to be disturbing, excessive and offensive noises in violation of this section:

   a. It is unlawful for any person to operate or allow the operation of any generator, air conditioning, refrigeration or heating equipment in such manner as to create a noise disturbance on the premises of any other occupied property, or if a condominium, apartment house, duplex, or attached business, within any adjoining unit.

   b. All generators, heating, air conditioning, or refrigeration equipment are subject to the setback and screening requirements in this code.

2.2.1.2 Section 5.04.070 Motorized Equipment

It is unlawful to operate any lawn mower, backpack blower, lawn edger, leaf blower, riding tractor, or any other machinery, equipment, or other device, or any hand tool which creates a loud, raucous or impulsive sound, within or adjacent to any residential zone between the hours of 10:00 p.m. and 7:00 a.m. of the following day.

2.2.1.3 Section 5.04.130 Loading and Unloading Operations

It is unlawful for any person to engage in loading, unloading, opening, idling of trucks, closing or other handling of boxes, crates, containers, building materials, garbage cans, dumpsters or similar objects between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to cause a noise disturbance within or adjacent to a residential district.

2.2.1.4 Section 5.04.160 Limitations on sources of noise not otherwise addressed

A. Between 10:00 p.m. and 7:00 a.m., it is unlawful for any person to generate any noise on the public way that is louder than average conversational level at a distance of 50 feet or more, vertically or horizontally, from the source.

B. Between 10:00 p.m. and 7:00 a.m., no person is permitted to generate any noise on any private open space that is louder than average conversational level at a distance of 50 feet or more, measured from the property line of the property from which the noise is being generated.

The Noise Abatement and Control Ordinance establishes the City's noise regulation, generally prohibits nuisance noise and states that it is unlawful for any person to make, continue, or cause to be made or continued within the City limits any disturbing, excessive, or offensive noise that causes discomfort or

annoyance to reasonable persons of normal sensitivity residing in the area (Municipal Code Section 5.04.040(A)).

Municipal Code Section 5.04.090, which specifically pertains to construction equipment, makes operation of any construction equipment outside the hours of 7:00 a.m. through 7:00 p.m., Monday through Saturday, except holidays, unlawful unless the operation is expressly approved by the Director of Development Services. Construction equipment with a manufacturer's noise rating of 85 dBA L_{max} or greater may only operate at a specific location for 10 consecutive workdays. If work involving such equipment would involve more than 10 consecutive workdays, a notice must be provided to all property owners and residents within 300 feet of the site no later than 10 days before the start of construction. The notice must be approved by the City and describe the proposed project and the expected duration of work and provide a point of contact to resolve noise complaints.

2.2.2 City of Santee General Plan Noise Element

Objective 1.0. Control noise from sources adjacent to residential, institutional, and other noise sensitive receptors.

- **Policy 1.1**: The City shall support a coordinated program to protect and improve the acoustical environment of the City including development review for new public and private development and code compliance for existing development.

- **Policy 1.2**: The City shall utilize noise studies and noise contour maps when evaluating development proposals during the discretionary review process.

- **Policy 1.4**: The City shall promote alternative sound attenuation measures rather than traditional wall barrier wherever feasible; these may include glass or polycarbonate walls, berms, landscaping, and the siting of noise-sensitive uses on a parcel away from the roadway or other noise source.

- **Policy 1.5**: The City shall review future projects with particular scrutiny regarding the reduction of unnecessary noise near noise-sensitive areas such as hospitals, schools, parks, etc.

Objective 2.0: Ensure that future developments will be constructed to minimize interior and exterior noise levels.

- **Policy 2.1**: The City shall adhere to planning guidelines and building codes which include noise control for the exterior and interior living space of all new residential developments within noise impacted areas.

- **Policy 2.2**: The City should require new development to mitigate noise impacts to existing uses resulting from new development when: 1) such development adds traffic to existing City streets that necessitates the widening of the street; and 2) the additional traffic generated by new development causes the noise standard or significance thresholds to be exceeded.

- **Policy 2.3**: The City should not require new development to mitigate noise impacts to existing uses when new development only adds traffic already anticipated by the City's General Plan to an existing street but does not necessitate widening of that street.

The Noise Element also provides guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories (Table 2, *Exterior Land Use/Noise Compatibility Guidelines*). Normally acceptable noise levels are defined as satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Conditionally acceptable noise levels indicate that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and required noise insulation features have been included in the design. Conventional construction with closed windows and fresh air supply systems or air conditioning will normally suffice. The General Plan states that these compatibility guidelines are not prohibitive but should be used as a guide and a resource (City of Santee 2003).

Table 2
EXTERIOR LAND USE/NOISE COMPATIBILITY GUIDELINES

Land Use Category	Community Noise Exposure (dBA CNEL)					
	55	60	65	70	75	80
Residential – Low-Density Singel Family Duplex, Mobile Homes						
Residential – Multiple Family						
Transient Lodging – Motels, and Hotels						
Schools, Libraries, Churches, Hospitals, and Nursing Homes[1]						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Offices Buildings, Business Commercial, and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

	Normally Acceptable – Specified land use is satisfactory, based upon the assumption that buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will usually suffice.
	Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with noise insulation features included in the design.
	Clearly Unacceptable - New construction or development clearly should not be undertaken.

[1] Applies to noise sensitive areas which serve a significant function for the use which could be adversely affected by noise; such as, outside areas used primarily for instruction, meditation areas, rest and relaxation areas, and other areas where general peace and quiet are important.

The Noise Element further states that when new development may result in the exposure of existing or future noise-sensitive uses to noise levels in excess of 65 dB(A) L_{dn}, an acoustical study will be required. If the acoustical study shows that the noise levels at any noise-sensitive area will exceed 65 dB(A) L_{dn}, the development should not be approved unless the following findings are made:

1. Modifications to the development have been, or will be made, which will reduce the exterior noise levels in noise-sensitive areas to 65 dB(A) L_{dn} or less, or

2. If, with current noise abatement technology, it is not feasible to reduce the exterior noise levels to 65 dB(A) L_{dn} or less, then modifications to the development have been, or will be made, which

reduce the exterior noise level to the maximum extent feasible and the interior noise level to 45 dB(A) L_{dn} or less. Particular attention shall be given to noise-sensitive spaces such as bedrooms.

3. For rooms in noise-sensitive areas which are occupied only for a part of the day (schools, libraries, or similar), the interior 1-hour average sound level during occupation, due to noise outside, should not exceed 45 dB(A) L_{EQ}.

Further, noise impacts shall be considered significant if any of the following occur as a result of the project:

1. If, as a direct result of the project, noise levels for any existing or planned development will exceed the noise levels considered compatible for that use as identified in Table 2.

2. If, as a direct result of the proposed development, noise levels which already exceed the levels considered compatible for that use are increased by 3 dB or more.

Section 8.0, Implementation, of the Noise Element lists the following measures that may be incorporated into a proposed project as mitigation measures. The following measures are not always required, and mitigation is not limited to this list:

1. The use of site design techniques, such as the provision of buffers to increase distances between the noise source and receiver, siting of buildings and parking areas, and the careful siting of noise-sensitive outdoor features to minimize noise impacts.

2. Provision of berms, landscaping, and other sound barriers, without the exclusive use of walls (e.g., a combination of a small wall and a berm in concert with the overall streetscape in the area could be appropriate).

3. Insulation of buildings against noise, including thicker-than-standard glazing and mechanical ventilation.

4. Improvement of traffic circulation to “smooth” flow by such measures as interconnecting traffic signals.

5. Consideration of the use of innovative construction technologies and materials in constructing or reconstructing streets.

6. Setting of time limits on certain noisy activities.

7. Purchasing of demonstrably quiet equipment for City use.

3.0 ENVIRONMENTAL SETTING

3.1 EXISTING LAND USES

The TCSP and AEN areas contain a mixture of commercial, office, open space, residential, and institutional uses. Land uses surrounding the TCSP and AEN areas include commercial, open space, institutional and residential.

3.2 NOISE-SENSITIVE AND VIBRATION-SENSITIVE LAND USES

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, sensitive wildlife habitat, or similar facilities where quiet is an important attribute of the environment. Noise receptors are individual locations that may be affected by noise. NSLUs in the TCSP and AEN areas include residences and open space.

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (Federal Transit Administration [FTA] 2018) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. In addition, excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to land uses where people sleep, such as residences, hotels, hospitals, and dormitories. Vibration-sensitive uses include residences throughout the TCSP and AEN.

3.3 AMBIENT NOISE SURVEY

A community noise survey was conducted to document noise levels throughout the TCSP and AEN areas. Short-term daytime measurements at nine locations were selected to be representative of typical conditions in the planning area. The short-term measurements show the average sound level over roughly 15-minute periods on a weekday in July 2023. The locations were chosen based on land uses and proximity to nearby roadways. Noise measurement locations are shown on Figure 4, *Ambient Noise Survey*.

The community noise survey represents a range of the existing conditions and provides a representation of baseline conditions in the study area. The sources of noise varied between sites, but the primary noise generator in most locations is vehicular traffic.

The measured average noise levels ranged from 49.6 to 68.9 dBA L_{EQ}. The loudest average noise level was 68.9 dBA L_{EQ}. This measurement (M8) was located adjacent to Mission Gorge Road. Though these measurements provide a snapshot observation of the noise environment, noise can fluctuate widely throughout the day. Complete noise monitoring results are included in Table 3, *Noise Monitoring Results*. Individual site survey sheets can be found in Appendix A, *Site Survey Measurement Sheets*.

Table 3
NOISE MONITORING RESULTS

Site	Location	Time	Measured Noise Level (dBA L_{EQ})
M1	Town Center Park East	2:58 p.m.- 3:13 p.m.	50.2
M2	Cuyamaca Street, 790 feet south of River Park Drive	9:03 a.m. - 9:18 a.m.	69.2
M3	Chubb Lane south of San Diego River crossing	2:21 p.m. - 2:36 p.m.	49.6
M4	Riverview Parkway, 80 feet south of San Diego Christian College driveway	10:45 a.m. - 11:00 a.m.	54.0

Site	Location	Time	Measured Noise Level (dBA L_{EQ})
M5	Santee Historical Society Historic Barn	1:38 p.m. - 1:53 p.m.	54.5
M6	Trolley Square, 80 feet west of tracks	9:43 a.m. - 9:58 a.m.	60.9
M7	Riverview Parkway, 250 feet south of Town Center Parkway	11:18 a.m. - 11:33 p.m.	60.7
M8	Mission Gorge Road, 530 feet east of Riverview Parkway	1:07 p.m. - 1:22 p.m.	68.9
M9	Mast Boulevard, 120 feet west of Bilteer Court	3:40 pm. - 3:55 p.m.	66.9

Note: All site measurements taken on July 20, 2023.

4.0 ANALYSIS, METHODOLOGY, AND ASSUMPTIONS

4.1 METHODOLOGY

4.1.1 Ambient Noise Survey

The following equipment was used to measure existing noise levels at the project site:

- Larson Davis System LxT Integrating Sound Level Meters
- Larson Davis Model CA250 Calibrator
- Windscreen and tripod for the sound level meter

The sound level meter was field-calibrated immediately prior to the noise measurements to ensure accuracy. All sound level measurements conducted and presented in this report were made with a sound level meter that conforms to the American National Standards Institute (ANSI) specifications for sound level meters (ANSI SI.4-1983 R2006). All instruments were maintained with National Institute of Standards and Technology traceable calibration per the manufacturers' standards.

4.1.2 Noise Modeling Software

Modeling of the outdoor noise environment for this report used the TNM 2.5 software. The TNM was released in February 2004, by the U.S. Department of Transportation (USDOT), and calculates the daytime average Hourly L_{EQ} from three-dimensional model inputs and traffic data (Caltrans 2004).

Peak-hour traffic volumes are estimated based on the assumption that approximately 10 percent of average daily trips (ADT) would occur during a peak hour. The one-hour L_{EQ} noise level is calculated utilizing peak-hour traffic. Peak hour L_{EQ} can be converted to CNEL using the following equation, where $L_{EQ}(h)pk$ is the peak hour L_{EQ}, *P* is the peak hour volume percentage of the ADT, *d* and *e* are divisions of the daytime fraction of ADT to account for daytime and evening hours, and *N* is the nighttime fraction of ADT:

$$CNEL = L_{EQ}(h)pk + 10\log10\ 4.17/P + 10\log10(d + 4.77e + 10N)$$

Ambient Noise Measurement Location
Proposed Santee Town Center Specific Plan
Proposed Arts and Entertainment Neighborhood

M1
M2
M3
M4
M5
M6
M7
M8
M9

Mast Blvd
Via Nina
Judy Dr
Jennifer Dr
Bilteer Ct
Day Creek Trl
Merry Brook Trl
Leavesly Trl
Riverwalk Dr
Palm Glen Dr
Ramsgate Dr
Bundy Dr
Follett Dr
Braverman Dr
Hillcreek Rd
Rochelle Ave
Bart Way
Frank Ln
Leila Ln
Claudia Ave
Cottonwood Ave
River Park Dr
Riverview Pky
Transit Way
Town Center Pky
Chubb Ln
North Roundup Cir
Wheatlands Ave
Hartley Rd
Crazy Horse Trl
South Roundup Cir
Isaac St
Sonora St
Granada St
Paloma St
Woodside Ave
N Woodside Ave
Riderwood Ter
Tamar Ter
Park Ave
Edgemoor Dr
Willow Pond Rd
Rock Glen Way
Mission Creek Dr
Abbeyfield Rd
Abbeywood Rd
Ramo Rd
Hartland Cir
Frascati Way
Rawlins Way
Wharton Rd
Doheny Rd
Pike Rd
Domer Rd
Stoyer Dr
Pearlwood Rd
Terrywood Rd
Willowgrove Ave
Gorge Ave
Mission Gorge Rd
Carlton Oaks Dr
Carlton Hills Blvd
Olive Ln
Mandeville Rd
Holbens Blvd
Clearcreek Pl
Silvercreek Dr
Brookview Ct
River Rock Ct
River Trail Pl
Whispering Willow Dr
Nicole Way
Corey Ct
Castaic Ct
Cambury Dr
Cuyamaca St
Magnolia Park Dr
Bilteer Dr
Conejo Rd
San Remo Rd
Park Center Dr
Little Leaf Ln
Eucalyptus Ct
Jeremy St
Nanuli Ct
Kenesaw Ct
Hinsdale St
Bend St
Rochelle Ave
Marvin Dr
Amster Dr
Hinton Dr
Jim Ln
Wagon Wheel Dr
West Roundup Cir
Horseshoe Ln
Bridle Path
Cow Ln
Stagecoach Trl
East Roundup Cir
Buck Board Trl
Abraham Way
Stevens Rd
Sierra St
Pajelo St
Coronado St
Cole Grade Dr
Copper Ridge Rd
Spur Ln
4th St
1st St
N Magnolia Ave
Dragoye Dr
Roe Dr
E Heaney Cir
67

0 750 Feet

Source: Aerial (SanGIS, 2023)

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HELIX Environmental Planning

Ambient Nosie Survey

Figure 4

The model-calculated one-hour L_{EQ} noise output is therefore approximately equal to the CNEL (Caltrans 2013).

Project construction noise was analyzed using the Roadway Construction Noise Model (RCNM; USDOT 2008), which utilizes estimates of sound levels from standard construction equipment.

4.2 ASSUMPTIONS

4.2.1 Operational Noise

Anticipated operational noise sources associated with implementation of the project would be similar to existing conditions. Noise sources would include typical community noise from residential and commercial activities.

4.2.2 Stationary Noise Sources

The TCSP area includes various stationary noise sources including industrial and commercial activities. Noise levels from stationary sources are highly localized and may vary during the day based on the specific activity being performed, atmospheric conditions, and other factors. These noise sources can be continuous and may contain tonal components that may be annoying to people who live in the nearby vicinity. Stationary noise levels throughout the TCSP area may also vary due to different periods of activity depending on the time of day or day of the week.

Heating, Ventilation, and Air Conditioning Units

For the Housing Element sites, specific HVAC systems and locations have not been identified at this stage of project design. This analysis assumes that future residential buildings would use a typical to larger-sized residential condenser mounted on ground level or rooftop pads. The unit used in this analysis is a Carrier 38HDR060 split system condenser (see Appendix B, *Carrier 38HDR060 Split System Condenser*). The manufacturer's noise data is provided below in Table 4, *Carrier HDR060 Condenser Noise.*

Table 4
CARRIER 38HDR060 CONDENSER NOISE

Noise Levels in Decibels[1] (dB) Measured at Octave Frequencies							Overall Noise Level in
125 Hz	250 Hz	500 Hz	1 KHz	2 KHz	4 KHz	8 KHz	A-weighted Scale (dBA)[1]
63.0	61.5	64.0	66.5	66.0	64.5	55.5	72.0

[1] Sound Power Levels (S_{WL})
KHz = kilohertz

Outdoor Performances

An outdoor performance space may be located within the TCSP, north of the Town Center Transit Station, and may include gatherings of people for artistic, cinematic, theatrical, musical, sporting events, cultural, education or civic purposes. Exact locations of outdoor venues, designs, and associated events are not known at this stage. Noise levels associated with gathering areas may therefore vary substantially depending on the type of event, use of amplified equipment, and size of crowds.

4.2.3 Vehicular Traffic Noise

Vehicles traveling along major roadways generate noise levels which affect adjacent land uses. Traffic noise generated on a roadway is dependent on vehicle speed, volume, flow, percentage of vehicle types, properly functioning muffler systems, and pavement type and conditions. Traffic noise is also dependent on the presence of barriers and the distance between the noise source and receptor. In general, as traffic volumes increase, noise levels increase. This condition exists until there is so much traffic that flow degrades, and speeds decrease which reduces noise levels. Furthermore, a heavy truck generates more noise than a car when travelling at the same speed and distance. Roads with the same amount of traffic can have higher or lower sound levels depending on the mixture of vehicles.

Future traffic volumes with and without implementation of the TCSP and Housing Element sites were provided by the traffic consultant for the project (Intersecting Metrics 2023). Modeling data used to develop the traffic contour maps is included in Appendix C, *Existing and Future Traffic Noise Levels*.

Within the TCSP area, major traffic noise generators are associated with Cuyamaca Street, Mast Boulevard, and Mission Gorge Road. The portions of the TCSP area affected by noise levels exceeding 65 CNEL are generally located adjacent to major roadways. Existing land uses in these areas include industrial, commercial, and open space.

4.2.4 Railway Noise

Existing rail traffic on existing tracks would continue to generate elevated noise levels within the TCSP area. These tracks are associated with the San Diego Trolley Green Line and terminate at the Santee Town Center station.

The San Diego Trolley's light rail vehicles generate high, relatively brief, intermittent noise events. At-grade crossings with warning bells are currently located at two locations within the Trolley Square shopping center and at the intersection of Mission Gorge Road and Cuyamaca Street. Light rail vehicles are equipped with horns for use in emergency situations and as a general audible warning to alert people in the vicinity of the tracks. Noise levels associated with the San Diego Trolley would not increase or decrease as a result of project implementation.

4.3 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE AND CONDITIONS OF APPROVAL

Implementation of the project would result in a significant adverse impact if it would exceed the following thresholds based on Appendix G of the CEQA Guidelines, as applicable to the project:

Threshold 1: *Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the Santee General Plan or noise ordinance.*

Significant operational noise impacts would occur if implementation of the project would result in traffic noise exceeding the applicable land use compatibility level for a given use. For residential uses, this would be 65 CNEL. If noise levels exceed this threshold, a permanent increase in noise greater than a perceptible change (3 CNEL) over existing conditions would be considered significant.

The City requires that noise levels generated during nighttime hours (10:00 p.m. to 7:00 a.m.) do not exceed the average conversational level at a distance of 50 feet. Normal conversation is approximately 60 dBA (Centers for Disease Control and Prevention 2024), therefore operational noise levels, including from HVAC units, would be considered significant if they exceed 60 dBA at nearby property lines.

Significant construction noise impacts would occur if implementation of the project would generate construction noise outside of the allowed construction hours specified in the Santee Municipal Code, which are between 7:00 a.m. and 7:00 p.m. Monday through Saturday, except holidays. In addition, construction equipment to assess potential noise impacts, construction noise measured at off-site NSLUs would be significant if it resulted in a perceived doubling of loudness, estimated to be an increase of 10 dBA above exterior ambient noise levels.

Threshold 2: *Generate excessive ground-borne vibration or ground-borne noise levels.*

Ground-borne vibration would be potentially significant if implementation of the project would result in ground-borne vibration which exceeds the "strongly perceptible" vibration annoyance potential criteria for human receptors of 0.1 inch per second PPV for nearby residences, or exceed the threshold for architectural damage potential criteria for buildings of 0.4 inch per second PPV, for continuous/frequent intermittent construction sources (such as impact pile drivers, vibratory pile drivers, and vibratory compaction equipment; Caltrans 2020).

Threshold 3: *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 use airport or private airstrip, expose people residing or working in the project area to excessive noise.*

A significant impact would occur if airport activity would expose the project land use to noise levels that exceed the City's noise compatibility standard provided in Table 2 of this report for that use.

Threshold 4: *Would the project conflict with the General Plan Noise Element standards for proposed uses?*

Projects shall not expose new development to noise levels at exterior use areas or interior areas in excess of the noise compatibility guidelines established in the City's General Plan Noise Element. The conditionally acceptable noise levels for project land uses are up to 70 CNEL for single-family and multi-family residential, 70 for playgrounds and neighborhood parks, and 75 CNEL for offices, and business commercial. For outdoor uses at a conditionally compatible land use, feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable. For indoor uses at a conditionally compatible land use, exterior noise must be attenuated to 45 CNEL for single- and multi-family residential.

5.0 IMPACTS

5.1 ISSUE 1: EXCESSIVE NOISE LEVELS

Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the Santee General Plan or noise ordinance?

5.1.1 Construction Noise

Although typically short-term, construction can be a substantial source of noise. Implementation of the TCSP would generate construction noise as individual projects, such as the Housing Element sites, are approved and constructed. As shown in Table 5, *Typical Construction Equipment Noise Levels*, operation of typical construction equipment would have the potential to generate elevated noise levels for construction activities, depending on the type, duration, and location of the activity. These noise levels are presented at distances of 50 feet for reference.

Table 5
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Typical Noise Level (dBA at 50 feet from source)
Air Compressor	73.7
Backhoe	73.6
Ground Compactor	76.2
Concrete Mixer Truck	74.8
Crane	72.6
Dozer	77.7
Grader	81.0
Jack Hammer	81.9
Front End Loader	75.1
Paver	74.2
Pumps	77.9
Roller	73.0
Scraper	79.6
Dump Truck	72.5

Source: U.S. Department of Transportation Roadway Construction Noise Model, 2008.

Construction activities related to implementation of the proposed TCSP would not take place all at once; however, future development accommodated by the proposed TCSP would have the potential to temporarily generate construction noise resulting in a short-term annoyance to nearby NSLUs. More specifically, construction noise levels would have the potential to increase ambient noise levels by 10 dBA, depending on the location and construction equipment used.

5.1.1.1 Housing Element Sites

For the Housing Element sites, NSLUs would be located at varying distances from future construction noise. Ambient noise levels vary at NSLUs depending on their proximity to existing noise sources (e.g. Magnolia Avenue). Two measurements were taken at locations to approximate existing noise levels at NSLUs, including near Housing Element Site 16A at 54.0 dBA and near Housing Element Site 20B at 54.5 dBA.

Construction equipment would be traversing the entirety of each project site; construction noise may be closer or further from nearby NSLUs throughout a given construction day. For this analysis, the closest construction equipment to nearby NSLUs would be used at Housing Element Site 20B. Due to the size of the site and proximity to nearby residences, the average distance from the approximate center of the

construction site to nearby residences to the south would be an average distance of 250 feet. Noise levels modeled at 250 feet are shown in Table 6, *Typical Construction Equipment Noise Levels – 250 Feet*.

Table 6
TYPICAL CONSTRUCTION EQUIPMENTNOISE LEVELS – 250 FEET

Equipment	Typical Noise Level (dBA at 250 feet from source)
Air Compressor	59.7
Backhoe	59.6
Ground Compactor	62.3
Concrete Mixer Truck	60.8
Crane	58.6
Dozer	63.7
Grader	67.0
Jack Hammer	67.9
Front End Loader	61.2
Paver	60.2
Pumps	64.0
Roller	59.0
Scraper	65.6
Dump Truck	58.5

Source: U.S. Department of Transportation Roadway Construction Noise Model, 2008.

At 250 feet, construction noise levels would range from 58.5 dBA to 67.9 dBA, depending on the equipment in use. As described in Section 4.3, for the purposes of this analysis, a significant increase in noise would occur if construction noise levels exceed 10 dBA above ambient conditions at the time of project construction. At these distances, ambient noise levels ranging between 54.0 and 54.5 dBA may exceed 5 dBA at nearby residences.

5.1.2 Operational Noise

5.1.2.1 Stationary Noise

Similar to existing conditions, future development within the TCSP area would be subject to various stationary noise sources including noise from equipment and commercial activities. The City Municipal Code does not provide numerical standards for noise generated by individual uses but requires that HVAC uses do not create a noise disturbance at nearby occupied properties. In addition, noise generated during nighttime hours is not to exceed the average conversational level at a distance of 50 feet.

5.1.2.2 Housing Element Sites

For the Housing Element sites, specific planning data for the future HVAC systems and exact building site locations are not available; however, analysis using a typical to larger-sized residential condenser mounted on ground level pads provides a reasonable basis for analysis. HVAC units are anticipated to be located on project building rooftops or mounted on pads at distances greater than 25 feet from nearby property lines. As mentioned in Section 3.2.2, modeling assumed that the HVAC unit would be a Carrier 38HDR060 split system condenser. This unit typically generates a noise level of 56 dBA at a distance of

7 feet. If placed at a distance of 25 feet from nearby noise-sensitive land uses, a single HVAC would generate a noise level of approximately 45 dBA.

5.1.2.3 Traffic Noise

As noted in the assumptions, future traffic noise levels presented in this analysis are based on existing and future traffic volumes provided by Intersecting Metrics (2023). These future volumes include implementation of the TCSP and AEN and construction of the Housing Element sites. TNM software was used to calculate the noise contour distances for Existing and Future conditions for the 2050 horizon year. The off-site roadway modeling represents a conservative analysis that does not consider topography or attenuation provided by existing structures. The results of this analysis for the CNEL at 100 feet from the roadway centerline are shown below in Table 7, *Traffic Noise Levels – 2050 Horizon Year*. Additional analysis for the 75, 70, 65, and 60 CNEL distances are provided in Appendix C. Vehicular traffic noise level contours for the 2050 horizon year are depicted in Figure 5, *Transportation Noise Contours (No Project)* and Figure 6, *Transportation Noise Contours (With Project)*. The noise levels are expressed in terms of CNEL. All noise contours depict the predicted noise level based on existing traffic volumes, and do not reflect attenuating effects of existing features such as noise barriers, buildings, topography, and dense vegetation.

A significant direct impact would occur if existing noise conditions approach or exceed the City significance thresholds for traffic noise for nearby land uses and the project more than doubles (increases by more than 3 CNEL) the existing noise level. Roadway noise increases associated with future development pursuant to the proposed TCSP, including the Housing Element sites, are shown in Table 6.

Table 7
TRAFFIC NOISE LEVELS – 2050 HORIZON YEAR

Roadway Segment	No Project CNEL at 100 feet[1,]	With Project CNEL at 100 feet	Change from Existing (CNEL)	Direct Impact?[1]
Cottonwood Avenue				
Street A to Riverview Parkway	57.5	57.5	+0	No
Park Avenue to Mission Gorge Road	50.7	50.7	+0	No
Mission Gorge Road to Buena Vista Avenue	56.7	56.7	+0	No
Buena Vista Avenue to Prospect Avenue	56.7	56.7	+0	No
Cuyamaca Street				
Woodglen Vista Road to El Nopal	62.9	62.4	-0.5	No
El Nopal to Mast Boulevard	63.4	63.4	+0	No
Mast Boulevard to Riverpark Drive	65.0	65.1	+0.1	No
Riverpark Drive to Town Center Parkway	65.8	65.9	+0.1	No
Town Center Parkway to Mission Gorge Road	65.5	65.8	+0.3	No
Mission Gorge Road to SR-52 Westbound Ramps	67.7	67.8	+0.1	No
Magnolia Avenue				
Mast Boulevard to Braverman Drive	64.9	65.2	+0.3	No
Braverman Drive to Mission Gorge Road	65.6	65.9	+0.3	No
Mast Boulevard				

Roadway Segment	No Project CNEL at 100 feet[1,]	With Project CNEL at 100 feet	Change from Existing (CNEL)	Direct Impact?[1]
Cuyamaca Street to Magnolia Avenue	65.8	65.8	+0	No
Magnolia Avenue to Los Ranchitos Road	60.3	60.3	+0	No
Mission Gorge Road				
Carlton Hills Boulevard to Town Center Parkway	67.2	67.5	+0.3	No
Town Center Parkway to Cuyamaca Street	66.5	66.7	+0.2	No
Cuyamaca Street to Riverview Parkway	66.8	67.0	+0.2	No
Riverview Parkway to Cottonwood Avenue	66.8	67.0	+0.2	No
Cottonwood Avenue to Magnolia Avenue	66.5	66.7	+0.2	No
Riverview Parkway				
Mission Gorge Road to Town Center Parkway	61.4	61.4	+0	No
Town Center Parkway to Cottonwood Avenue	61.0	61.0	+0	No
Cottonwood Avenue to Magnolia Avenue	60.6	60.6	+0	No
Town Center Parkway				
Mission Gorge Road to Cuyamaca Street	62.9	62.9	+0	No
Cuyamaca Street to Transit Way	59.1	59.4	+0.3	No
Transit Way to Riverview Parkway	59.3	59.4	+0.1	No

Source: USDOT 2004; Intersecting Metrics 2023

[1] A direct impact to off-site uses would occur if the project would increase noise levels above the applicable threshold or, where the existing noise level exceeds the threshold, would increase noise levels by 3 CNEL.

CNEL = Community Noise Equivalent Level

When measured at 100 feet from a given roadway's centerline, noise levels along some roadways may exceed 65 CNEL with or without implementation of the project. No roadway would increase by more than 0.3 CNEL, which would not be a perceptible change.

5.1.2.4 Outdoor Performances

The TCSP may include outdoor events and gatherings of people for artistic, cinematic, theatrical, musical, sporting, cultural, education or civic purposes. Design details for outdoor venues, designs, and associated events are not known at this stage; however potential locations may be located at sites throughout the TCSP. Noise levels associated with gathering areas may therefore vary significantly depending on the type of event, use of amplified equipment, and size of crowds.

5.1.3 Significance of Impacts

5.1.3.1 Construction Noise

Construction noise would be regulated by the City's Municipal Code, which enforces hours and days of construction activities. However, for future development within the TCSP and for future Housing Element sites, noise levels may exceed 10 dBA above ambient conditions at nearby NSLUs. Therefore, it cannot be determined that construction noise would not significantly increase noise levels without mitigation. Impacts for construction noise through implementation of the TCSP and construction of the individual Housing Element areas are considered significant.

5.1.3.2 Stationary Operational Noise

Operational noise would be regulated by the City's Municipal Code, which does not provide numerical thresholds for noise generation, but states that noise generated by HVAC units do not create a noise disturbance on nearby occupied properties and that other operational noise does not exceed conversational levels. For the purposes of this analysis, conversational noise levels and noise disturbances are considered noise levels that exceed 60 dBA at nearby NSLUs. Because there is no numerical standard set by the City Municipal Code, adequate reduction of future projects' noise levels are not guaranteed. Stationary operational noise is therefore considered significant.

5.1.3.3 Traffic Noise

Noise levels from traffic associated with implementation of the TCSP and Housing Element sites would increase by up to 0.3 CNEL. Noise level increases below 3 CNEL are not readily perceptible. Impacts from traffic noise due to implementation of the TCSP and AEN areas and construction of the Housing Element sites are less than significant.

5.1.3.4 Outdoor Performances

Similar to stationary operational noise, noise associated with outdoor performances would be regulated by the City's Municipal Code, which does not provide numerical thresholds for noise generation. For the purposes of this analysis, conversational noise levels and noise disturbances are considered noise levels that exceed 60 dBA at nearby NSLUs. Because no set plans are available for outdoor performance areas, including site layouts or locations of potential noise-amplification equipment, impacts are considered significant without mitigation.

5.1.4 Mitigation Measures

5.1.4.1 Construction Noise

NOI-1 **Construction Noise Management Plan.** Noise levels from construction of future projects within the TCSP shall not exceed 10 dBA above the daytime baseline ambient noise levels as measured at nearby noise-sensitive land uses. To ensure the reduction of noise levels, a Construction Management Plan describing measures shall be included on future construction plans to ensure compliance with the aforementioned limits. The plans shall be prepared by future project applicants and submitted to the City for approval prior to issuance of a grading permit. The following measures may be included to reduce construction noise:

- Construction equipment to be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
- Diesel equipment to be operated with closed engine doors and equipped with factory-recommended mufflers.
- Mobile or fixed "package" equipment (e.g., arc-welders and air compressors) to be equipped with shrouds and noise control features that are readily available for that type of equipment.

Proposed Santee Town Center Specific Plan

Proposed Arts and Entertainment Neighborhood

Noise Contours

60 CNEL

65 CNEL

70 CNEL

0 850 Feet

Source: Aerial (SanGIS, 2023)

I:\PROJECTS\MWW_SteeleGroup_01427\00004_SanteeHAP\Map\Noise\Figures.aprx Fig5_TransportationNoise_NoProject : 01427.00004.001: 3/8/2024 - RK

HELIX Environmental Planning

Transportation Noise Contours (No Project)

Figure 5

Proposed Santee Town Center Specific Plan

Proposed Arts and Entertainment Neighborhood

Noise Contours

60 CNEL

65 CNEL

70 CNEL

Source: Aerial (SanGIS, 2023)

0 850 Feet

N

I:\PROJECTS\MMW_SteeleGroup_01427\00004_SanteeHAP\Map\NoiseFigures.aprx Fig6_TransportationNoise_Project : 01427.00004.001: 3/8/2024 - RK

HELIX Environmental Planning

Transportation Noise Contours (With Project)

Figure 6

- Electrically powered equipment to be used instead of pneumatic or internal combustion powered equipment, where feasible.

- Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) to be prohibited.

- Material stockpiles and mobile equipment staging, parking, and maintenance areas to be located as far as practicable from noise sensitive receptors.

- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.

- No project-related public address or music system shall be audible at any adjacent sensitive receptor.

- Temporary sound barriers or sound blankets may be installed between construction operations and adjacent noise-sensitive receptors. If barriers are to be used, the noise barrier should be constructed of a material with an STC 20 rating with no gaps or perforations and remain in place until the conclusion of demolition, grading, and construction activities.

- The project applicant shall notify residences within 100 feet of the project's property line in writing within one week of any construction activity such as demolition, concrete sawing, asphalt removal, and/or heavy grading operations. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure.

- The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

5.1.4.2 Stationary Operational Noise

NOI-2 **Operational Noise Reduction**. Noise generated by standard operation of future projects within the TCSP shall not exceed 60 dBA when measured at nearby noise-sensitive land uses such as residences, schools, daycares, hospitals, or hotels. To ensure that noise levels are reduced to adequate levels, a site-specific noise study may be requested by the City for individual future projects, as deemed necessary by the City's Planning Department. If noise levels are anticipated to exceed this limit, appropriate noise-attenuation features shall be installed to ensure noise levels are reduced.

5.1.4.3 Outdoor Performances

NOI-3 **Performance Areas Noise Studies**. When plans for future temporary or permanent performance spaces or entertainment activities are prepared, they shall be analyzed to ensure that noise levels generated by future events are reduced to 60 dBA at nearby noise-sensitive land uses. For each proposed performance area or venue where noise levels could exceed this limit, a noise assessment shall be performed by a qualified noise consultant

which analyzes anticipated noise-generating sources. The study shall assess any noise-amplifying equipment, directionality of amplified noise, positioning of bandstands, and potential crowd noise. The analysis shall also consider the anticipated event types. If modeled noise levels exceed the limits, design considerations shall be provided to ensure noise levels are reduced. Noise attenuation features to be considered may include, but are not limited to, the following:

- Permanent barriers blocking the line-of-sight between the noise source and sensitive land use;
- Relocation of noise-generating equipment or areas where noise-generating activities may occur;
- Repositioning of noise-generating equipment facing away from sensitive uses; and
- Enclosing event spaces within structures, as feasible.

The results of the study shall be incorporated into design plans and be approved by the City Planning Department.

5.1.5 Significance After Mitigation

Mitigation measure NOI-1 would apply to future projects within the TCSP and Housing Element sites. Impacts related to construction noise would be reduced to less than significant levels. Mitigation measure NOI-2 would reduce impacts from future operational noise levels to less than significant levels. Mitigation measure NOI-3 would reduce impacts from future outdoor performance venues; however, reducing noise levels to 60 dBA may not be achievable in every instance and impacts would be significant and unavoidable after incorporation of mitigation measure NOI-3.

5.2 ISSUE 2: EXCESSIVE VIBRATION

Would the project result in generation of excessive ground-borne vibration or ground-borne noise levels?

5.2.1 Construction Vibration

Construction activities are known to generate excessive ground-borne vibration. Construction activities related to implementation of the proposed TCSP and Housing Element sites would not take place all at once; however, future development accommodated by the proposed TCSP would have the potential to temporarily generate vibration resulting in a short-term effect on nearby vibration-sensitive land uses. Sources of vibration during the construction of future projects within the proposed TCSP may include the potential for pile driving equipment and smaller equipment such as a vibratory roller. According to the Caltrans Transportation and Construction Vibration Guidance Manual, “strongly perceptible” ground-borne vibration is defined as equal to or exceeding 0.1 in/sec PPV. Construction activities within 200 feet and pile-driving within 600 feet of a vibration sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2013).

5.2.1.1 Housing Element Sites

A possible source of vibration during construction of the Housing Element sites would be a vibratory roller, which may be used for compaction of soil beneath building foundations and could be used within 50 feet of off-site residences. Most usage of a vibratory roller, however, would occur at distances greater than 50 feet from any single residence due to the mobile nature of its use across the large project sites. A vibratory roller would create approximately 0.210 inch per second PPV at a distance of 25 feet (Caltrans 2020). A 0.210 inch per second PPV vibration level would equal 0.098 inch per second PPV at a distance of 50 feet.[3] This would be lower than the "strongly perceptible" impact for humans of 0.1 inch per second PPV. Additionally, off-site exposure to such ground-borne vibration would be temporary as it would be limited to the short-term construction period.

5.2.2 Significance of Impacts

Impacts from future projects within the TCSP, excluding the Housing Element sites are not known and therefore are considered significant without mitigation. Construction of the Housing Element sites is anticipated to require the use of a vibratory roller and are not anticipated to be used within 50 feet of any nearby residences. At these distances, impacts would be less than significant.

5.2.2.1 Mitigation Measure

NOI-4 Construction Vibration Analysis. A site-specific vibration study shall be prepared for proposed land uses that have the potential for construction-related vibration impacts. Construction activities within 200 feet and pile-driving within 600 feet of a vibration-sensitive use could be potentially disruptive to vibration-sensitive operations. Proposed development shall implement recommended measures within the study to ensure that projects reduce construction-related vibration impacts to below 0.1 in/sec PPV at vibration-sensitive uses.

5.2.2.2 Significance of Impacts After Mitigation

Impacts would be less than significant with implementation of mitigation measure NOI-4. Impacts from construction of the Housing Element sites would be less than significant and do not require mitigation.

5.3 ISSUE 3: AIRPORT NOISE EXPOSURE

For a project located within 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?

5.3.1 Airport Noise

The TCSP area is subject to some aircraft noise associated with Gillespie Field, located approximately 0.5 miles to the south. The TCSP area is mostly located in locations that would be exposed to noise levels below 60 CNEL. Portions of the commercial areas north of Mission Gorge Road and west of Town Center Parkway are located within an area that would be exposed to 60 CNEL. The commercial uses within

[3] Equipment PPV = Reference PPV * $(25/D)^n$ (inches per second), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receiver in feet, and n = 1.1 (the value related to the attenuation rate through the ground); formula from Caltrans 2013.

these areas would not exceed the land use compatibility standards described in the City General Plan Noise Element. Impacts would be less than significant.

5.3.1.1 Housing Element Sites

As described above, only commercial uses would be exposed to aircraft noise levels exceeding 60 CNEL. Housing Element sites would not be located in these areas.

5.3.1.2 Significance of Impacts

Impacts would be less than significant.

5.3.1.3 Mitigation Framework

Impacts would be less than significant and no mitigation is required.

5.3.1.4 Significance After Mitigation

Impacts would be less than significant and no mitigation is required.

5.4 ISSUE 4: LAND USE COMPATIBILITY

Would the project conflict with the General Plan Community Protection Element noise standards for the proposed uses?

5.4.1 Exterior Noise Levels

Future noise levels in the TCSP area would generally increase or decrease in accordance with traffic levels. Following implementation of the proposed TCSP, traffic levels on roadway segments along Cuyamaca Street, Magnolia Avenue, Mission Gorge Road, and Town Center Parkway would increase. A segment of Cuyamaca Street from Woodglen Vista Road to El Nopal would see a decrease in traffic levels. The projected ADT for selected road segments, calculated CNEL at 100 feet from the centerline of each roadway, and the distance from the roadway centerline to the 60, 65, 70, and 75 CNEL contours are contained in Appendix C.

Land use designations which allow residential development are proposed throughout the TCSP area. Some residential structures along major roadways, including Mast Boulevard and Magnolia Avenue, may be located within areas that are exposed to noise levels exceeding 65 CNEL. Although noise levels throughout the TCSP area would generally increase, nearby land uses generally would not be subjected to elevated noise levels incompatible with proposed land uses.

5.4.2 Interior Noise Levels

Title 24 regulations require that noise levels in habitable interior spaces for multi-family residential uses do not exceed 45 CNEL. Traditional architectural materials are estimated to attenuate noise levels by 20 CNEL; therefore, if exterior noise levels at future building façades exceed 65 CNEL, interior noise levels may exceed the 45 CNEL limit and further analysis is required.

Traffic associated with implementation of the proposed TCSP would increase noise levels along a number of roadway segments throughout the TCSP area. Furthermore, the proposed TCSP would allow new residential development in areas where noise levels exceed 60 CNEL. As a result, additional noise attenuation would be required for new structures to achieve or maintain interior noise levels which would not exceed 45 CNEL for residences.

5.4.3 Consistency with City Standards

Implementation of the proposed TCSP would potentially expose new development to noise levels at exterior use areas in excess of the City's noise compatibility guidelines established in the General Plan Noise Element, which would result in an inconsistency with City standards. In addition, new residential developments may be exposed to noise levels exceeding Title 24 standards.

5.4.4 Conditions of Approval

The following conditions of approval would be required to ensure project consistency with the General Plan Noise Element and Title 24 standards:

NOI-5: Site-Specific Acoustic Analysis. Where new development would expose people to noise exceeding normally acceptable levels, a site-specific acoustical analysis shall be performed prior to the approval of building permits for:

- Single-family and multi-family residences, mobile homes, transient lodging, schools, libraries, churches, hospitals, and nursing homes, where exterior noise levels range between 65 and 70 CNEL.

- All land uses where noise levels exceed the conditionally compatible exterior noise exposure levels as defined in the City's General Plan Noise Element Exterior Land Use/Noise Compatibility Guidelines.

The acoustical analysis shall be conducted to ensure that barriers, building design and/or location are capable of maintaining interior noise levels at 45 CNEL or less for residences. Barriers may include a combination of earthen berms, masonry block, and plexiglass. Building location may include the use of appropriate setbacks. Building design measures may include dual-pane windows, solid core exterior doors with perimeter weather stripping, and mechanical ventilation to allow windows and doors to remain closed.

5.4.5 Policy Consistency After Implementation of Conditions of Approval

With the implementation of NOI-5, potential interior noise levels at noise-sensitive land uses would be consistent with City's General Plan Noise Element standards.

6.0 LIST OF PREPARERS

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Yara Fisher, Project Manager

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7.0 REFERENCES

California Building Standards Commission. 2022. California Building Code, California Code of Regulations, Title 24, Part 2 (Volumes 1 & 2). Chapter 12.

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual. April.

2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September.

2004. California Department of Transportation, Traffic Noise Model (TNM)

Centers for Disease Control and Prevention. 2022. What Noises Cause Hearing Loss? November 8. Available at: https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html.

Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September.

Intersecting Metrics. 2024. Local Transportation Study – Santee Town Center Specific Plan. March

Santee, City of. 2003. City of Santee General Plan.

U.S. Department of Transportation (USDOT). 2008. Roadway Construction Noise Model. Version 1.1. December 8.

Appendix A

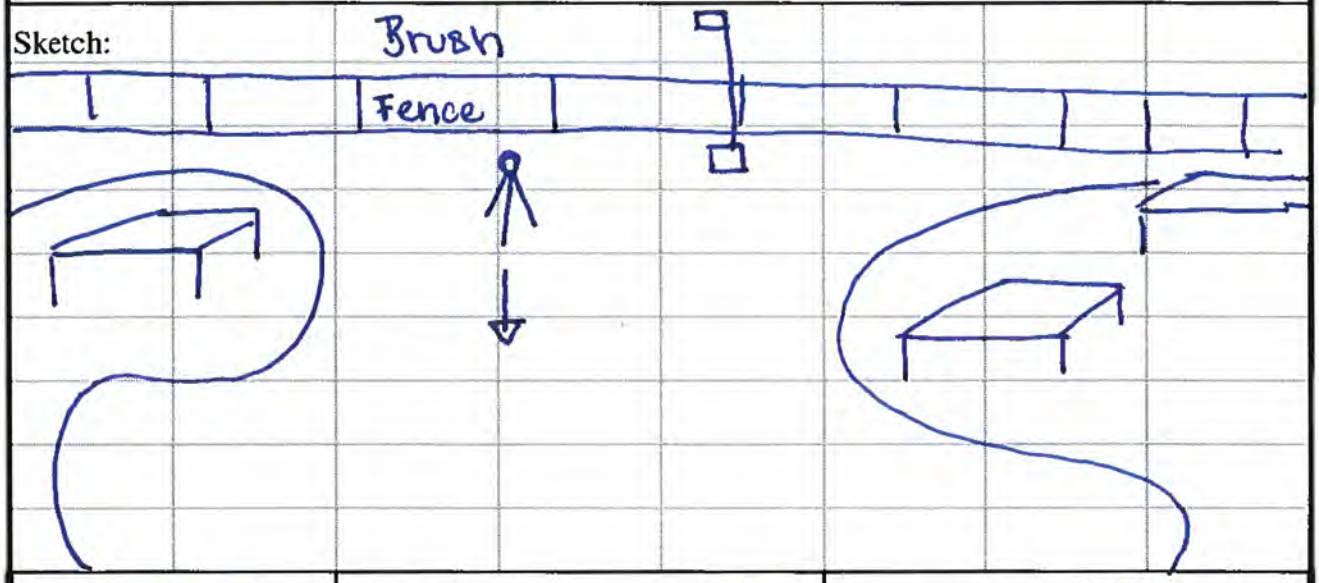
Site Survey Measurement Sheets

Site Survey

Job # 01427.00004.001	Project Name: Santee TOSP Ammendment		
Date: 7/20/23	Site #: M1	Engineer: Pano and Simmons	
Address: 32° 50' 55.5" N 116° 58' 39.5" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: Number of small planes: 4
music lightly playing at ~~mar~~ east corner of the park.

Sketch:



Temp: 92°F	Wind Spd: 8 mph	Humidity: 41 %
Start of Measurement: 2:58	End of Measurement: 3:13	50.2 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

File #419

Site Survey

Job # 01427.00004.001	Project Name: Santee TCSP Ammendment		
Date: 7/20/23	Site #: M2	Engineer: Pano and Simmons	
Address: 32° 50' 48.6" N 116° 59' 00.8" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: One small plane flew overhead and one medium plane flew overhead. One garbage truck passed by

Sketch:

Temp: 74 °F	Wind Spd: 2 mph	Humidity: 68 %
Start of Measurement: 9:03 am	End of Measurement: 9:18 am	69.2 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

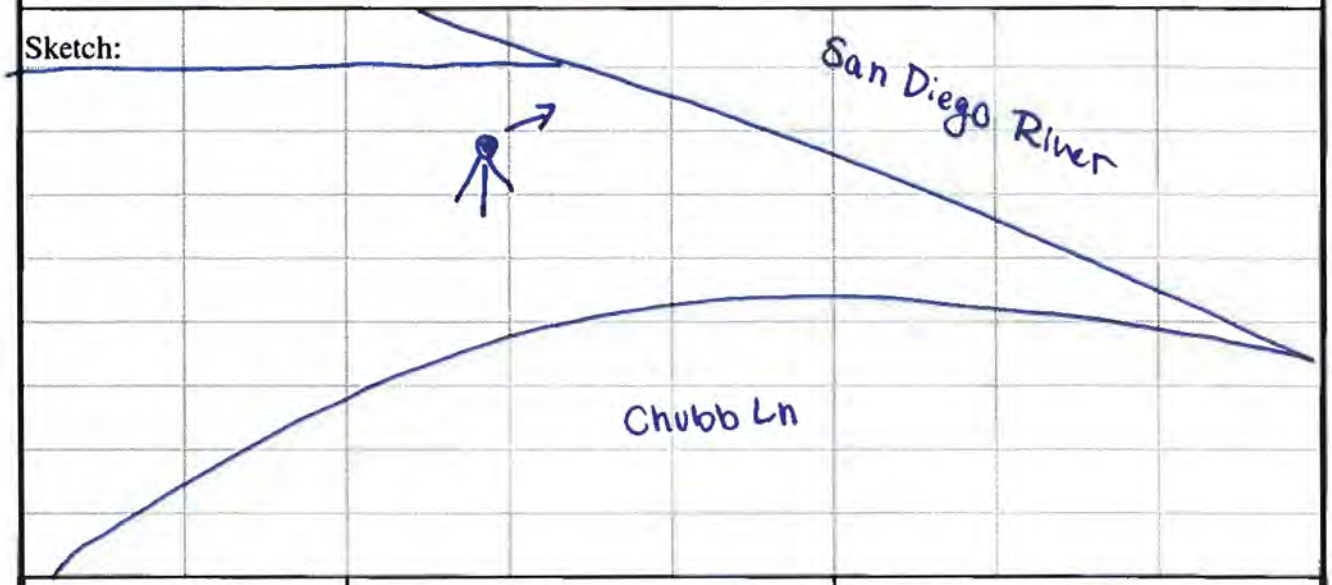
File # 411

Site Survey

Job # 01427.00004.001	Project Name: Santee TCSP Ammendment		
Date: 7/20/23	Site #: M3	Engineer: Pano and Simmons	
Address: 32° 50' 48.3" N 116° 58' 28.7" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: Number of small planes: 7
group of people talking near measurement (50 feet away)

Sketch:



Temp: 93°F	Wind Spd: 9 mph	Humidity: 49 %
Start of Measurement: 2:21	End of Measurement: 2:36	49.6 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

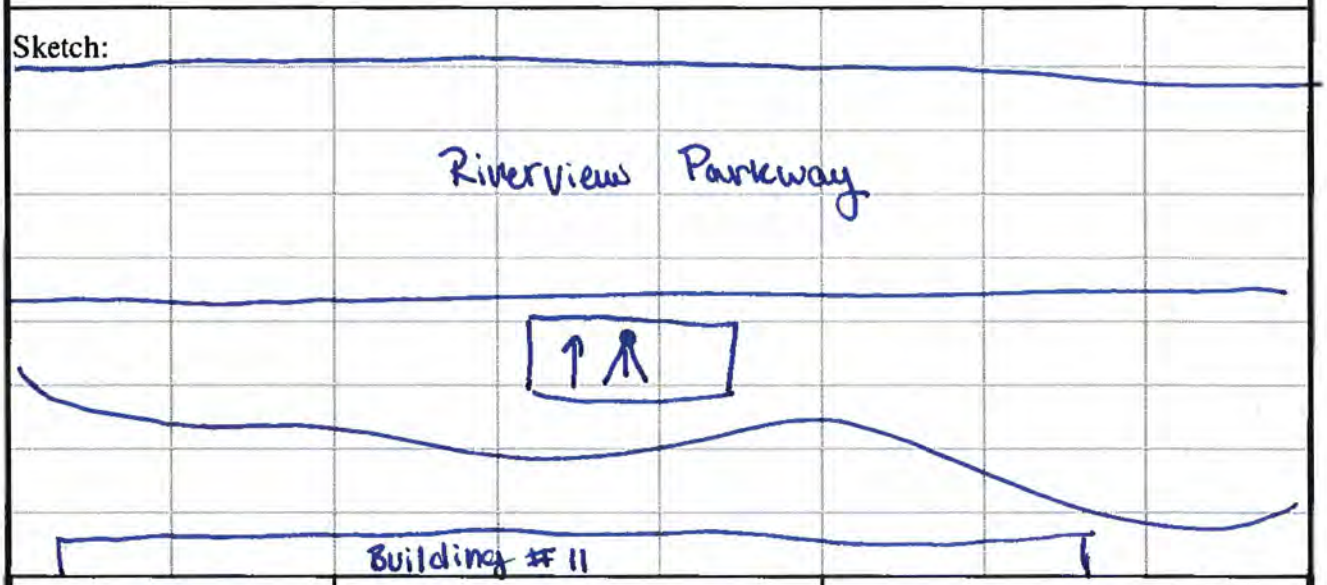
File # 418

Site Survey

Job # 01427.00004.001	Project Name: Santee T[illegible] CSP Amendment		
Date: 7/20/23	Site #: M4	Engineer: Pono and Simmons	
Address: 32° 50' 34.6" N 116° 58' 38.9" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: Number of smale planes: 4

Sketch:



Temp: 85°F	Wind Spd: 5 mph	Humidity: 52 %
Start of Measurement: 10:45	End of Measurement: 11:00	54.0 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)
Noise Measurement for Information Only No Through Roadways No Calibration Analysis Will Be Provided		

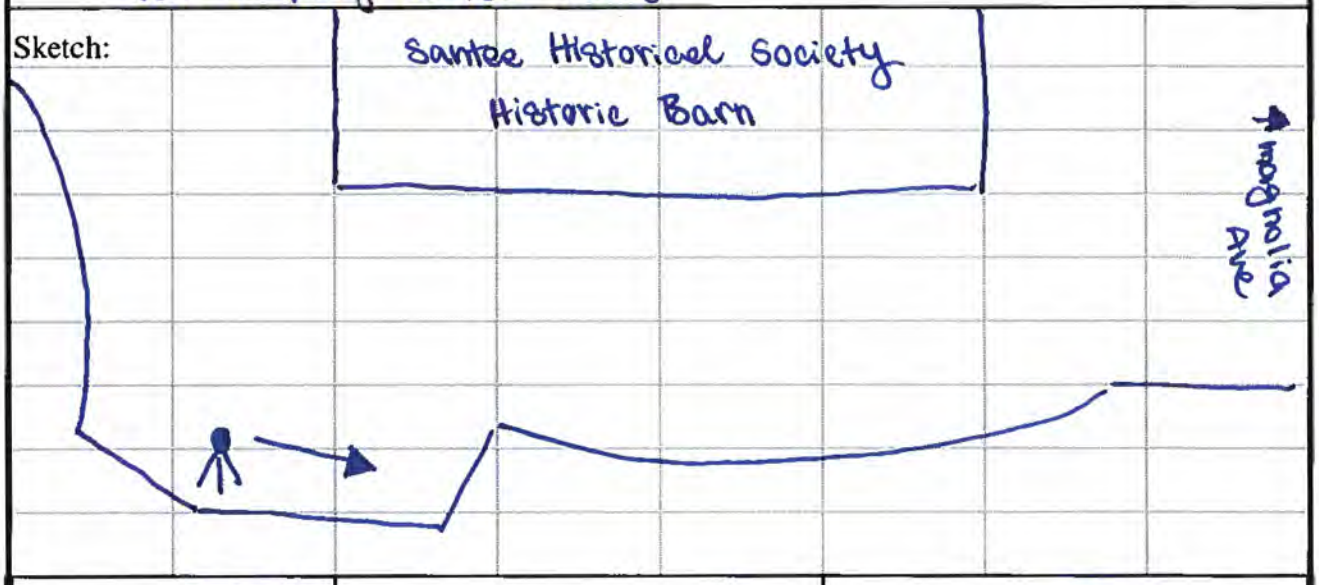
File # 414

Site Survey

Job # 01427.00004.001	Project Name: Santee TCSP Ammendment		
Date: 7/20/23	Site #: M5	Engineer: Pano and Simmons	
Address: 32°50'35.5" N 116°58'12.7" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: Number of small planes: 2
Number of helicopters: 1
Car beeping a few times

Sketch:



Temp: 94°F	Wind Spd: 9 mph	Humidity: 89 %
Start of Measurement: 1:38	End of Measurement: 1:53	54.5 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

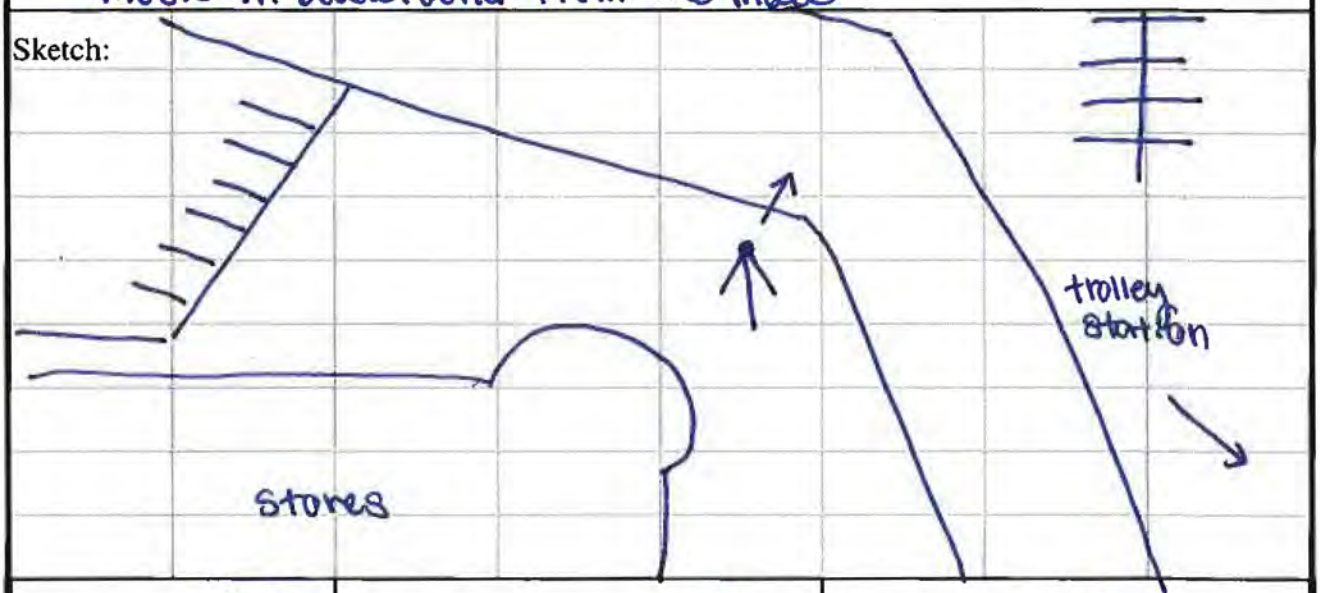
File# 417

Site Survey

Job # 01427.00004.001	Project Name: Santee TCSP Ammendment		
Date: 7/20/23	Site #: M6	Engineer: Pano and Simmons	
Address: 32°50'27.6" N 118° 58' 56.0" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: Number of times trolley passed by: 2
Number of small planes: 3
music in background from the mall

Sketch:



Temp: 81°F	Wind Spd: 3 mph	Humidity: 60 %
Start of Measurement: 9:43	End of Measurement: 9:58	60.9 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

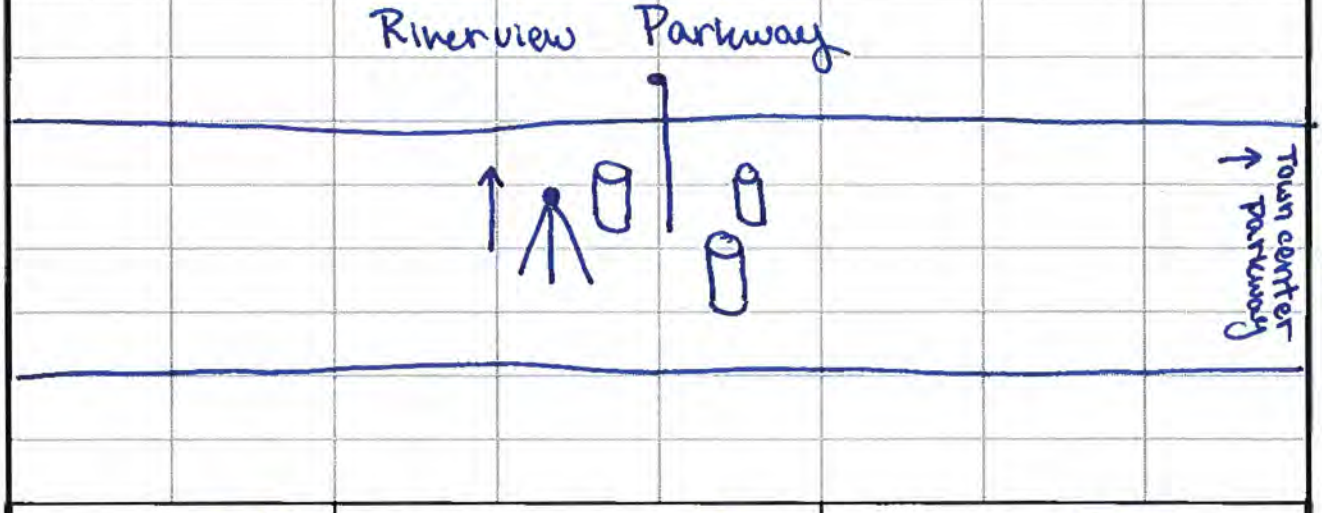
File# 412

Site Survey

Job # 01427.00004.001	Project Name: Santee TCSP Ammendment		
Date: 7/20/23	Site #: M7	Engineer: Pano and Simmons	
Address: 32° 50' 28.8" N 116° 58' 42.6" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: Number of small planes: 4

Sketch:



Temp: 89°F	Wind Spd: 6 mph	Humidity: 47 %
Start of Measurement: 11:18 am	End of Measurement: 11:33 am	60.7 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)
Noise Measurement for Information Only No Through Roadways No Calibration Analysis Will Be Provided		

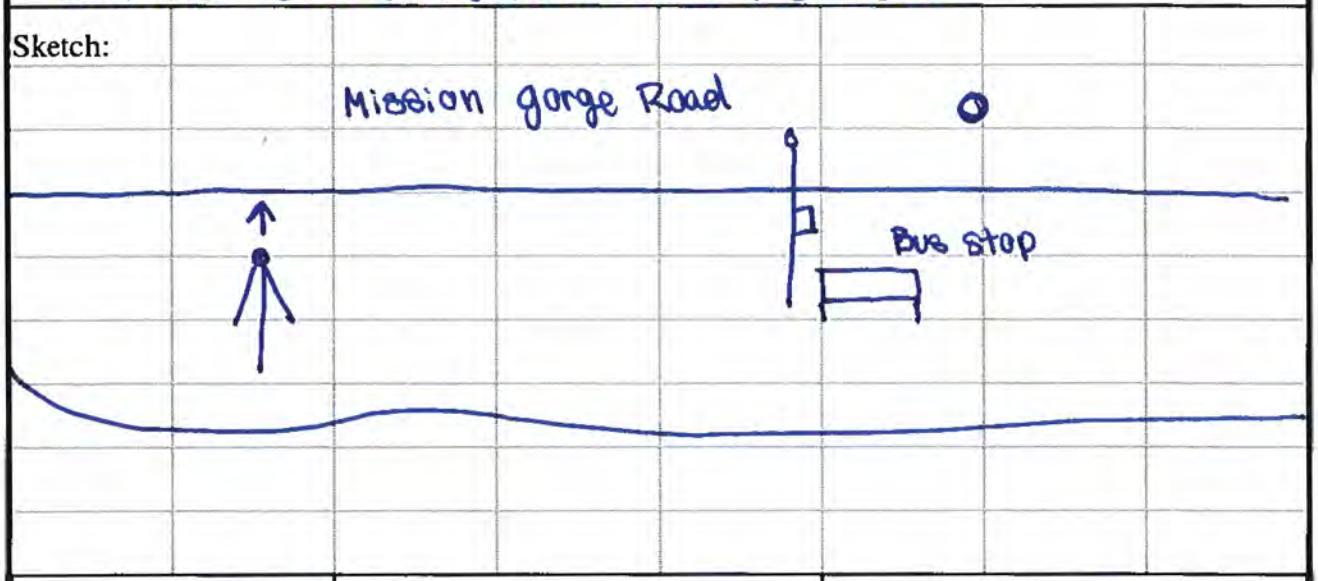
File# 415

Site Survey

Job # 01427.00004.001	Project Name: Santee TCSP Ammendment		
Date: 7/20/23	Site #: M8	Engineer: Pano and Simmons	
Address: 32° 50' 19.41" N 116° 58' 39.31" W			
Meter: LD	Serial #: 000TH1	Calibrator: LD	Serial #: 2621

Notes: Car wash located approximatley 250 feet away
Number of small planes : 3
Manhole cover on the road near the meter

Sketch:



Temp: 94° F	Wind Spd: 8 mph	Humidity: 41 %
Start of Measurement: 1:07 pm	End of Measurement: 1:22 pm	68.9 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

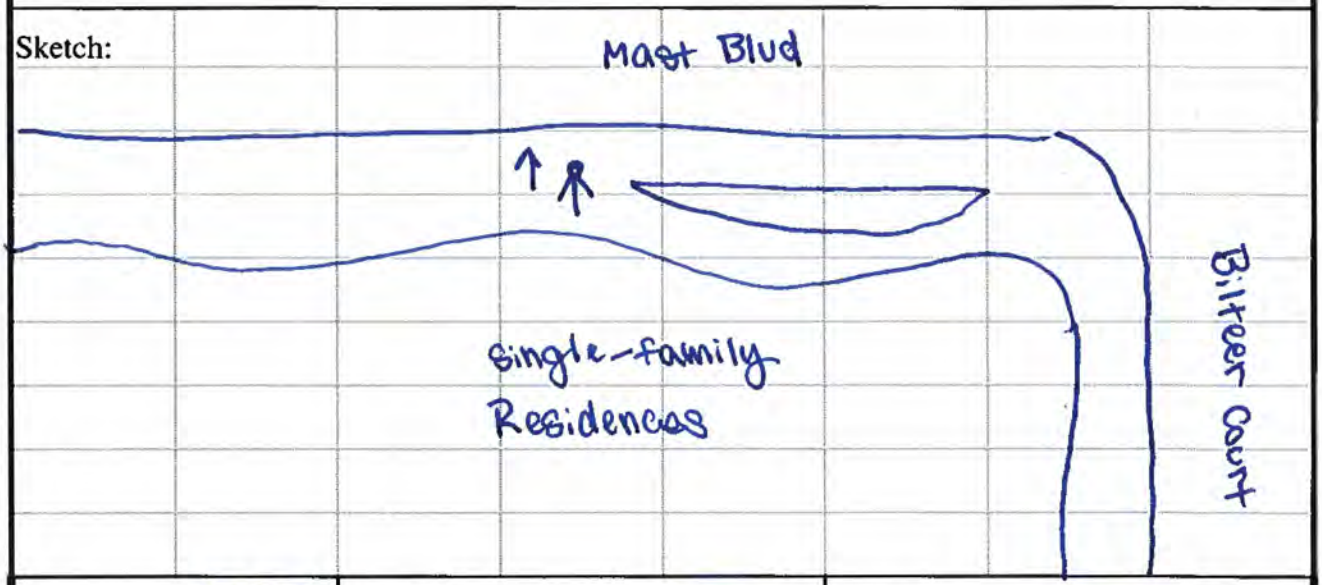
File # 416

Site Survey

Job # 01427.00004.001	Project Name: Santee TCSP Ammendment		
Date: 7/20/23	Site #: M9	Engineer: Pana and Simmons	
Address: 32°51'18.0" N 116°58'36.0" W			
Meter: LD	Serial #: 0001741	Calibrator: LD	Serial #: 2621

Notes: Number of small plates: 1

Sketch:



Temp: 91°F	Wind Spd: 8 mph	Humidity: 39 %
Start of Measurement: 3:40 pm	End of Measurement: 3:55 pm	66.9 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

File # 420

Appendix B

Carrier 38HDR060 Split System Condenser

ELECTRICAL DATA

38HDR UNIT SIZE	V–PH–Hz	VOLTAGE RANGE*		COMPRESSOR		OUTDOOR FAN MOTOR			MIN CKT AMPS	FUSE/ HACR BKR AMPS
		Min	Max	RLA	LRA	FLA	NEC Hp	kW Out		
018	208/230–1–60	187	253	9.0	48.0	0.80	0.125	0.09	12.1	20
024	208/230–1–60	187	253	12.8	58.3	0.80	0.125	0.09	16.8	25
030	208/230–1–60	187	253	14.1	73.0	1.45	0.25	0.19	19.1	30
036	208/230–1–60	187	253	14.1	77.0	1.45	0.25	0.19	19.1	30
	208/230–3–60	187	253	9.0	71.0	1.45	0.25	0.19	12.7	20
	460–3–60	414	506	5.6	38.0	0.80	0.25	0.19	7.8	15
048	208/230–1–60	187	253	21.8	117.0	1.45	0.25	0.19	28.7	50
	208/230–3–60	187	253	13.7	83.1	1.45	0.25	0.19	18.6	30
	460–3–60	414	506	6.2	41.0	0.80	0.25	0.19	8.6	15
060	208/230–1–60	187	253	26.4	134.0	1.45	0.25	0.19	34.5	60
	208/230–3–60	187	253	16.0	110.0	1.45	0.25	0.19	21.5	35
	460–3–60	414	506	7.8	52.0	0.80	0.25	0.19	10.6	15

* Permissible limits of the voltage range at which the unit will operate satisfactorily

FLA – Full Load Amps
HACR – Heating, Air Conditininng, Refrigeration
LRA – Locked Rotor Amps
NEC – National Electrical Code
RLA – Rated Load Amps (compressor)

NOTE: Control circuit is 24–V on all units and requires external power source. Copper wire must be used from service disconnect to unit.
All motors/compressors contain internal overload protection.

SOUND LEVEL

Unit Size	Standard Rating (dB)	Typical Octave Band Spectrum (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018	68	52.0	57.5	60.5	63.5	60.5	57.5	46.5
024	69	57.5	61.5	63.0	61.0	60.0	56.0	45.0
030	72	56.5	63.0	65.0	66.0	64.0	62.5	57.0
036	72	65.0	61.5	63.5	65.0	64.5	61.0	54.5
048	72	58.5	61.0	64.0	67.5	66.0	64.0	57.0
060	72	63.0	61.5	64.0	66.5	66.0	64.5	55.5

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE–VOLTAGE, SERIES	REQUIRED SUBCOOLING °F (°C)
018	12 (6.7)
024	12 (6.7)
030	12 (6.7)
036	12 (6.7)
048	12 (6.7)
060	12 (6.7)

Appendix C

Existing and Future Traffic Noise Levels

Existing and Future Traffic Volumes											
Roadway /Segment	No Project (2050)					With Project (2050)					Posted Speed (mph)
	ADT	Peak Hour Traffic	Traffic Breakdown			ADT	Peak Hour Traffic	Traffic Breakdown			
			Cars 97.5%	MT 2.0%	HT 0.5%			Cars 97.5%	MT 2.0%	HT 0.5%	
Cottonwood											
Street A to Riverview Parkway	4800	480	468	10	2	4800	480	468	10	2	35
Park Ave to Mission Gorge Rd	2200	220	215	4	1	2200	220	215	4	1	25
Mission Gorge Rd to Buena Vista Ave	8500	850	829	17	4	8500	850	829	17	4	25
Buena Vista Ave to Prospect Ave	8700	870	848	17	4	8700	870	848	17	4	25
Cuyamaca Street											
Woodglen Vista Rd to El Nopal	16500	1650	1609	33	8	14730	1473	1436	29	7	35
El Nopal to Mast Blvd	18630	1863	1816	37	9	18630	1863	1816	37	9	35
Mast Blvd to Riverpark Drive	26600	2660	2594	53	13	27510	2751	2682	55	14	35
Riverpark Drive to Town Center Pkwy	31700	3170	3091	63	16	32670	3267	3185	65	16	35
Town Center Pkwy to Mission Gorge Rd	30100	3010	2935	60	15	31640	3164	3085	63	16	35
Mission Gorge Rd to SR 52 WB	49600	4960	4836	99	25	50660	5066	4939	101	25	35
Magnolia Avenue											
Mast Blvd to Braverman Dr	26200	2620	2555	52	13	27940	2794	2724	56	14	35
Braverman Dr to Mission Gorge Rd	30400	3040	2964	61	15	32450	3245	3164	65	16	35
Mast Blvd											
Cuyamaca St to Magnolia Ave	22300	2230	2174	45	11	22400	2240	2184	45	11	40
Magnolia Ave to Los Ranchitos Rd	6300	630	614	13	3	6300	630	614	13	3	40
Mission Gorge Blvd											
Carlton Hills Blvd to Town Center Pkwy	44400	4440	4329	89	22	46920	4692	4575	94	23	35
Town Center Pkwy to Cuyamaca St	37700	3770	3676	75	19	39700	3970	3871	79	20	35
Cuyamaca St to Riverview Pkwy	28200	2820	2750	56	14	29510	2951	2877	59	15	40
Riverview Pkwy to Cottonwood Ave	28400	2840	2769	57	14	29710	2971	2897	59	15	40
Cottonwood Ave to Magnolia Ave	26400	2640	2574	53	13	27710	2771	2702	55	14	40
Riverview Pkwy											
Mission Gorge Rd to Town Center Pkwy	11600	1160	1131	23	6	11600	1160	1131	23	6	35
Town Center Pkwy to Cottonwood Ave	10700	1070	1043	21	5	10700	1070	1043	21	5	35
Cottonwood Ave to Magnolia Ave	9600	960	936	19	5	9600	960	936	19	5	35
Town Center Pkwy											
Mission Gorge Rd to Cuyamaca St	16500	1650	1609	33	8	16500	1650	1609	33	8	35
Town Center Pkwy											
Cuyamaca St to Transit Wy	6900	690	673	14	3	7300	730	712	15	4	35
Transit Wy to Riverview Pkwy	7200	720	702	14	4	7300	730	712	15	4	35

Existing and Future Traffic Noise Levels									
Roadway/Segment	No Project (2050)				With Project (2050)				
	CNEL @ 100 ft	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)	CNEL @ 100 ft	Δ at 100ft. (dBA)	70 CNEL (ft.)	65 CNEL (ft.)	60 CNEL (ft.)
Cottonwood									
Street A to Riverview Parkway	57.5	-	20	60	57.5	0.0	-	20	60
Park Ave to Mission Gorge Rd	50.7	-	-	12	50.7	0.0	-	-	12
Mission Gorge Rd to Buena Vista Ave	56.7	-	15	50	56.7	0.0	-	15	50
Buena Vista Ave to Prospect Ave	56.7	-	15	50	56.7	0.0	-	15	50
Cuyamaca Street									
Woodglen Vista Rd to El Nopal	62.9	25	65	170	62.4	-0.5	20	60	155
El Nopal to Mast Blvd	63.4	25	75	185	63.4	0.0	25	75	185
Mast Blvd to Riverpark Drive	65.0	35	100	240	65.1	0.1	37	105	250
Riverpark Drive to Town Center Pkwy	65.8	45	115	270	65.9	0.1	45	115	280
Town Center Pkwy to Mission Gorge Rd	65.5	40	110	260	65.8	0.3	45	115	280
Mission Gorge Rd to SR 52 WB	67.7	65	165	370	67.8	0.1	65	165	370
Magnolia Avenue									
Mast Blvd to Braverman Dr	64.9	35	100	240	65.2	0.3	40	105	250
Braverman Dr to Mission Gorge Rd	65.6	40	110	250	65.9	0.3	45	115	280
Mast Blvd									
Cuyamaca St to Magnolia Ave	65.8	45	115	270	65.8	0.0	45	115	270
Magnolia Ave to Los Ranchitos Rd	60.3	10	40	105	60.3	0.0	10	40	105
Mission Gorge Blvd									
Carlton Hills Blvd to Town Center Pkwy	67.2	60	150	340	67.5	0.3	60	160	360
Town Center Pkwy to Cuyamaca St	66.5	50	130	310	66.7	0.2	50	135	320
Cuyamaca St to Riverview Pkwy	66.8	55	140	320	67.0	0.2	55	145	330
Riverview Pkwy to Cottonwood Ave	66.8	55	140	320	67.0	0.2	55	145	330
Cottonwood Ave to Magnolia Ave	66.5	50	130	310	66.7	0.2	55	140	310
Riverview Pkwy									
Mission Gorge Rd to Town Center Pkwy	61.4	15	50	130	61.4	0.0	15	50	130
Town Center Pkwy to Cottonwood Ave	61.0	10	45	120	61.0	0.0	10	45	120
Cottonwood Ave to Magnolia Ave	60.6	10	40	110	60.6	0.0	10	40	110
Town Center Pkwy									
Mission Gorge Rd to Cuyamaca St	62.9	20	65	170	62.9	0.0	20	65	170
Town Center Pkwy									
Cuyamaca St to Transit Wy	59.1	-	30	85	59.4	0.3	-	33	90
Transit Wy to Riverview Pkwy	59.3	-	30	90	59.4	0.1	-	33	90

Appendix G

Construction and Operational Energy Use Calculations

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Construction Energy Use

Off-Road Construction Equipment Energy Use

Phase	Equipment	Fuel	HP	Load Factor	Equipment Count	Hours/Day	Work Days	Gallons /HP-Hr	Gallons /Hour	Gallons /Day	Total Gallons	Total kBtu
Site Preparation	Rubber Tired Dozers	Diesel	367	0.4	3	8.0	20	0.0453607	6.65895	159.815	3,196.3	444,285
	Tractors/Loaders/Backhoes	Diesel	84	0.37	4	8.0	20	0.0564883	1.75566	56.181	1,123.6	156,183
Grading	Excavators	Diesel	36	0.38	2	8.0	45	0.0560979	0.76742	12.279	552.5	76,803
	Graders	Diesel	148	0.41	1	8.0	45	0.0538288	3.26633	26.131	1,175.9	163,447
	Rubber Tired Dozers	Diesel	367	0.4	1	8.0	45	0.0453607	6.65895	53.272	2,397.2	333,214
	Scrapers	Diesel	423	0.48	2	8.0	45	0.0476817	9.68129	154.901	6,970.5	968,903
	Tractors/Loaders/Backhoes	Diesel	84	0.37	2	8.0	45	0.0564883	1.75566	28.090	1,264.1	175,706
Paving	Pavers	Diesel	81	0.42	2	8.0	35	0.0565364	1.92337	30.774	1,077.1	149,715
	Paving Equipment	Diesel	89	0.36	2	8.0	35	0.0595865	1.90915	30.546	1,069.1	148,608
	Rollers	Diesel	36	0.38	2	8.0	35	0.0578510	0.79140	12.662	443.2	61,603
Building Construction	Cranes	Diesel	367	0.29	2	4.4	375	0.0515293	5.48427	47.987	17,995.2	2,501,340
	Forklifts	Diesel	82	0.2	4	7.5	375	0.0573234	0.94010	28.203	10,576.2	1,470,087
	Generator Sets	Diesel	14	0.74	2	5.0	375	0.0177766	0.18417	1.842	690.6	95,997
	Tractors/Loaders/Backhoes	Diesel	84	0.37	4	6.6	375	0.0564883	1.75566	46.086	17,282.2	2,402,231
	Welders	Diesel	46	0.45	2	5.0	375	0.0258137	0.53434	5.343	2,003.8	278,527
Architectural Coating	Air Compressors	Diesel	37	0.48	1	6.0	162	0.0177766	0.31571	1.894	306.9	42,655
										Project Construction Off-Road Total	**68,124.5**	**9,469,304**

On-Road Construction Energy Use

Phase	Trip Type (Fleet Mix)	Trips	Distance (miles)	Work Days	Total VMT	Diesel Gallons / VMT	Diesel Gallons	Gas Gallons / VMT	Gas Gallons	NG Gallons / VMT	NG Gallons	kWh/VMT	Total kWh	Total kBtu
Site Preparation	Worker (LDA, LDT1, LDT2)	17.5	11.97	20	4,190	8.56E-05	0	3.54E-02	148	0.00E+00	-	2.23E-02	93	18,739
	Vendor (HHDT, MHDT)	1	7.63	20	153	1.37E-01	21	1.46E-02	2	5.69E-03	1	1.07E-02	2	3,313
Grading	Worker (LDA, LDT1, LDT2)	20	11.97	45	10,773	8.56E-05	1	3.54E-02	381	0.00E+00	-	2.23E-02	240	48,185
	Vendor (HHDT, MHDT)	1	7.63	45	343	1.37E-01	47	1.46E-02	5	5.69E-03	2	1.07E-02	4	7,455
Paving	Worker (LDA, LDT1, LDT2)	15	11.97	35	6,284	8.56E-05	1	3.54E-02	222	0.00E+00	-	2.23E-02	140	28,108
	Vendor (HHDT, MHDT)	2	7.63	35	534	1.37E-01	73	1.46E-02	8	5.69E-03	3	1.07E-02	6	11,597
Building Construction	Worker (LDA, LDT1, LDT2)	1065.6	11.97	375	4,783,212	8.56E-05	409	3.54E-02	169,142	0.00E+00	-	2.23E-02	106,550	21,394,142
	Vendor (HHDT, MHDT)	158.212	7.63	375	452,684	1.37E-01	62,121	1.46E-02	6,611	5.69E-03	2,576	1.07E-02	4,861	9,829,229
Architectural Coating	Worker (LDA, LDT1, LDT2)	213.12	11.97	162	413,270	8.56E-05	35	3.54E-02	14,614	0.00E+00	-	2.23E-02	9,206	1,848,454
				Project Construction On-Road Total	**5,671,442**		**62,709**		**191,133**		**2,582**		**121,101**	**33,189,222**

Notes:
1. Off-road equipment types and horsepower from CalEEMod defaults.
2. Off-road equipment count and hours from CalEEMod for the AQ/GHG report.
3. Off-road fuel consumption factors from CARB OFFROAD2021, for San Diego County, aggregate model years. https://arb.ca.gov/emfac/emissions-inventory/.
4. On-road fleet mix and trip distances from CalEEMod for the AQ/GHG report.
5. On-road fuel consumption factors weighted average for fleet mix from CARB EMFAC2021, for San Diego Cpounty, aggregate model years, aggregate speeds. https://arb.ca.gov/emfac/emissions-inventory/
6. 1 Gallon of diesel = 139 kBtu; 1 gallon of gasoline = 124 kBtu; 1 gallon of natural gas = 139kbtu; 1 kWhr = 3.412142 kBtu.

Construction Energy Summary

Source	Diesel Gallons	Gas Gallons	NG Gallons	kWh	kBtu
Off-Road Construction Equipment	68,124	-	-	-	9,469,304
On-Road Construction Traffic	62,709	191,133	2,582	121,101	33,189,222
Project Construction Total	**130,834**	**191,133**	**2,582**	**121,101**	**42,658,526**

Annual Operational Energy Use

Project VMT
14,000,900

Project On-Road Project Operational Energy Use

Diesel Gallons / VMT	Diesel Gallons	Gas Gallons / VMT	Gas Gallons	NG Gallons / VMT	NG Gallons	kWh/VMT	Total kWh	Total kBtu
4.95E-03	69,365	3.66E-02	512,609	3.62E-04	5,075	2.13E-02	298,673	74,929,837

Project Electricity and Natural Gas

Type	Source	kWhr	kBtu
Natural Gas	Hot Water, Heating	-	14,990,549
Electricity	Buildings, Lighting	5,189,080	17,705,877
	Total	**5,189,080**	**32,696,426**

Project Water and Wastewater Energy Use

Indoor (Mgal)	Outdoor (Mgal)	Supply (kWhr/Mgal)	Treat Water (kWhr/Mgal)	Distribute (kWhr/Mgal)	Treat Wastewater	kWhr	kBtu
51.996951	2.684968072	9,727	111	1,272	1,911	706,882	2,411,983

Project Total

Energy Type	Quantity	kBtu
Gasoline (Gallons)	512,609	63,563,572
Diesel (Gallons)	69,365	9,641,721
Natural Gas (kBtu)	15,695,978	15,695,978
Electricity (kWhr)	6,194,635	21,136,974
Total		**110,038,246**

Notes:
1. VMT, electricity, natural gas, and water use from project CalEEMod annual output.
2. Fleet mix from CalEEMod default for San Diego County
3. Fuel consumption factors weighted average for fleet mix from CARB EMFAC2021, for San Diego County, aggregate model years for 2026, aggregate speeds.
4. Water electricity intensity factors from CalEEMod default for San Diego County.
5. 1 Gallon of diesel = 139 kBtu; 1 gallon of gasoline = 124 KBtu; 1 gallon of natural gas = 139 kbtu; 1 kWhr = 3.412142 kBtu.

Appendix H

Water Supply Assessment

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PADRE DAM MUNICIPAL WATER DISTRICT

WATER SUPPLY ASSESSMENT

City of Santee Town Center Specific Plan Amendment

Prepared by:
HDR Engineering, Inc

July 2024

Padre Dam Municipal Water District
Water Supply Assessment
July 2024

Town Center Specific Plan

Table of Contents

Padre Dam Municipal Water District
Water Supply Assessment
June 2024

Town Center Specific Plan

Executive Summary

The Padre Dam Municipal Water District (Padre Dam MWD) solicited the professional engineering services of HDR Engineering, Inc. to prepare this Water Supply Assessment (WSA) at the request of the City of Santee (City) for the Town Center Specific Plan Amendment (TCSP) project, hereafter referred to as the Project. The Project is receiving a comprehensive update including updates to the Arts and Entertainment Neighborhood, and development of concept plans for four strategic Housing Element Sites. This WSA will document supply availability and potential impacts on water reliability.

Project Overview and Water Use

The Project area is a mixed use village consisting of 79 acres located in the central portion of the City of Santee's Town Center Specific Plan. The Project is within the overall TCSP area that includes approximately 608 acres across several land uses and proposes a maximum anticipated development yield on certain properties:

- Arts and Entertainment (2,399,474 SF of non-residential buildings)
- Four Housing Element Sites (1,480 dwelling units)

As shown on the Regional Map (Appendix A), the Project is bordered by Mast Boulevard to the north, State Route 67 to the east, Santee Lakes to the west, and State Route 52 to the south. The Project is currently located within the jurisdictions of Padre Dam MWD and the San Diego County Water Authority (Water Authority). The Project will be supplied water by Padre Dam MWD, which serves the City of Santee, and currently imports all of its potable water from the Water Authority primarily through a connection at Mission Gorge Road near Mission Trails Park and a connection located at Lake Jennings Treatment Plant. A third connection point is located south of Lake Jennings.

With the Project, the expected potable water demand is 745,695 gallons per day (gpd) or 835.3 acre feet per year (AFY), which is a 37,201 gpd or 42 AFY increase over the water demand for the Project included in the Padre Dam MWD 2020 Urban Water Management Plan (UWMP) (2020 UWMP). This increase accounts for changes the City of Santee made to zoning within the Specific Plan as part of their 2022 Housing Element update.

Planned Imported Water Supplies from the Water Authority and Padre Dam MWD

The San Diego County Water Authority (Water Authority) and Padre Dam MWD have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and Padre Dam MWD update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their UWMPs. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Padre Dam MWD, nor Water Authority, jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans than what is reflected in the existing growth forecasts. The Padre Dam MWD and Water Authority next demand forecast and supply requirements and associated planning documents will capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions such as the proposed revisions to the land use as represented in the Project. This WSA updated information will be incorporated within and become a permanent part of the water resources planning processes and documents for Padre Dam MWD and the Water Authority pending approval of the Project.

The California Urban Water Management Planning Act (Act), which is included in the California Water Code, requires all urban water suppliers within the state to prepare an UWMP and update it every five years. The purpose and importance of the UWMP has evolved since it was first required 25 years ago. State agencies and the public frequently use the document to determine if agencies are conducting adequate planning to reliably meet future demands. As such, UWMPs serve as an important element in documenting supply availability for the purpose of compliance with state laws, Senate Bills 610 and 221, linking water supply sufficiency to large land-use development approval. Agencies must also have a UWMP prepared, pursuant to the Act, in order to be eligible for state funding and drought assistance.

The Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of the preparation of a written water supply assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2020 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, adopted in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from

Metropolitan Water District of Southern California (Metropolitan WD) due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

Findings

The WSA identifies and describes the processes by which water demand projections for the proposed project will be fully included in the UMWP water demand and supply forecasts and other water resources planning documents of the Water Authority and Padre Dam MWD. Water supplies necessary to serve the demands of the proposed project, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the Project WSA and will be included in the future water supply planning documents of the Water Authority and Padre Dam MWD. The potable water demand projections and supply requirements for previously adopted land uses are currently within the UWMP and other water resource planning documents of the Padre Dam MWD; however, portions of the Project were updated as part of the City of Santee 2022 Housing Element subsequent to the adoption of the Padre Dam MWD 2020 UWMP. The incremental water demand for the Project as a result of the TCSP Amendment will be accounted for under the Water Authority 2020 UWMP Accelerated Forecasted Growth (AFG) component. The purpose of the Accelerated Forecasted Growth component of the demand forecast is to estimate, on a regional basis, additional demand associated with proposed projects not yet included in local jurisdictions' general plans and to plan for sufficient regional supplies to reliably meet the water demand of those projects. The Water Authority has available portions of the reserved Accelerated Forecasted Growth component of its planned water supply, which is incorporated into the Water Authority's demand forecast at a regional level and thus available to all member agencies, to meet additional demand increments not previously identified.

This WSA includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the proposed Project. The WSA demonstrates and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the proposed project and the existing and other planned development projects to be served by the Padre Dam MWD.

Accordingly, after approval of the updated WSA for the Project by the Padre Dam MWD Board of Directors (Board), the WSA may be used to comply with the requirements of the legislation enacted by Senate Bills 610 and 221 as follows:

1. Senate Bill 610 Water Supply Assessment: The Padre Dam MWD Board approved WSA may be incorporated into the California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) compliance process for the Project as a water supply assessment report consistent with the requirements of the legislation enacted by SB 610. The City of Santee as lead agency under CEQA for the Project EIR may cite

the approved WSA as evidence that a sufficient water supply is planned for and is intended to be made available to serve the Project.

2. Senate Bill 221 Water Supply Verification: The Padre Dam MWD Board approved WSA may be incorporated into the City of Santee's Tentative Map approval process for the Project as a water supply verification report, consistent with the requirements of the legislation enacted by SB 221. The City of Santee, within their process of approving the Project's Tentative Map, may cite the approved WSA as verification of intended sufficient water supply to serve the Project.

Section 1 - Purpose

Water Code section 10910 et seq., commonly referred to as Senate Bill 610 (SB 610), requires the preparation of a WSA for certain new development projects. (See Water Code §§ 10910(a), 10912.) As stated in SB 610, the purpose of WSA is to determine whether the "total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses." Water Code section 10910 states that a "project," as defined in Water Code section 10912 and subject to the California Environmental Quality Act (CEQA), requires the preparation of WSA. Under Water Code Section 10912(a)(7), the definition of a "project" includes one "…that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project." Because the Project exceeds the minimum threshold of 500 dwelling units, a WSA is required pursuant to Water Code section 10910(a).

The City of Santee has determined that the Project is subject to CEQA. As the lead agency under CEQA, the City of Santee has identified Padre Dam MWD as the public water system that will serve the Project pursuant to Water Code section 10910(b). The City of Santee has requested that Padre Dam MWD prepare a WSA for the Project in compliance with SB 610.

The Urban Water Management Planning Act, Water Code section 10610 et seq., requires urban water suppliers in California providing water for municipal purposes directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an UWMP at least once every 5 years. Among other things, the UWMP evaluates current and future water supplies and demands within a supplier's service area during normal, single-dry, and multiple-dry year periods over the next 20-year planning horizon and beyond, water supply reliability, water conservation measures, and water shortage contingency planning. Cities, counties, water districts, property owners, and developers utilize the UWMP for their long-range water supply planning, including the preparation of WSAs.

A UWMP is submitted to the California Department of Water Resources (DWR) for review to ensure requirements in the California Water Code have been addressed and acknowledged.

The Padre Dam MWD's 2020 UWMP was adopted June 2021 in accordance with the requirements of the Urban Water Management Planning Act. Notices of public hearing were submitted to DWR and cities and counties within the Padre Dam MWD's service area, including the City of Santee, prior to the adoption of the UWMP.

The purpose of this WSA is to evaluate water supplies that are, or will be, available during normal, single dry year, and multiple dry years, during a 20-year projection, and determine if the available water supplies will meet the existing, projected, and future water demands served by the Padre Dam MWD, including the proposed Project. This WSA evaluates the availability of sufficient water supplies for the Project and does not constitute approval of the Project nor does it create a right or entitlement to water service or any specific level of water service. In addition, this WSA identifies existing water supply entitlements, water rights, water service contracts, and agreements relevant to serving the Project.

HDR prepared this WSA for Padre Dam MWD in compliance with SB 610.

Section 2 - Findings

Padre Dam MWD prepared a 2020 Comprehensive Facilities Master Plan (Master Plan) and Program Environmental Impact Report (PEIR) both of which were approved by the Padre Dam MWD Board in June 2022. The Master Plan developed a capital improvement plan to guide the Padre Dam MWD in the planning, development, and budgeting for water and recycled water system improvements that would be necessary to meet system performance criteria and support growth within the Padre Dam MWD through 2045 (Carollo 2020). The Master Plan included the Town Center Specific Plan (Specific Plan) with a potable water demand of 708,494 gpd, or 793.7 AFY, but was created prior to the revisions to the Town Center Specific Plan (2023). The Padre Dam MWD's 2020 UWMP projected demands for potable and non-potable water (2020 UWMP Table 4-2) were based on the Master Plan and accounted for the potable demand of 793.7 AFY initially associated with the Project.

As described previously, the scope of the project has changed. The updated Project has a water demand of 835.3 AFY (an increase of 41.7 AFY) Because the scope of the project has changed, the 2020 UWMP does not consider the entirety of the Project, an SB 610 assessment is required under Water Code section 10910(c)(3). As such, this WSA will determine whether the Project can be supplied by the Padre Dam MWD's total projected available water supplies under the normal, single dry year, and multiple dry water year scenarios, in addition to the Padre Dam MWD's existing and planned future uses.

This WSA evaluates the demand associated with the Project and concludes that the demand can be satisfied through the amount associated with the Project in the 2020 UWMP along with additional water supplied by the Water Authority. Specifically, the Water Authority has confirmed that it can meet the Project demand not considered in the 2020 UWMP through the use of the Accelerated Forecasted Growth component of the Water Authority 2020 UWMP.

Padre Dam MWD's 2020 UWMP projects a total water demand by 2045 of 17,176 AFY (15,944 AFY potable and 1,232 AFY recycled). The Project water demand of 835.3 AFY accounts for approximately 4.8% of the Padre Dam MWD's total water demand.

Table 1
Retail: Total Gross Water Use (Potable and Non-Potable)[1] (AFY)

	2020	2025	2030	2035	2040	2045
Potable Water, Raw, Other Non-potable[2]	9,588	12,442	13,586	14,623	15,473	15,944
Recycled Water Demand[3]	1,750	2,202	1,232	1,232	1,232	1,232
TOTAL WATER USE	**11,338**	**14,644**	**14,818**	**15,855**	**16,705**	**17,176**

(1) Table 4-3 in Padre Dam Municipal Water District 2020 UWMP.

(2) From Table 4-1 and Table 4-2 in the Padre Dam Municipal Water District 2020 UWMP.

(3) Recycled demand is the existing demand currently met by recycled water, as represented in Table 6-4 of the Padre Dam Municipal Water District 2020 UWMP. The recycled water system is not anticipated to grow, and the demands are expected to maintain the same from 2025 and beyond.

Source: Padre Dam Municipal Water District 2020 UWMP.

Available Potable Water Supplies

Padre Dam MWD imports 100 percent of its potable water supply from the Water Authority. This potable water supply is imported from the California State Water Project (SWP) (North Bay, South Bay, and California Aqueducts) and the Colorado River (Los Angeles and Colorado River Aqueducts) by the Metropolitan WD.

In addition to water imported through Metropolitan WD, the Water Authority signed and amended an agreement (Water Authority-IID Water Conservation and Transfer Agreement) with the Imperial Irrigation District (IID) for long-term transfer of conserved Colorado River water to the County. The volume of transferred water is based on the transfer agreement with a fixed volume of 200,000 AF starting in 2023. The term of the agreement is 45 years with a provision to extend for an additional 30 years. As part of the QSA, the Water Authority also contracted for 77,700 AFY of conserved water that resulted by lining portions of the All-American Canal (AAC) and Coachella Canal (CC), which reduced water loss.

In 2012, the Water Authority also entered into a formal Water Purchase Agreement with Poseidon Water to purchase desalinated ocean water at the Carlsbad Desalination Plant. As of May 2019, the Carlsbad Desalination plant received approval to increase capacity from 50 MGD to 60 MGD, an increase of 10 MGD or 11,000 AFY of additional potable supply not previously accounted for in the Water Authority 2020 UWMP. With this increase, the Water Authority will receive 61,600 AFY of water from the Carlsbad Desalination Plant which is a 10% increase from its original entitlement. The Water Authority 2020 UWMP projects that increase the Carlsbad Desalination Plant capacity could be placed into service prior to 2025. (Section 4.5.)

These sources will enhance the Water Authority's supply diversification during the single and multiple dry years where a deficit was previously anticipated for a single dry year beginning in 2035 and in multiple dry years beginning in 2028 in the Water Authority 2020 UWMP. Additionally, according to the Water Authority's 2018 Annual Report, the Water Authority has lowered its long-term regional water use projections due to sustained water use efficiency throughout the region, resulting in an interim demand forecast reduction of approximately 60,000 acre-feet for the entire 2025-2045 planning horizon in comparison with 2020 UWMP. (Water Authority 2018 Annual Report, Diversification & Conservation, Demand Forecast Declines Due to Regional Efficiencies.) Due to Accelerated Forecasted Growth availability, the Water Authority and thus Padre Dam MWD, can supply the demand associated with the Project. The water demand for most of the Project was accounted for in both the 2020 UWMP and the Water Authority UWMP, and the Water Authority has confirmed that it can meet the additional 41.81 AFY associated with the Project through the use of Accelerated Forecasted Growth. (See request by Padre Dam MWD and the Water Authority's response attached as Appendix A.)

Although not a necessary supply source to serve the Project, Padre Dam MWD is planning to further enhance its potable water supply and reliability by implementing the ECAWP to reduce the area's reliance on imported water from the Water Authority. Implementation of the ECAWP, discussed in Section 7.5 of the 2020 UWMP, will potentially offset a portion of imported supplies by the end of 2025. Sections 5, 6, and 7 of this WSA demonstrate that Padre Dam MWD has sufficient water capacity to supply the Project estimated total water demand.

This WSA confirms that the projected water demand for the Project falls within the water demand forecasts and available water supplies as described in the UWMPs prepared by (1) Metropolitan WD, (2) the Water Authority, which includes the Padre Dam MWD projected demands from its 2020 UWMP as well as forecasted growth in residential housing development, and (3) Padre Dam MWD; provided mitigation measures are employed in the dry years, and with Accelerated Forecasted Growth availability that has been specifically allocated to the Project to supply its previously unaccounted-for demand. Water supplies necessary to serve the Project and existing and future water demands within the Padre Dam MWD's service area, as well as the actions necessary to develop or supplement supplies, have been identified in the water supply planning documents of the Padre Dam MWD, the Water Authority, and Metropolitan WD as referenced herein.

Section 3 - Project Description

Project Location

The Project site consists of approximately 79 acres in the central portion of the City of Santee (City) in eastern San Diego County. The City is about 18 miles east of downtown San Diego, it is bordered on the west and southwest by the City of San Diego, on the south by the City of El Cajon, on the north by San Diego County lands and on the east by Lakeside. The Town Center Specific Plan area is bounded by Mission Gorge Road and 3rd Street on the south side,

by Magnolia Avenue and Cottonwood Avenue on the east, and by Mast Boulevard on the north. Additionally, the Project includes areas west of Cuyamaca Street.

TCSP Project

The Project is within the TCSP area that includes 79 acres of open space, parks, residential areas, offices, and commercial uses. The TCSP area is made up of different land uses including an Arts & Entertainment Overlay District and RiverView Office Park Area. The Arts and Entertainment Neighborhood incorporates various land use designations that support the use of art and culture, entertainment, commercial recreation, visitor, and civic uses. The RiverView Office Park Area provides for the development of a corporate office park and ancillary uses.

The Project includes updates to the Arts and Entertainment neighborhood and development of concept plans for four strategic Housing Element sites. The updates would allow development to occur in the Town Center Specific Plan area. While the development potentials are consistent with adopted plans and zoning approved in October 2022, some of the development was not anticipated in the 2020 UWMP. The City requested the following WSA in accordance with the California Public Resources Code section 15155 and Water Code sections 10910-10915.

The Project looks at a maximum yield for the buildout of Sites 15, 16A, 16B, 17, 18, 19, 20A, and 20B due to zoning changes made within the housing element update. The amended zoning designations and Mixed Use Overlay are compatible with the new land uses and the goal of the TCSP, which is to further the balance of development with conservation while creating opportunities for people to live, work, and play. The change of land designation allows the City of Santee to 1) provide a variety of housing types and sizes and a mixture of ownership and rental housing (Residential Goal) and 2) locates residential sites close to services, public transit and employment centers. These changes will also further the goal of the General Plan, to promote development of a well-balanced and functional mix of residential, commercial, open space, recreation, and civic uses that will create and maintain a high quality environment.

In addition, the TCSP is to be amended to add a density range of 30 to 36 dwelling units per gross acre to the R-30 land use designation, and a density range of 22 to 30 dwelling units per gross acre to the R-22 land use designation applicable to the Town Center properties along Park Avenue. This will allow greater flexibility for multifamily residential development and allow for consistency between the TCSP, Zoning Ordinance, and General Plan.

The proposed development concept for the Project is planned as a combination of land uses as shown in Table 2 which were updated with the 2022 housing element update.

Table 2
Project Sites List

Site Map ID#	APN	Address/Description	Lot Size (Acres)	Former Zoning	Updated Zoning
15	381-040-36	Walmart	5.26	TC-C	TC-R-22
16A	381-050-82	Civic Center Site I	11.11	TC-O/C	TC-R-30
16B	381-05-082	Civic Center Site II	8.61	TC-O/C	TC-R-14
17	381-051-18	Cottonwood Ave	22.15	TC-R-30	TC-R-14
18	381-051-17	Cottonwood Ave	11.71	TC-R-30	TC-R-14
19	3810-32-07 & -08	Park Center Dr	2.35	TC-R-22	TC-R-14
20A	381-050-81	9200 Magnolia Ave	7.75	TC-O/I	TC-R-22
20B	381-050-81	9200 Magnolia Ave	10.00	TC-O/I	TC-R-30
TOTAL			**78.94**		

Water Demand

Following the adoption of the 2020 UWMP, the City of Santee updated its housing element which modified the land use within the Specific Plan area. This WSA utilizes information contained within the Specific Plan relating to projected population, number of residential units, and unit densities, coupled with the Padre Dam MWD water planning criteria, to determine the projected total water demand for the Project.

The Project reflects the rezoning from the 2022 Housing Element Update of 8 different lots with different demands, acreages, and general plan land uses, the breakdown of the zoning changes can be found in Table 2. The Specific Plan water demand is based on land use acreage and the corresponding water demand factor developed in the Padre Dam MWD's 2020 Master Plan. Table 3 illustrates the revised water demand incorporating land use revisions from the Housing Element update. The total demand increases by 37,201 gpd, for a total Project demand of 745,695 gpd or 835.3 AFY.

Table 3
Amended Project Water Demand

Land Use	Acreage (ac)	Water Demand Factor (gpd/ac) (1)	Total Demand (gpd)
Commercial	312.01	1,500	468,015
High Residential	95.37	1,900	181,203
Medium Residential	0.85	1,200	1,020
None	0.55	0	0
Open Space	185.47	500	92,735
Public Land and Facilities	13.61	200	2,722
TOTAL	**607.86**		**745,695**

(1) Water demand factors are based on recommendations for land use categories in the Padre Dam MWD 2020 Master Plan

The 2020 UWMP projected potable water demand for the Project was 793.7 AFY. The revised projected water demand for the TCSP area is 835.3 AFY, which is more than the 793.7 AFY demand previously included within the 2020 UWMP.

Use of recycled water for the Project is available; however, the current planning stage of the Project does not identify specific areas for connection to the Padre Dam MWD recycled water system. For the purposes of this WSA, the Project water demands are assumed to be served by potable water supplies.

Section 4 – Padre Dam Municipal Water District

Padre Dam MWD is a municipal water district formed in 1976 when voters approved a merger with the Santee County Water District (Santee County WD), which was formed in 1956, with Rio San Diego Municipal Water District (Rio San Diego Municipal WD), which was formed in 1955. When voters approved the formation of the Rio San Diego Municipal WD it secure an entitlement to imported water from the Colorado River and provide water to the previously underdeveloped valley. The Padre Dam MWD is governed by an elected Board of Directors.

The Santee County WD was formed in 1956 under the County Water District Law of the State of California Water Code. In July 1969, the Board of Directors of Santee County WD and Rio San Diego Municipal WD combined management and engineering functions. On December 31, 1976 Rio San Diego Municipal WD took over Santee County WD and changed its name to Padre Dam MWD.

Padre Dam MWD provides water, wastewater, recycled water and park and recreation services to the residents of Santee, El Cajon, Lakeside, Flinn Springs, Harbison Canyon, Blossom Valley, Alpine, Dehesa and Crest. Padre Dam MWD imports 100% of their drinking

water supply from the Water Authority and treat two million gallons per day of wastewater at the Ray Stoyer Water Recycling Facility.

Padre Dam MWD began recycling water in the late 1950s. The Ray Stoyer Recycling Facility received worldwide attention and was expanded to treat 2 MGD to provide water for Santee Lakes and for non-potable reuse to the community. Padre Dam is currently working on the East County Advanced Water Purification Project in conjunction with Helix Water District, the City of El Cajon and the County of San Diego. This project has the potential to produce up to 30%of East County's drinking water. This water reuse opportunity would provide a supply of safe, reliable, local, and environmentally-friendly supply of drinking water within East County San Diego.

The potable water demands served by the Padre Dam MWD are residential, commercial, industrial, institutional, and irrigation. The total demand in 2020 was approximately 9,588 AFY. The per capita water demand was 93 gallons per capita per day in 2020, which is within the Water Conservation Bill of 2009 Senate Bill 7 as part of the Seventh Extraordinary Session (SBX 7-7) target of 142 gpcd by 2020 for the Padre Dam MWD by using hydraulic Region Target.

The development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by Padre Dam MWD have evolved and are planned to occur in response to the regional water supply issues. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and Metropolitan WD UWMP, IRP, Master Plans, and other planning documents. These new additional water supply projects are not currently developed and are in various stages of the planning process. These local and regional water supply projects will allow for less reliance upon imported water and are considered a new water supply resource for the Padre Dam MWD.

The supply forecasts contained within this WSA do consider development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by Padre Dam MWD.

4.1 Overview of Potable System Facilities

Potable water supplied by Padre Dam MWD is 100 percent imported from the Water Authority. The water sources from the Water Authority include the Colorado River, Bay-Delta, seawater desalination, and some local supplies. Drinking water supplied by Padre Dam MWD continues to meet or exceeded all public health requirements enforced by the State Water Resources Control Board Division of Drinking Water and the United States Environmental Protection Agency.

Padre Dam MWD's water system primarily consists of water storage facilities with a combined storage capacity of approximately 107.23 MG and 389 miles of transmission and distribution water mains. Pipelines within the Padre Dam MWD's service area include a combination of asbestos cement pipe (ACP), polyvinyl chloride (PVC) and concrete cylinder

pipe (CCP) with approximately 15 miles of pipeline dating back prior to 1950. Booster stations are distributed throughout Padre Dam MWD to pump water from lower pressure zones to higher pressure zones. The use of pressure reducing stations provide the ability to transfer water from higher to lower pressure zones to serve customers located in different pressure zones.

The availability of sufficient potable water supplies and plans for acquiring additional potable water supplies to serve existing and future demands of the Padre Dam MWD is founded upon the preceding discussions regarding Metropolitan WD's and the Water Authority's water supply resources and water supplies to be acquired by the Padre Dam MWD. Table 4 shows the projected water supply through 2045 with the addition of the AFG water supply. Table 2-8 of the Water Authority 2020 UWMP breaks down the projected water demand by member agency.

Table 4 – Retail: Water Supplies – Projected

		Projected Water Supply				
Water Supply	**Additional Detail on Water Supply**	**2025**	**2030**	2035	2040	2045
		Reasonably Available Volume				
Purchased or Imported Water	**In-District**	6,054	7,198	8,235	9,085	9,556
Purchased or Imported Water	**Outside of District**	2,388	2,388	2,388	2,388	2,388
Recycled Water		1,232	1,232	1,232	1,232	1,232
Potable Reuse	**East County AWP**	4,000	4,000	4,000	4,000	4,000
Water Authority AFG Increment		42	42	42	42	42
	Total	**13,716**	**14,860**	**15,897**	**16,747**	**17,218**

Source: Padre Dam MWD 2020 Urban Water Management Plan – Table 6-9 with added AFG water.

The availability of sufficient imported and regional potable water supplies to serve existing and planned uses within Padre Dam MWD is demonstrated in the below discussion on Metropolitan WD and the Water Authority's water supply reliability. The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." The Water Authority provides between 75 to 95 percent of the total supplies used by its 24 member agencies, depending on local weather and supply conditions.

The potable water infrastructure has been designed to facilitate and accommodate future water system expansion to serve projects and/or demands identified within the Padre Dam MWD Master Plan, UWMP, and other planning documents. The Project will be serviced by the construction of new water main connections to existing transmission mains located in North County San Diego. Details of the method of connection and proposed onsite water distribution system and new facilities for the Project are provided in Padre Dam MWD's 2020 UWMP.

4.2 Overview of Recycled System Facilities

Padre Dam MWD provides wastewater collection and treatment services to the City of Santee, portions of the County, and a small portion of El Cajon. Padre Dam MWD's service area provides potable water to a population of 72,600 as of 2020. There are also areas of wastewater collection system that are within the Helix and Lakeside Water District service areas that are not served by the Padre Dam MWD.

The majority of the collected wastewater flows to the Padre Dam MWD's Influent Pump Station. From there, up to 1,856 AFY of wastewater is pumped to the Padre Dam MWD's Ray Stoyer WRF; the remaining flow is pumped to the City of San Diego's Metropolitan Wastewater System where it receives advanced primary treatment at the Point Loma Wastewater Treatment Plant.

The County's Lakeside interceptor runs through Padre Dam MWD's sewer service area. The Padre Dam MWD has the capability to divert some County flows into Padre Dam MWD's collection system, as well as to divert some of Padre Dam MWD's flows to the County interceptor. The County flows are diverted to Padre Dam MWD during low flow periods of the night when Padre Dam MWD's sewer flows drop below the capacity of the WRF. The diversions equalize influent to the WRF, thereby protecting the biological treatment processes as well as allowing the plant to meet night-time demand.

Recycled Water System Facilities

Padre Dam MWD has and continues to construct recycled water storage, pumping, transmission, and distribution facilities to meet projected recycled water market demands. For nearly 20 years, millions of dollars of capital improvements have been constructed. The supply link consisting of a transmission main, storage reservoir, and a pump station to receive and transport the recycled water from the City of San Diego's SBWRP are complete and recycled water deliveries began on May 18, 2007.

Cost and Financing

The capital improvement costs associated with the recycled water supply and distribution systems are financed through Padre Dam MWD water meter capacity fee and user rate structures. Padre Dam MWD recycled water sales revenue, along with Metropolitan WD and the Water Authority's recycled water sales incentive programs are used to help offset the costs for the wholesale purchase and production of the recycled water supply, the operating and maintenance expenses, and the capital costs of the recycled water system facilities.

4.3 Potential Groundwater Supplies

Padre Dam MWD pumps a small amount of groundwater from the Santee Basin using a District-owned well that supplements the recycled water system. Since the well is unreliable, the groundwater supplies from the well are not available as a future supply and the Padre Dam MWD does not have any plans for groundwater supplies in the future.

The Santee Basin aquifer is a groundwater basin within the City of Santee and the Padre Dam MWD's service area. The Santee Basin aquifer is designated by DWR as a very low priority, unadjudicated groundwater basin.

The basin has multiple users but does not have a groundwater sustainability plan. The City of Santee is not part of the Groundwater Basin Groundwater Sustainability Agency (GSA), but serves as a voluntary participant on the GSA's core team that assists the extent feasible in the development of a groundwater sustainability plan (GSP). To comply with the California Statewide Groundwater Elevation Monitoring Program requirements, a cooperative was formed from 2015 consisting of the Padre Dam MWD, Helix Water District, City of San Diego, and the Lakeside Water District to perform ground water elevation monitoring.

4.4 Urban Water Management Plan

In accordance with the California Urban Water Management Planning Act and recent legislation, the Padre Dam Municipal WD Board of Directors adopted an UWMP in June 2020. As required by law, Padre Dam MWD's 2020 UWMP includes projected water supplies required to meet future demands through 2045. Specifically, the Padre Dam MWD 2020 UWMP is in accordance with Water Code section 10910 (c)(2) and Government Code section 66473.7 (c)(3).

The state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session (SBX 7-7) on November 10, 2009, which became effective February 3, 2010. This new law was the water conservation component to the Delta legislation package and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. Specifically, SBX 7-7 from this Extraordinary Session requires each urban retail water supplier to develop urban water use targets to help meet the 20 percent reduction goal by 2020 (20x2020).

The SBX 7-7 target setting process includes the following: (1) baseline daily per capita water use; (2) urban water use target; (3) interim water use target; (4) compliance daily per capita water use, including technical bases and supporting data for those determinations. In order for an agency to meet its 2020 water use target, each agency can increase its use of recycled water to offset potable water use and also step up its water conservation measures. The required water use targets for 2020 were determined using one of four target methods.

Urban retail water suppliers reported interim compliance in their 2015 UWMP followed by actual compliance in the 2020 UWMP. Baseline, target, and compliance-year water use estimates are required to be reported in gallons per capita per day (gpcd).

Failure to meet adopted targets would result in the ineligibility of a water supplier to receive grants or loans administered by the State unless one (1) of two (2) exceptions is met. Exception one (1) states a water supplier may be eligible if they have submitted a schedule, financing plan, and budget to DWR for approval to achieve the per capita water use reductions. Exception two (2) states a water supplier may be eligible if an entire water service area qualifies as a disadvantaged community.

Although the Padre Dam MWD was able to meet the 2020 target goal, the year 2020 did not represent a typical year due to the impacts of the COVID-19 pandemic. Beginning March 19, 2020, Executive Order N-33-20 declared California in a state of emergency and ordered residents living in California to stay at home to prevent the spread of COVID-19. The increase in residents working from home resulted in an increase within the Padre Dam MWD's service area when the initial lockdown started. Although, since the 2020 per capita demand of 93 gpcd was below the goal for 2020, adjustments for extraordinary events were not made.

Potable demands under normal conditions are anticipated to increase to 15,944 AFY by the year 2045. Padre Dam MWD water demand projections include approximately 2,388 AFY of demand outside the Padre Dam MWD's existing service area boundary to serve the Viejas and Ewiiaapaayp tribes and parcel owners along the Interstate 8 beginning in 2025. The Water Authority supplies have been available at a consistent level and are projected to be similar in the future. Padre Dam MWD is also actively pursuing the East County Advanced Water Purification Program (AWP Project) to increase water supply reliability by improving regional self-reliance.

The highest projected demand that occurred in the single-dry year and multi-year scenario was 18,885 AFY in year 2045. Projected supplies are anticipated to meet demands. Padre Dam MWD will continue to monitor water supply shortages through new annual reporting by California Department of Water Resources (DWR).

Potable water supplied by Padre Dam MWD is 100% imported from the Water Authority. The water sources from the Water Authority include the Colorado River, Bay-Delta, seawater desalination, and some local supplies. Drinking water supplied by Padre Dam MWD continues to meet or exceeded all public health requirements enforced by the State Water Control Board Division of Drinking Water and the United States Environmental Protection Agency.

Padre Dam MWD's water system primarily consists of water storage facilities combined storage capacity of approximately 107.23 MG and 389 miles of transmission and distribution water mains. Pipelines within Padre Dam MWD's service include a combination of asbestos cement pipe (ACP), polyvinyl chloride (PVC) and concrete cylinder pipe (CCP) with approximately 15 miles of pipelines. Booster stations are found throughout Padre Dam MWD to pump water from lower pressure zones to higher pressure zones. The use of pressure reducing stations provide the ability to transfer from higher to lower pressure zones to serve customers located in different pressure zones.

The potable water infrastructure has been designed to facilitate and accommodate future water system expansion to serve projects and demands identified by Padre Dam MWD's Master Plan, UWMP, and other planning documents.

Section 5 – Historical and Projected Water Demands

Padre Dam MWD currently does not have an independent raw or potable water supply source. Padre Dam MWD is a member public agency of the Water Authority. The Water Authority is a member public agency of Metropolitan WD. The statutory relationships between the Water Authority and its member agencies, and Metropolitan WD and its member agencies, respectively, establish the scope of the Padre Dam MWD entitlement to water from these two agencies.

The Water Authority provides potable water to Padre Dam MWD through three connections. The potable water supply is imported from the California State Water Project (SWP) and the Colorado River by Metropolitan WD. The Water Authority in turn, currently purchases the majority of its water from Metropolitan WD. Due to Padre Dam MWD reliance on these two agencies, this WSA Report includes referenced documents that contain information on the existing and projected supplies, supply programs, and related projects of the Water Authority and Metropolitan WD. The Padre Dam MWD, Water Authority, and Metropolitan WD are actively pursuing programs and projects to diversify their water supply resources.

The description of local recycled water supplies available to the Padre Dam MWD is also discussed below.

5.1 Metropolitan WD 2020 Regional Urban Water Management Plan

In June 2021, Metropolitan WD adopted its 2020 Regional Urban Water Management Plan (RUWMP). The 2020 RUWMP provides MWD's member agencies, retail water utilities, cities, and counties within its service area with, among other things, a detailed evaluation of the supplies necessary to meet future demands, and an evaluation of reasonable and practical efficient water uses, recycling, and conservation activities. During the preparation of the 2020 RUWMP, Metropolitan WD also utilized the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority service area.

5.1.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

Metropolitan WD is a wholesale supplier of water to its member public agencies and obtains its supplies from two primary sources: the Colorado River, via the Colorado River Aqueduct (CRA), which it owns and operates, and Northern California, via the State Water Project (SWP). The 2020 RUWMP documents the availability of these existing supplies and additional supplies necessary to meet future demands.

5.1.1.1 Metropolitan WD Supplies

Metropolitan WD's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State

Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2020 update to the IRP (2020 IRP Update) includes a planning buffer supply intended to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, Metropolitan WD periodically evaluates supply development to ensure that the region is not under or over-developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

In June 2021, Metropolitan WD adopted its 2020 RUWMP in accordance with state law. The resource targets included in the preceding 2020 IRP Update serve as the foundation for the planning assumptions used in the 2020 RUWMP. Metropolitan WD's 2020 RUWMP contains a water supply reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 25-year period in average, single dry year, and multiple dry year periods. As part of this process, Metropolitan WD also uses the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority's service area.

As stated in Metropolitan WD's 2020 RUWMP, that plan may be used as a source document for meeting the requirements of SB 610 and SB 221 until the next scheduled update is completed in 2025. The 2020 RUWMP includes a "Justifications for Supply Projections" in Appendix A.3, that provides detailed documentation of the planning, legal, financial, and regulatory basis for including each source of supply in the plan. A copy of Metropolitan WD's 2020 RUWMP can be found on the World Wide Web at the following site address: 2020-urban-water-management-plan-june-2021.pdf (mwdh2o.com)

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current western states drought conditions. Challenges such as these essentially always will be present. The regional water supply agencies, the Water Authority and Metropolitan WD, along with Padre Dam Metropolitan WD nevertheless fully intend to have sufficient, reliable supplies to serve demands.

5.1.2 Metropolitan WD Capital Investment Plan

As part of Metropolitan WD's annual budget approval process, a Capital Investment Plan is prepared. The cost, purpose, justification, status, progress, etc. of Metropolitan WD's infrastructure projects to deliver existing and future supplies are documented in the Capital Investment Plan. The financing of these projects is addressed as part of the annual budget approval process.

Metropolitan WD's Capital Investment Plan includes a series of projects identified from Metropolitan WD studies of projected water needs, which, when considered along with operational demands on aging facilities and new water quality regulations, identify the capital

projects needed to maintain infrastructure reliability and water quality standards, improve efficiency, and provide future cost savings. All projects within the Capital Investment Plan are evaluated against an objective set of criteria to ensure they are aligned with the Metropolitan WD's goals of supply reliability and quality.

5.2 San Diego County Water Authority Regional Water Supplies

The Water Authority has adopted plans and is taking specific actions to develop adequate water supplies to help meet existing and future water demands within the San Diego region. This section contains details on the supplies being developed by the Water Authority. A summary of recent actions pertaining to development of these supplies includes:

- In accordance with the Urban Water Management Planning Act, the Water Authority adopted their 2020 UWMP in June 2021. The updated Water Authority 2020 UWMP identifies a diverse mix of local and imported water supplies to meet future demands. A copy of the updated Water Authority 2020 UWMP can be found on the internet at sdcwa.org/wp-content/uploads/2021/08/2020-UWMP_Final-Print-Version-July-2021-1.pdf

- Deliveries of conserved agricultural water from the Imperial Irrigation District (IID) to San Diego County have increased annually since 2003, with 70,000 ac-ft of deliveries in Fiscal Year (FY) 2020. These quantities will increase annually to 200,000 AFY by 2023, and then remain fixed for the duration of the transfer agreement.

- As part of the October 2003 Quantification Settlement Agreement (QSA), the Water Authority was assigned Metropolitan WD's rights to 77,700 AFY of conserved water from the All-American Canal (AAC) and Coachella Canal (CC) lining projects. Deliveries of this conserved water from the CC reached the region in 2007 and deliveries from the AAC reached the region in 2020. Expected supplies from the canal lining projects are considered verifiable Water Authority supplies.

Through implementation of the Water Authority and member agency planned supply projects, along with reliable imported water supplies from Metropolitan WD, the region anticipates having adequate supplies to meet existing and future water demands.

To ensure sufficient supplies to meet projected growth in the San Diego region, the Water Authority uses the SANDAG most recent regional growth forecast in calculating regional water demands. The SANDAG regional growth forecast is based on the plans and policies of the land-use jurisdictions with San Diego County. The existing and future demands of the member agencies are included in the Water Authority's projections.

5.2.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The Water Authority currently obtains imported supplies from Metropolitan WD, conserved water from the AAC and CC lining projects, and an increasing amount of conserved

agricultural water from IID. Of the twenty-seven member agencies that purchase water supplies from Metropolitan WD, the Water Authority is Metropolitan WD's largest customer.

Section 135 of Metropolitan WD's Act defines the preferential right to water for each of its member agencies. Under preferential rights, Metropolitan WD could allocate water without regard to historic water purchases or dependence on Metropolitan WD. The Water Authority and its member agencies are taking measures to reduce dependence on Metropolitan WD through development of additional supplies and a water supply portfolio that would not be jeopardized by a preferential rights allocation. Metropolitan WD has stated, consistent with Section 4202 of its Administrative Code that it is prepared to provide the Water Authority's service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When and as additional water resources are required to meet increasing needs, Metropolitan WD stated it will be prepared to deliver such supplies. In Section ES-5 of their 2020 RUWMP, Metropolitan WD states that Metropolitan WD has supply capacities that would be sufficient to meet expected demands from 2020 through 2045. Metropolitan WD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs.

The Water Authority has made large investments in Metropolitan WD's facilities and will continue to include imported supplies from Metropolitan WD in the future resource mix. As discussed in the Water Authority's 2020 UWMP, the Water Authority and its member agencies are planning to diversify the San Diego regions supply portfolio and reduce purchases from Metropolitan WD.

As part of the Water Authority's diversification efforts, the Water Authority is now taking delivery of conserved agricultural water from IID and water saved from the AAC and CC lining projects. The CC lining project is complete and the Water Authority has essentially completed construction of the AAC lining project. Table 5 summarizes the Water Authority's supply sources with detailed information included in the sections to follow. Deliveries from Metropolitan WD are also included in Table 5, which is further discussed in Section 6.1 above. The Water Authority's member agencies provided the verifiable local supply targets for groundwater, groundwater recovery, recycled water, and surface water, which are discussed in more detail in Section 5 of the Water Authority's 2020 UWMP.

Table 5
Single Dry-Year Supply and Demand Assessment in Five Year Increments (AFY)

Water Supply Sources	2025	2030	2035	2040	2045
Water Authority Supplies					
Metropolitan WD Supplies	336,232	336,674	337,116	337,558	338,000
Water Authority/IID Transfer	200,000	200,000	200,000	200,000	200,000
AAC and CC Lining Projects	78,700	78,700	78,700	78,700	78,700
Proposed Regional Seawater Desalination	50,000	50,000	50,000	50,000	50,000
Member Agency Supplies					
Surface Water	6,004	6,004	6,004	6,004	6,004
Water Recycling	41,963	45,513	45,628	45,749	45,854
Groundwater	15,281	15,281	15,281	15,281	15,281
Potable Reuse	33,042	53,202	112,562	112,562	112,562
San Luis Rey Water Transfers	15,800	15,800	15,800	15,800	15,800
Total Projected Supplies	**777,022**	**801,174**	**861,091**	**861,654**	**862,201**

Source: Water Authority 2020 Urban Water Management Plan – Table 9-2.

Section 5 of the Water Authority's 2020 UWMP also includes a discussion on the local supply target for seawater desalination. Seawater desalination supplies represent a significant future local resource in the Water Authority's service area.

The Carlsbad Desalination Plant is a seawater desalination plant and associated conveyance pipeline that was developed by Poseidon, a private investor-owned company that owns the plant. The Carlsbad Desalination Plant, located at the Encina Power Station in Carlsbad, began commercial operation on December 23, 2015, and provides a highly reliable local supply of up to 56,000 AFY for the region. In addition, there is the potential to increase annual average production capacity of the Carlsbad Desalination Plant to 61,600 AF as an adaptive management supply (subject to future supply conditions and future Board action). The potential 5,600 AF increment of additional seawater desalination supply from the Carlsbad Desalination Plant could be placed into service prior to 2025. A 54-inch-diameter pipeline conveys product water from the Carlsbad Desalination Plant 10.5 miles east to the Water Authority's Second Aqueduct. The water is then conveyed 5 miles north to the Water Authority's Twin Oaks Valley WTP facility, where it is blended with treated imported water and subsequently distributed into the Water Authority's existing aqueduct system.

The Water Authority's existing and planned supplies from the IID transfer and canal lining projects are considered "drought-proof" supplies and should be available at the yields shown in Table 8 in normal water year supply and demand assessment. Single dry year and multiple dry year scenarios are discussed in more detail in Section 9 of the Water Authority's 2020 UWMP.

As part of preparation of a written water supply assessment and/or verification report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2020 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought

management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, adopted in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan WD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies throughout the San Diego region.

5.2.1.1 Water Authority-Imperial Irrigation District Water Conservation and Transfer Agreement

The QSA was signed in October 2003, and resolves long-standing disputes regarding priority and use of Colorado River water and creates a baseline for implementing water transfers. With approval of the QSA, the Water Authority and IID were able to implement their Water Conservation and Transfer Agreement. This agreement not only provides reliability for the San Diego region, but also assists California in reducing its use of Colorado River water to its legal allocation.

On April 29, 1998, the Water Authority signed a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Authority-IID Water Conservation and Transfer Agreement (Transfer Agreement) is the largest agriculture-to-urban water transfer in United States history. Colorado River water will be conserved by Imperial Valley farmers who voluntarily participate in the program and then transferred to the Water Authority for use in San Diego County.

Implementation Status

On October 10, 2003, the Water Authority and IID executed an amendment to the original 1998 Transfer Agreement. This amendment modified certain aspects of the 1998 Agreement to be consistent with the terms and conditions of the QSA and related agreements. It also modified other aspects of the agreement to lessen the environmental impacts of the transfer of conserved water. The amendment was expressly contingent on the approval and implementation of the QSA, which was also executed on October 10, 2003.

On November 5, 2003, IID filed a complaint in Imperial County Superior Court seeking validation of 13 contracts associated with the Transfer Agreement and the QSA. Imperial County and various private parties filed additional suits in Superior Court, alleging violations of the California Environmental Quality Act (CEQA), the California Water Code, and other laws related to the approval of the QSA, the water transfer, and related agreements. The lawsuits were coordinated for trial. In January 2010, a California Superior Court judge ruled that the QSA and 11 related agreements were invalid because one of the agreements created an open-ended financial obligation for the State, in violation of California's constitution. IID, Coachella Valley Water District, Metropolitan WD, the Water Authority, and state appealed this decision, and a stay of the trial court judgment was issued during the appeal. In December 2011, California's Third District Court of Appeal reversed the lower court ruling that

invalidated the Transfer Agreement and QSA. The appeals court remanded several issues to the trial court, including questions about whether the QSA was properly processed under CEQA. In July 2013, a Sacramento Superior Court judge entered a final judgment validating the QSA and rejecting all of the remaining legal challenges. The judge affirmed all of the contested actions, including the adequacy of the environmental documents prepared by IID. In May 2015, the state Court of Appeal issued a ruling that dismissed all remaining appeals.

Expected Supply

Deliveries into San Diego County from the transfer began in 2003 with an initial transfer of 10,000 AFY. The Water Authority received increasing amounts of transfer water each year, according to a water delivery schedule contained in the transfer agreement. In 2019, the Water Authority received 192,500 AF of water which includes 2,500 AF of early transfer water. The quantities will remain fixed at 200,000 AF for the duration of the Transfer Agreement. The term of the agreement is 45 years with a provision to extend for an additional 30 years.

During dry years, when water availability is low, the conserved water will be transferred under the IID Colorado River rights, which are among the most senior in the Lower Colorado River Basin. Without the protection of these rights, the Water Authority could suffer delivery cutbacks. In recognition for the value of such reliability, the 1998 contract required the Water Authority to pay a premium on transfer water under defined regional shortage circumstances. The shortage premium period duration is the period of consecutive days during which any of the following exist: 1) a Water Authority shortage; 2) a shortage condition for the Lower Colorado River as declared by the Secretary; and 3) a Critical Year. Under terms of the October 2003 amendment, the shortage premium will not be included in the cost formula until Agreement Year 16.

Transportation

The Water Authority entered into a water exchange agreement with Metropolitan WD on October 10, 2003, to transport the Water Authority-IID transfer water from the Colorado River to San Diego County. Under the exchange agreement, Metropolitan WD will take delivery of the transfer water through its Colorado River Aqueduct. In exchange, Metropolitan WD will deliver to the Water Authority a like quantity and quality of water. The Water Authority will pay Metropolitan WD's applicable wheeling rate for each acre-foot of exchange water delivered. According to the water exchange agreement, Metropolitan WD will make delivery of the transfer water for 35 years, unless the Water Authority elects to extend the agreement another 10 years for a total of 45 years.

Cost/Financing

The costs associated with the transfer are financed through the Water Authority's rates and charges. In the agreement between the Water Authority and IID, the price for the transfer water started at $258 per acre-feet and increased by a set amount for the first seven years. In December 2009, the Water Authority and IID executed a fifth amendment to the water transfer agreement that sets the price per acre-feet for transfer water for calendar years 2010

through 2015, beginning at $405 per acre-feet in 2010 and increasing to $624 per acre-feet in 2015. For calendar years 2016 through 2034, the unit price will be adjusted using an agreed-upon index. The amendment also required the Water Authority to pay IID $6 million at the end of calendar year 2009 and another $50 million on or before October 1, 2010, provided that a transfer stoppage is not in effect as a result of a court order in the QSA coordinated cases. Beginning in 2035, either the Water Authority or IID can, if certain criteria are met, elect a market rate price through a formula described in the water transfer agreement.

The October 2003 exchange agreement between Metropolitan WD and the Water Authority set the initial cost to transport the conserved water at $253 per acre-foot. Thereafter, the price is set to be equal to the charge or charges set by Metropolitan WD's Board of Directors pursuant to applicable laws and regulation, and generally applicable to the conveyance of water by Metropolitan WD on behalf of its member agencies. The transportation charge in 2010 was $314 per acre-foot.

The Water Authority is providing $10 million to help offset potential socioeconomic impacts associated with temporary land fallowing. IID will credit the Water Authority for these funds during years 16 through 45. In 2007, the Water Authority prepaid IID an additional $10 million for future deliveries of water. IID will credit the Water Authority for this up-front payment during years 16 through 30.

As part of implementation of the QSA and water transfer, the Water Authority also entered into an environmental cost sharing agreement. Under this agreement the Water Authority is contributing a total of $64 million to fund environmental mitigation projects and the Salton Sea Restoration Fund.

Written Contracts or Other Proof

The supply and costs associated with the transfer are based primarily on the following documents:

Agreement for Transfer of Conserved Water by and between IID and the Water Authority (April 29, 1998). This Agreement provides for a market-based transaction in which the Water Authority would pay IID a unit price for agricultural water conserved by IID and transferred to the Water Authority.

Revised Fourth Amendment to Agreement between IID and the Water Authority for Transfer of Conserved Water (October 10, 2003). Consistent with the executed Quantification Settlement Agreement (QSA) and related agreements, the amendments restructure the agreement and modify it to minimize the environmental impacts of the transfer of conserved water to the Water Authority.

Amended and Restated Agreement between Metropolitan WD and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the transfer water to the Water Authority.

Environmental Cost Sharing, Funding, and Habitat Conservation Plan Development Agreement among IID, Coachella Valley Water District (CVWD), and Water Authority (October 10, 2003). This Agreement provides for the specified allocation of QSA-related environmental review, mitigation, and litigation costs for the term of the QSA, and for development of a Habitat Conservation Plan.

Quantification Settlement Agreement Joint Powers Authority Creation and Funding Agreement (October 10, 2003). The purpose of this agreement is to create and fund the QSA Joint Powers Authority and to establish the limits of the funding obligation of CVWD, IID, and Water Authority for environmental mitigation and Salton Sea restoration pursuant to SB 654 (Machado).

Fifth Amendment to Agreement Between Imperial Irrigation District and San Diego County Water Authority for Transfer of Conserved Water (December 21, 2009). This agreement implements a settlement between the Water Authority and IID regarding the base contract price of transferred water.

Federal, State, and Local Permits/Approvals

Federal Endangered Species Act Permit. The U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion on January 12, 2001, that provides incidental take authorization and certain measures required to offset species impacts on the Colorado River regarding such actions.

State Water Resources Control Board (SWRCB) Petition. SWRCB adopted Water Rights Order 2002-0016 concerning IID and Water Authority's amended joint petition for approval of a long-term transfer of conserved water from IID to the Water Authority and to change the point of diversion, place of use, and purpose of use under Permit 7643.

Environmental Impact Report (EIR) for Conservation and Transfer Agreement. As lead agency, IID certified the Final EIR for the Conservation and Transfer Agreement on June 28, 2002.

U. S. Fish and Wildlife Service Draft Biological Opinion and Incidental Take Statement on the Bureau of Reclamation's Voluntary Fish and Wildlife Conservation Measures and Associated Conservation Agreements with the California Water Agencies (12/18/02). The U. S. Fish and Wildlife Service issued the biological opinion/incidental take statement for water transfer activities involving the Bureau of Reclamation and associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

Addendum to EIR for Conservation and Transfer Agreement. IID as lead agency and Water Authority as responsible agency approved addendum to EIR in October 2003.

Environmental Impact Statement (EIS) for Conservation and Transfer Agreement. Bureau of Reclamation issued a Record of Decision on the EIS in October 2003.

CA Department of Fish and Game California Endangered Species Act Incidental Take Permit #2081-2003-024-006). The California Department of Fish and Game issued this permit

(10/22/04) for potential take effects on state-listed/fully protected species associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

California Endangered Species Act (CESA) Permit. A CESA permit was issued by California Department of Fish and Game (CDFG) on April 4, 2005, providing incidental take authorization for potential species impacts on the Colorado River.

5.2.1.2 All-American Canal and Coachella Canal Lining Projects

As part of the QSA and related contracts, the Water Authority was assigned Metropolitan WD's rights to 77,700 AFY of conserved water from projects that will line the All-American Canal (AAC) and Coachella Canal (CC). The projects will reduce the loss of water that currently occurs through seepage, and the conserved water will be delivered to the Water Authority. This conserved water will provide the San Diego region with an additional 8.5 million acre-feet over the 110-year life of the agreement.

Implementation Status

The CC lining project constructed approximately 35 miles of parallel, concrete lined canal next to the original CC canal. Although construction completed in 2006, deliveries of conserved water to the Water Authority began in 2007. The AAC lining project constructed approximately 23 miles of parallel, concrete lined canal adjacent to the original AAC, which was completed in 2010 when deliveries of conserved water to the Water Authority began.

Expected Supply

The AAC lining project makes 67,700 acre-feet of Colorado River water per year available for allocation to the Water Authority and San Luis Rey Indian water rights settlement parties. The CC lining project makes 26,000 acre-feet of Colorado River water each year available for allocation. The 2003 Allocation Agreement provides for 16,000 acre-feet per year of conserved canal lining water to be allocated to the San Luis Rey Indian Water Rights Settlement Parties. The remaining amount, 77,700 AFY, is to be available to the Water Authority which is a result of lining portions of the All-American Canal (AAC) and Coachella Canal (CC), ultimately reducing water loss. For planning purposes, the Water Authority assumes that 2,500 acre-feet of the 4,850 acre-feet will be available each year for delivery, for a total of 80,200 acre-feet per year of that supply. According to the Allocation Agreement, IID has call rights to a portion (5,000 AFY) of the conserved water upon termination of the QSA for the remainder of the 110 years of the Allocation Agreement and upon satisfying certain conditions. The term of the QSA is for up to 75 years.

Transportation

The October 10, 2003, Exchange Agreement between the Water Authority and Metropolitan WD also provides for the delivery of the conserved water from the canal lining projects. The Water Authority will pay Metropolitan WD's applicable wheeling rate for each acre-foot of

exchange water delivered. In the Agreement, Metropolitan WD will deliver the canal lining water for the term of the Allocation Agreement (110 years).

Cost/Financing

Under California Water Code section 12560 et seq., the Water Authority received $200 million in state funds for construction of the canal lining projects. In addition, $20 million was made available from Proposition 50 and $36 million from Proposition 84. The Water Authority was responsible for additional expenses above the funds provided by the state.

The rate to be paid to transport the canal lining water will be equal to the charge or charges set by Metropolitan WD's Board of Directors pursuant to applicable law and regulation and generally applicable to the conveyance of water by Metropolitan WD on behalf of its member agencies.

In accordance with the Allocation Agreement, the Water Authority will also be responsible for a portion of the net additional Operation, Maintenance, and Repair (OM&R) costs for the lined canals. Any costs associated with the lining projects as proposed, are to be financed through the Water Authority's rates and charges.

Written Contracts or Other Proof

The expected supply and costs associated with the lining projects are based primarily on the following documents:

U.S. Public Law 100-675 (1988). Authorized the Department of the Interior to reduce seepage from the existing earthen AAC and CC. The law provides that conserved water will be made available to specified California contracting water agencies according to established priorities.

California Department of Water Resources - Metropolitan WD Funding Agreement (2001). Reimburse Metropolitan WD for project work necessary to construct the lining of the CC in an amount not to exceed $74 million. Modified by First Amendment (2004) to replace Metropolitan WD with the Authority. Modified by Second Amendment (2004) to increase funding amount to $83.65 million, with addition of funds from Proposition 50.

California Department of Water Resources - IID Funding Agreement (2001). Reimburse IID for project work necessary to construct a lined AAC in an amount not to exceed $126 million.

Metropolitan WD - CVWD Assignment and Delegation of Design Obligations Agreement (2002). Assigns design of the CC lining project to CVWD.

Metropolitan WD - CVWD Financial Arrangements Agreement for Design Obligations (2002). Obligates Metropolitan WD to advance funds to CVWD to cover costs for CC lining project design and CVWD to invoice Metropolitan WD to permit the Department of Water Resources to be billed for work completed.

Allocation Agreement among the United States of America, The Metropolitan Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District (October 10, 2003). This agreement includes assignment of Metropolitan WD's rights and interest in delivery of 77,700 acre-feet of Colorado River water previously intended to be delivered to Metropolitan WD to the Water Authority. Allocates water from the AAC and CC lining projects for at least 110 years to the Water Authority, the San Luis Rey Indian Water Rights Settlement Parties, and IID, if it exercises its call rights.

Amended and Restated Agreement between Metropolitan WD and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the conserved canal lining water to the Water Authority.

Agreement between Metropolitan WD and Water Authority regarding Assignment of Agreements related to the AAC and CC Lining Projects. This agreement was executed in April 2004 and assigns Metropolitan WD's rights to the Water Authority for agreements that had been executed to facilitate funding and construction of the AAC and CC lining projects.

Assignment and Delegation of Construction Obligations for the Coachella Canal Lining Project under the Department of Water Resources Funding Agreement No. 4600001474 from the San Diego County Water Authority to the Coachella Valley Water District, dated September 8, 2004.

Agreement Regarding the Financial Arrangements between the San Diego County Water Authority and Coachella Valley Water District for the Construction Obligations for the Coachella Canal Lining Project, dated September 8, 2004.

Agreement No. 04-XX-30-W0429 Among the United States Bureau of Reclamation, the Coachella Valley Water District, and the San Diego County Water Authority for the Construction of the Coachella Canal Lining Project Pursuant to Title II of Public Law 100-675, dated October 19, 2004.

California Water Code Section 12560 et seq. This Water Code Section provides for $200 million to be appropriated to the Department of Water Resources to help fund the canal lining projects in furtherance of implementing California's Colorado River Water Use Plan.

California Water Code Section 79567. This Water Code Section identifies $20 million as available for appropriation by the California Legislature from the Water Security, Clean Drinking Water, Coastal, and Beach Protection Fund of 2002 (Proposition 50) to DWR for grants for canal lining and related projects necessary to reduce Colorado River water use. According to the Allocation Agreement, it is the intention of the agencies that those funds will be available for use by the Water Authority, IID, or CVWD for the AAC and CC lining projects.

California Public Resources Code Section 75050(b)(1). This section identifies up to $36 million as available for water conservation projects that implement the Allocation Agreement as defined in the Quantification Settlement Agreement.

Federal, State, and Local Permits/Approvals

AAC Lining Project Final EIS/EIR (March 1994). A final EIR/EIS analyzing the potential impacts of lining the AAC was completed by the Bureau of Reclamation (Reclamation) in March 1994. A Record of Decision was signed by Reclamation in July 1994, implementing the preferred alternative for lining the AAC. A re-examination and analysis of these environmental compliance documents by Reclamation in November 1999 determined that these documents continued to meet the requirements of the NEPA and the CEQA and would be valid in the future.

CC Lining Project Final EIS/EIR (April 2001). The final EIR/EIS for the CC lining project was completed in 2001. Reclamation signed the Record of Decision in April 2002. An amended Record of Decision has also been signed to take into account revisions to the project description.

Mitigation, Monitoring, and Reporting Program for Coachella Canal Lining Project, SCH #1990020408; prepared by Coachella Valley Water District, May 16, 2001.

Environmental Commitment Plan for the Coachella Canal Lining Project, approved by the US Bureau of Reclamation (Boulder City, NV) on March 4, 2003.

Environmental Commitment Plan and Addendum to the All-American Canal Lining Project EIS/EIR California State Clearinghouse Number SCH 90010472 (June 2004, prepared by IID).

Addendum to Final EIS/EIR and Amendment to Environmental Commitment Plan for the All-American Canal Lining Project (approved June 27, 2006, by IID Board of Directors).

5.2.1.3 Carlsbad Seawater Desalination Project

Development of seawater desalination in San Diego County will assist the region in diversifying its water resources, reduce dependence on imported supplies, and provide a new drought-proof, locally treated water supply. The Carlsbad Desalination Project is a fully-permitted seawater desalination plant and conveyance pipeline developed by Poseidon, a private investor–owned company that develops water and wastewater infrastructure. The Carlsbad Desalination Plant, located at the Encina Power Station in Carlsbad, began commercial operation on December 23, 2015, and provides a highly reliable local supply of up to 56,000 AFY for the region.

As a result of the forthcoming Encina Power Station decommissioning and termination of the once-through cooling water system and seawater intake pumps, the Carlsbad Desalination Plant is transitioning from co-located operations with the Encina Power Station to permanent stand-alone operations. Recent changes to the existing intake and discharge operations include a direct lagoon intake and fish-friendly pumps; it will also include future construction of new

1 mm screens for seawater process water or brine dilution water. In addition, there is the potential to increase annual average production capacity of the Carlsbad Desalination Plant to 61,600 AF as an adaptive management supply (subject to future supply conditions and future Board action). The potential 5,600 AF increment of additional seawater desalination supply from the Carlsbad Desalination Plant could be placed into service prior to 2025.

Transportation

A 54-inch-diameter pipeline conveys product water from the Carlsbad Desalination Plant 10.5 miles east to the Water Authority's Second Aqueduct. The water is then conveyed 5 miles north to the Water Authority's Twin Oaks Valley WTP facility, where it is blended with treated imported water and subsequently distributed into the Water Authority's existing aqueduct system.

Cost/Financing

The Water Purchase Agreement between the Water Authority and Poseidon provides the terms whereby the Water Authority purchases the entire output from the Carlsbad Desalination Plant at a price based on the cost of production. For contract year 2018-19, the price was $2,685 per AF (including conveyance pipeline debt service, Poseidon management fee, and temporary standalone operations period charges). The Water Authority's water purchase costs are financed through Water Authority rates and charges.

Written Contracts or Other Proof

The expected supply and costs associated with the Carlsbad Desalination Project are based primarily on the following documents:

Development Agreement between City of Carlsbad and Poseidon (October 2009). A Development Agreement between Carlsbad and Poseidon was executed on October 5, 2009.

Agreement of Term Sheet between the Water Authority and Poseidon Resources (July 2010). The Water Authority approved the Term Sheet at its July 2010 Board Meeting. The Term Sheet outlines the terms and conditions of a future Water Purchase Agreement with Poseidon and allocates the resources to prepare the draft Water Purchase Agreement.

Federal, State, and Local Permits/Approvals

Carlsbad Desalination Project Final EIR
The City of Carlsbad, acting as lead agency for Carlsbad Seawater Desalination Plant and appurtenant facilities proposed by Poseidon (the "Project") prepared an Environmental Impact Report for the Project in compliance with the California Environmental Quality Act ("CEQA"), which the City of Carlsbad certified on June 13, 2006.
http://www.sdcwa.org/rwfmp-peir

The City of Carlsbad prepared an Addendum to the Carlsbad EIR ("Addendum") which was adopted on September 15, 2009, and reflects minor and immaterial design modifications to the Project site plan, appurtenant facilities, and water delivery pipeline network.

The environmental documents and permits are found at the following link:
http://www.carlsbad-desal.com/EIR.asp

The Water Authority, as a Responsible Agency under CEQA, adopted a resolution on November 29, 2012 approving a Second Addendum to the Carlsbad Precise Development Plan and Desalination Plant Final EIR and First Addendum that evaluates the environmental impacts of several proposed facility modifications that are necessary to allow for operational flexibility and efficiency in receiving and delivering desalination product water. These modifications include: a realignment of a portion of the approved desalination pipeline, the addition of chemical injection at the approved San Marcos Aqueduct Connection site, the relining of a portion of Pipeline 3, the addition of a pipeline and expanded flow control facility at Twin Oaks Valley Water Treatment Plant and a replacement of the San Marcos Vent on Pipeline 4. Impacts associated with the proposed modifications would not result in a new significant impact or substantial increase in the severity of impacts previously evaluated in the Carlsbad FEIR or the First Addendum. There are no substantial changes to the circumstances under which the project will be undertaken, and no new information of substantial importance that was not known and could not have been known when the FEIR was certified and the First Addendum was approved, and that have since been identified. Therefore, the Second Addendum satisfies the CEQA requirements for the proposed project modifications.

Regional Water Facilities Master Plan EIR
On November 20, 2003, the Water Authority Board of Directors adopted Resolution No. 2003-34 certifying the Final Program Environmental Impact Report (State Clearinghouse No. 2003021052) for the Water Authority's Regional Water Facilities Master Plan Project (the "Master Plan EIR"), which evaluated, among other things, potential growth inducing impacts associated with new water supplies to the region including, but not limited to, up to 150 million gallons per day ("MGD") of new supplies from seawater desalination. This certification included a 50 MGD plant located in the City of Carlsbad.

The environmental documents and permits are found at the following link:
http://www.sdcwa.org/rwfmp-peir

Sub regional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP)
On December 8, 2010, the Board adopted Resolution No. 2010-18 certifying a Final environmental Impact Report/Environmental Impact Statement for the San Diego County Water Authority Subregional Natural Community Conservation Plan/Habitat Conservation Plan (State Clearinghouse No. 2003121012) (the "Habitat Conservation Plan EIR/EIS"), which Plan was implemented on December 28, 201.

The environmental documents and permits are found at the following link:
http://www.sdcwa.org/nccp-hcp

Twin Oaks Valley Water Treatment Plant EIR
On September 8, 2005, the Board adopted Resolution No. 2005-31 certifying a Final Environmental Impact Report for the Twin Oaks Valley Water Treatment Plant Project (State Clearinghouse No. 20040071034) (the "Twin Oaks EIR"), which project was constructed as a 100 MGD submerged membrane water treatment facility, including treated water holding tanks and distribution pipelines and other facilities, consistent with the conditions and mitigation measures included in the Twin Oaks EIR.
http://www.sdcwa.org/twin-oaks-valley-treatment-plant-final-eir

2010 Urban Water Management Plan
http://www.sdcwa.org/2010-urban-water-management-plan

Drinking Water Permit (October 2006). The California Department of Health Services approved the Conditional Drinking Water Permit on October 19, 2006.

Coastal Development Permit
The Project is fully permitted, with the California Coastal Commission issuing the following permits: Coastal Development Permit No. E-06-013, Energy Minimization and Greenhouse Gas Reduction Plan (December 2008), Marine Life Mitigation Plan (December 2008), Erosion Control Plan (November 2009), Landscaping Plan (September 2009), Lighting Plan (August 2009), Construction Plan (September 2009), and Water Pollution Control Plan (September 2009); the California Department of Public Health issuing Conceptual Approval Letter dated October 19, 2006; the California Regional Water Quality Control Board issuing NPDES Permit No. CA0109223 and Notice of Intent to Discharge for Storm Water Associated with Construction Activities (WDID #9 37C361181); the City of Carlsbad issuing Redevelopment Permit RP 05-12(A), Specific Plan 144 with Amendment 144(J) SP 144(J), Habitat Management Plan Permit Amendment HMP 05-08(A), Precise Development Plan PDP 00-02(B), Mitigation Monitoring and Reporting Program for EIR 03-05(A), Development Agreement DA 05-01(A), Standard Urban Storm Water Mitigation Program (September 2009), and Coastal Development Permit 04-41; the State of California State Lands Commission issuing an Amendment of Lease PRC 8727.1 (August 2008).

The environmental documents and permits are found at the following link:
http://www.sdcwa.org/carlsbad-desalination-project-approved-permits-and-plans

State Lands Commission Lease Application (Amendment of Lease PRC 8727.1 August 2008). Amends lease of land by Cabrillo Power I LLC (Cabrillo) from the State Lands Commission for the lands where the project will be constructed. Cabrillo and Poseidon entered into agreement on July 1, 2003, authorizing Poseidon to use those lands to construct the project.

5.2.2 Water Authority Capital Improvement Program and Financial Information

The Water Authority's Capital Improvement Program (CIP) can trace its beginnings to a report approved by the Board in 1989 entitled, The Water Distribution Plan, and a Capital Improvement Program through the Year 2020. The Water Distribution Plan included ten

projects designed to increase the capacity of the aqueduct system, increase the yield from existing water treatment plants, obtain additional supplies from Metropolitan WD, and increase the reliability and flexibility of the aqueduct system. Since that time the Water Authority has made numerous additions to the list of projects included in its CIP as the region's infrastructure needs and water supply outlook have changed.

The current list of projects included in the CIP is based on the results of planning studies, including the 2005 UWMP and the 2002 Regional Water Facilities Master Plan. These CIP projects, which are most recently described in the Water Authority's Adopted Multi-Year Budget, include projects valued at $3.50 billion. These CIP projects are designed to meet projected water supply and delivery needs of the member agencies through 2045. The projects include a mix of new facilities that will add capacity to existing conveyance, storage, and treatment facilities, as well as repair and replace aging infrastructure:

- Asset Management – The primary components of the asset management projects include relining and replacing existing pipelines and updating and replacing metering facilities.
- New Facilities – These projects will expand the capacity of the aqueduct system, complete the projects required under the Quantification Settlement Agreement (QSA), and evaluate new supply opportunities.
- Emergency Storage Project – Projects remaining to be completed under the ongoing ESP include the San Vicente Dam Raise, the Lake Hodges projects, and a new pump station to extend ESP supplies to the northern reaches of the Water Authority service area.
- Other Projects – This category includes out-of-region groundwater storage, increased local water treatment plant capacity, and projects that mitigate environmental impacts of the CIP.

The Water Authority Board of Directors is provided a semi-annual and annual report on the status of development of the CIP projects. As described in the Water Authority's biennial budget, a combination of long and short term debt and cash (pay-as-you-go) will provide funding for capital improvements. Additional information is included in the Water Authority's biennial budget, which also contains selected financial information and summarizes the Water Authority's investment policy.

Section 6 - Existing and Projected Supplies

Padre Dam MWD's UWMP identifies the quantity of water supplied to the agency's customers including a breakdown of land uses. According to California Code, Water Code – WAT §10631(d). (1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following… (2). The water use projections shall be in the same five-year

increments described in subdivision (a). (4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

The potable water demands served by Padre Dam MWD are primarily residential, commercial, industrial, institutional, and irrigation. The potable water demand is presented in Table 6 for the 2019-2020 year.

Table 6 – Demands for Potable and Non-Potable Water – Actual

Use Type	2020 Actual	
	Additional Description	**Volume (AFY)**
Single Family Residential	Municipal and Industrial	5,447
Multi-Family Residential	Municipal and Industrial	1,793
Commercial	Municipal and Industrial	1,112
Institutional/Governmental	Municipal and Industrial	191
Landscape	Municipal and Industrial	362
Agriculture Irrigation		106
Other	Construction	99
Other	Unbilled Unmetered(1)	30
Other	Potable Supplemental to Recycled Water System	18
Losses(2)		431
Total		**9,588**

(1) Unbilled unmetered includes water flushing, sewer flushing, and firefighting. Values were obtained from the American Water Works Association (AWWA) Audit Report 2020.

(2) Losses obtained from AWWA Audit Report 2020 equates to approximately 449 acre-feet per year (AFY) (Appendix E). Potable supplement to recycled water was included as part of the losses in the audit. Thus, losses in this table are adjusted to reflect losses without potable supplement to the recycled water system.

Source: Padre Dam Municipal Water District 2020 UWMP.

The water use by sector is summarized from billing records based on individual meter readings. As shown in Table 6, residential demand account for approximately 76% of Padre Dam MWD's total demand. Commercial, institutional, and governmental accounts for 13% of Padre Dam MWD's total demand. The remaining 11% accounts for landscape irrigation, agricultural irrigation, construction, potable supplement to the recycled water system, and losses.

Table 7 contains the projected potable water demands within and outside of the Padre Dam MWD boundary from 2025 through 2045. These are only general estimates of projected use and may vary significantly based on future development and water conservation measures taken by each customer sector. The implementation, magnitude, and type of development in the future will determine the distribution of water use per type.

Table 7
Demands for Potable and Non-Potable Water – Projected (AFY)

Use Type	Additional Description (as needed)	2025	2030	2035	2040	2045
Residential		7,438	8,217	9,004	9,683	10,070
Commercial		1,398	1,465	1,525	1,585	1,645
Institutional/Governmental		188	191	194	196	199
Landscape		357	579	73	817	822
Agricultural irrigation		104	161	181	186	187
Other(1)	Construction and Unmetered	127	137	146	156	166
Losses(2)		442	449	455	461	468
Other Potable	Outside of District(3)	2,388	2,388	2,388	2,388	2,388
TOTAL		**12,442**	**13,586**	**14,623**	**15,473**	**15,944**

(1) Other category includes construction and water used for potable flushing, sewer flushing, and firefighting.

(2) Includes potable water supplement to recycled water.

(3) Outside of District includes the near term annexations, which includes the Viejas tribe, Ewiiaapaayp tribe, and the I-8 corridor outside of the Padre Dam MWD's eastern boundary.

Source: Padre Dam Municipal Water District 2020 UWMP.

Padre Dam MWD's potable water demand is anticipated to increase to 15,944 AFY by year 2045.

Water may be recycled for non-potable or potable purposes. Table 8 considers non-potable recycling within the Padre Dam MWD's service area. In 1959, Padre Dam MWD developed a local wastewater treatment plant and water reclamation facility. The facility treats wastewater at a tertiary level. Approximately one million gallons per day (MGD) of the treated wastewater is discharged into Santee Lakes. The remaining water is used for irrigation at community parks, schools, city streetscapes, and community fountains. Padre Dam MWD's existing recycled water system includes the Ray Stoyer WRF, the Recycled Water Effluent Pump Station, and Fanita Terrace Reservoir.

Padre Dam MWD's recycled water demand increased from 2001 to 2014 with a peak of 1,025 AFY in 2014. Since 2014, recycled water demands have decreased. The current and projected recycled water uses are summarized in Table 8. Since Padre Dam MWD does not plan to expand the recycled water system, the recycled water demand is expected to remain steady. The projected recycled water volumes are based on current agreements, which may be revised in the future.

Table 8
Recycled Water Beneficial Uses Within Service Area (AFY)

Beneficial Use Type	Potential Beneficial Uses of Recycled Water	Amount of Potential Uses of Recycled Water	General Description of 2020 Uses	2020[5]	2025[4]	2030[4]	2035[4]	2040[4]	2045[4]
Landscape irrigation (exc golf courses)[3]	Parks, medians, HOA landscapes, dust control	1,232	Parks, medians, HOA landscapes, dust control	780	1,232	1.232	1.232	1.232	1.232
Recreational impoundment[3][4]	Santee Lakes replenishment and Flushing	1,120	Santee Lakes replenishment and Flushing	970	970	0	0	0	0
TOTAL				**1,750**	**2,202**	**1,232**	**1,232**	**1,232**	**1,232**

(1) Supplemental water includes 198 AFY from the non-potable groundwater well and 18 AFY potable supplemental water.

(2) The future AWP Program will eliminate untreated groundwater and potable water use for supplementing the recycled water system, thereby further enhancing source water availability and reliability.

(3) Used in Table 4 as planned recycled water demand.

(4) Santee Lakes will be replenished by water from the brine minimization process planned at the AWP facilities.

(5) Volumes do not include supplemented water quantities noted above.

Source: Padre Dam Municipal Water District 2020 UWMP.

As shown in Table 1, the total projected water use including recycled water is anticipated to increase by 17,176 AFY by 2045. Recycled water use is expected to decrease to 1,232 AFY after 2025 due to discontinuation of discharge into Santee Lakes. The recycled water demand is assumed to remain the same through the remainder of the planning horizon.

6.1 Demand Management (Water Conservation)

Demand management, or water conservation is a critical part of the Padre Dam MWD 2020 UWMP and its long term strategy for meeting water supply needs of Padre Dam MWD customers. Water conservation, is frequently the lowest cost resource available to any water agency. The goals of the Padre Dam MWD water conservation programs are to:

- Reduce the demand for more expensive, imported water.
- Demonstrate continued commitment to the Best Management Practices (BMP).
- Ensure a reliable water supply.

Padre Dam MWD is signatory to the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council (CUWCC) in 1991 in an effort to reduce California's long-term water demands. Water conservation programs are developed and implemented on the premise that water conservation increases the water supply by reducing the demand on available supply, which is vital to the optimal utilization of a region's water supply resources. Padre Dam

MWD participates in many water conservation programs designed and typically operated on a shared cost participation program basis among the Water Authority, Metropolitan WD, and their member agencies.

As one of the first signatories to the MOU Regarding Urban Water Conservation in California, Padre Dam MWD has made BMP implementation for water conservation the cornerstone of its conservation programs and a key element in its water resource management strategy. As a member of the Water Authority, Padre Dam MWD also benefits from regional programs performed on behalf of its member agencies. The BMP programs implemented by Padre Dam MWD and regional BMP programs implemented by the Water Authority that benefit all their member agencies are addressed in the Padre Dam MWD 2020 UWMP. In partnership with the Water Authority, the County of San Diego, City of San Diego, City of Chula Vista, and developers, Padre Dam MWD water conservation efforts are expected to grow and expand. The resulting savings directly relate to additional available water in the San Diego County region for beneficial use within the Water Authority service area, including Padre Dam MWD.

Additional conservation or water use efficiency measures or programs practiced by Padre Dam MWD include the following:

- Supervisory Control and Data Acquisition System

  Padre Dam MWD implemented and has operated for many years a Supervisor Control and Data Acquisition (SCADA) system to control, monitor, and collect data regarding the operation of the water system. The major facilities that have SCADA capabilities are the water flow control supply sources, transmission network, pumping stations, and water storage reservoirs. The SCADA system allows for many and varied useful functions. Some of these functions provide for operating personnel to monitor the water supply source flow rates, reservoir levels, turn on or off pumping units, etc. The SCADA system aids in the prevention of water reservoir overflow events and increases energy efficiency.

- Water Conservation Ordinance

  California Water Code section 375 et seq. permit public entities which supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving water supplies of such public entity. The Padre Dam MWD Board of Directors established a comprehensive water conservation program pursuant to California Water Code section 375 et seq., based upon the need to conserve water supplies and to avoid or minimize the effects of any future shortage. A water shortage could exist based upon the occurrence of one or more of the following conditions:

1. A general water supply shortage due to increased demand or limited supplies.
2. Distribution or storage facilities of the Water Authority or other agencies become inadequate.
3. A major failure of the supply, storage, and distribution facilities of Metropolitan WD, Water Authority, and/or Padre Dam MWD.

The Padre Dam MWD water conservation ordinance finds and determines that the conditions prevailing in the San Diego County area require that the available water resources be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented and that the conservation of such water be encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of the people of Padre Dam MWD and for the public welfare.

6.2 Projected Single Dry Year

Table 9 presents the forecasted balance of water demands and required supplies for the Padre Dam MWD area under average or normal year conditions. The total actual demand for FY 2025 was projected at 14,586 acre feet. The demand for FY 2025 is the same as the supply which is 14,586 AFY. Unaccounted for demands for the project (42 AFY) will be supplied by the Water Authority's Accelerated Forecasted Growth component.

Table 9
Single Dry Year Supply and Demand Comparison (AFY)

	2025	2030	2035	2040	2045
Water Authority Supplies	14,586	15,751	16,819	17,685	18,148
Water Authority Accelerated Forecast Growth Increment	42	42	42	42	42
Supply Totals [(1)]	**14,628**	**15,793**	**16,861**	**17,727**	**18,190**
Padre Dam MWD Demands	14,586	15,751	16,819	17,685	18,148
TCSP Project Additional Demands	42	42	42	42	42
Demand totals[(2)(3)]	**14,628**	**15,793**	**16,861**	**17,727**	**18,190**
Difference[(4)]	**0**	**0**	**0**	**0**	**0**

(1) Under single dry year conditions, the Water Authority is projecting to use 328,700 AFY in the Water Authority supplies (IID Water Transfer, AAC and CC Lining Projects, and Carlsbad Desalination Plant), a range of 126,490 AFY to 209,901 AFY in verifiable member agency supplies (surface supplies have been reduced), and a range of 336,232 AFY to 338,000 AFY in Metropolitan supplies (Metropolitan supplies have increased) from 2025 through 2045. In addition, between 194,457 to 236,181 AFY in demands will be met through potential surplus supply or management actions
(2) Water Authority methodology was used to select the single dry year scenario.
(3) Projections assume an increase based on the percentages listed in the Padre Dam MWD 2020 UWMP.
(4) Net difference of zero, which assumes that conservation and local supply sources will be used to

Padre Dam MWD acknowledges the ever-present challenge of balancing water supply with demand and the inherent need to possess a flexible and adaptable water supply

implementation strategy that can be relied upon during normal and dry weather conditions. The responsible regional water supply agencies have and will continue to adapt their resource plans and strategies to meet climate, environmental, and legal challenges so that they may continue to provide water supplies to their service areas. The regional water suppliers along with Padre Dam MWD fully intend to maintain sufficient reliable supplies through the 20-year planning horizon under normal, single, and multiple dry year conditions to meet projected demand of the Project, along with existing and other planned development projects within the Padre Dam MWD service area.

This WSA Report assesses, demonstrates, and documents that sufficient water supplies are planned for and are intended to be acquired, as well as the actions necessary and status to develop these supplies, to meet projected water demands of the Project as well as existing and other reasonably foreseeable planned development projects within the Padre Dam MWD for a 20-year planning horizon, in normal and in single and multiple dry years.

6.3 Projected Multiple Dry Year Supply and Demand

Table 10 shows projected supply and demand totals for the multiple dry year assessment in five-year increments for the period 2025 through 2045. Imported and recycled water supplies match those previously provided in the 2020 UWMP. The Accelerated Forecasted Growth component of the Water Authority's 2020 UWMP is projected to provide additional supply capacity to the Padre Dam MWD. A portion this excess amount is available to supply the additional 41.81 AFY Project demand, as confirmed by the Water Authority. (See Appendix D for confirmation from the Water Authority.) Demands during the multiple dry year analysis are projected to remain the same as in normal years and do not account for potential demand mitigation that can be implemented by the Padre Dam MWD to reduce demands in drought conditions. Therefore, the demand projections in Table 10 are conservative.

Table 10
Projected Multiple-Dry Year Supply and Demand Comparison (2025-2045, AFY)

		Supply and Demand Comparison – Multiple Dry Year Events				
		2025	**2030**	**2035**	**2040**	**2045**
1st Year	Water Authority Supply	14,586	15,751	16,819	17,685	18,148
	Water Authority AFG Increment	42	42	42	42	42
	Supply Totals	**14,628**	**15,793**	**16,861**	**17,727**	**18,190**
	Padre Dam MWD Demands	14,586	15,751	16,819	17,685	18,148
	TCSP Project Additional Demands	42	42	42	42	42
	Demand totals	**14,628**	**15,793**	**16,861**	**17,727**	**18,190**
	Difference	**0**	**0**	**0**	**0**	**0**
2nd Year	Water Authority Supply	14,732	15,909	16,987	17,862	18,371
	Water Authority AFG Increment	42	42	42	42	42
	Supply Totals	**14,774**	**15,951**	**17,029**	**17,904**	**18,413**
	Padre Dam MWD Demands	14,732	15,909	16,987	17,862	18,371

		Supply and Demand Comparison – Multiple Dry Year Events				
		2025	**2030**	**2035**	**2040**	**2045**
	TCSP Project Additional Demands	42	42	42	42	42
	Demand totals	**14,774**	**15,951**	**17,029**	**17,904**	**18,413**
	Difference	**0**	**0**	**0**	**0**	**0**
3rd Year	Water Authority Supply	14,879	16,068	17,157	18,040	18,513
	Water Authority AFG Increment	42	42	42	42	42
	Supply Totals	**14,921**	**16,110**	**17,199**	**18,082**	**18,555**
	Padre Dam MWD Demands	14,879	16,068	17,157	18,040	18,513
	TCSP Project Additional Demands	42	42	42	42	42
	Demand totals	**14,921**	**16,110**	**17,199**	**18,082**	**18,555**
	Difference	**0**	**0**	**0**	**0**	**0**
4th Year	Water Authority Supply	15,028	16,228	17,329	18,221	18,698
	Water Authority AFG Increment	42	42	42	42	42
	Supply Totals	**15,070**	**16,270**	**17,371**	**18,263**	**18,740**
	Padre Dam MWD Demands	15,028	16,228	17,329	18,221	18,698
	TCSP Project Additional Demands	42	42	42	42	42
	Demand totals	**15,070**	**16,270**	**17,371**	**18,263**	**18,740**
	Difference	**0**	**0**	**0**	**0**	**0**
5th Year	Water Authority Supply	15,178	16,391	17,502	18,403	18,885
	Water Authority AFG Increment	42	42	42	42	42
	Supply Totals	**15,220**	**16,433**	**17,544**	**18,445**	**18,927**
	Padre Dam MWD Demands	15,178	16,391	17,502	18,403	18,885
	TCSP Project Additional Demands	42	42	42	42	42
	Demand totals	**15,220**	**16,433**	**17,544**	**18,445**	**18,927**
	Difference	**0**	**0**	**0**	**0**	**0**

Section 7 – Conclusion: Availability of Sufficient Supplies

The Water Authority and Metropolitan WD have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and Metropolitan WD update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions with land use authority may require water supply assessment and/or verification reports for proposed land developments that are not within the Padre Dam MWD, Water Authority, or Metropolitan WD jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans with either lower or higher development intensities than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations, or revised land use plans, typically result in creating higher demand and supply requirements than previously anticipated. Padre Dam MWD, Water Authority, and Metropolitan WD next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of revised land use planning decisions such as the Project. In anticipation of these development yields water demand and supply planning information for the Project will be incorporated into and become a permanent part of their water resources planning processes and documents.

Metropolitan WD's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2020 update to the IRP includes a planning buffer supply intended to mitigate against the risks associated with implementation of local and imported supply programs and for the risk that future demands could be higher than projected. The planning buffer identifies an additional increment of water that could potentially be developed when needed and if other supplies are not fully implemented as planned. As part of implementation of the planning buffer, Metropolitan WD periodically evaluates supply development, supply conditions, and projected demands to ensure that the region is not under or over developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate water supplies to meet long-term future demands.

In Section ES-5 of their 2020 RUWMP, Metropolitan WD states that they have supply capacities that would be sufficient to meet expected demands from 2025 through 2045. Metropolitan WD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs. Metropolitan WD's 2020 RUWMP identifies

potential reserve supplies in the supply capability analysis which could be available to meet the unanticipated demands.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written water supply assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2020 Updated UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, Carlsbad Desalination Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, adopted in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from Metropolitan WD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

This WSA Report identifies and describes the processes by which water demand projections for the proposed Project will be fully included in the water demand and supply forecasts of the Urban Water Management Plans and other water resources planning documents of the Water Authority and Metropolitan WD. Water supplies necessary to serve the demands of the proposed Project, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the WSA Report and will be included in the future water supply planning documents of the Water Authority and Metropolitan WD. The Assessment demonstrates sufficient water supply to serve the Padre Dam MWD, including the increased demand from the Project from 2025 to 2045 in normal, single-, and multiple- dry year scenarios.

This Assessment does not create a right or any entitlement to water service. It is not a commitment to serve the Project but is a review of the Padre Dam MWD's total projected water supplies and an analysis of the Padre Dam MWD's ability to serve the Project based on presently available information. This Assessment and its analyses and conclusions are conditioned in part on the ability of Metropolitan and the Water Authority to continue to supply imported water to meet the Padre Dam MWD's needs. Water service also is contingent upon prompt payment of all charges, rates, and fees as adopted by the Padre Dam MWD from time to time. All landscape plans are required to ensure compliance with applicable requirements, and the applicant/developer will be required to plan and install water efficient devices and landscaping in accordance with applicable Padre Dam MWD development Guidelines and Standards, ordinances, and requirements.

This WSA Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or

agreements relevant to the identified water supply needs for the proposed Project. This WSA Report assesses, demonstrates, and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the proposed Project and the existing and other planned development projects to be served by the Padre Dam MWD.

Source Documents

Padre Dam Metropolitan Water District, "Comprehensive Facilities Master Plan Update," June 2022.

Padre Dam Metropolitan Water District, "Padre Dam Municipal Water District 2020 Urban Water Management Plan," June 2021.

San Diego County Water Authority, "Urban Water Management Plan 2020 Update," June 2021.

Metropolitan Water District of Southern California, "2020 Regional Urban Water Management Plan," June 2021.

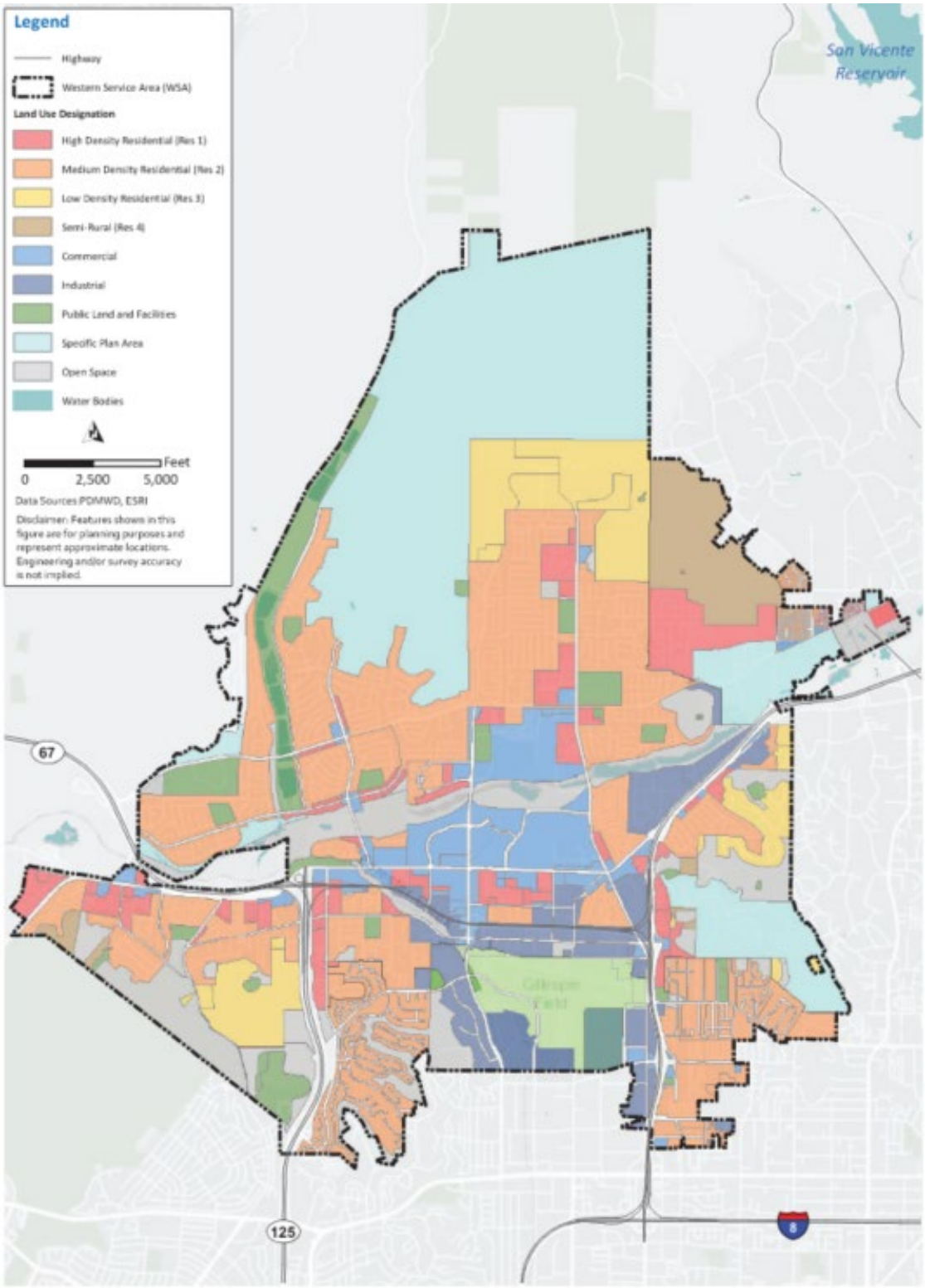
Agreement between the San Diego County Water Authority and Padre Dam Metropolitan Water District regarding Implementation of the East County Regional Treated Water Improvement Program.

Agreement between the San Diego County Water Authority and Padre Dam Metropolitan Water District for Design, Construction, Operation, and Maintenance.

Appendix A

Existing Land Use for Padre Dam MWD in 2020 UWMP

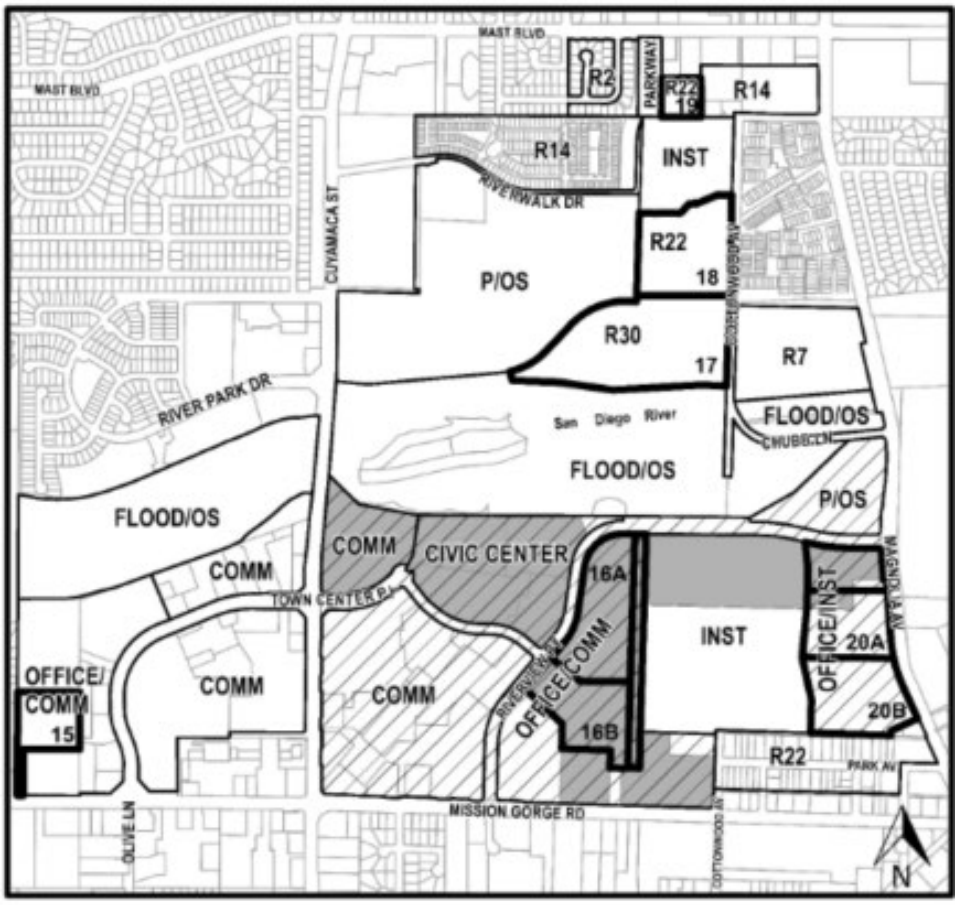
Existing Land Use



Appendix B

Existing Town Center Specific Plan Land Use Designations

Existing Town Center Specific Plan Land Use Designations



R2 – Residential 2-6 DU/AC
R-7 – Residential 7-14 DU/AC
R-14 – Residential 14-22 DU/AC
R-22 – Residential 22-30 DU/AC
R-30 – Residential 30 DU/AC

P – Park
OS – Open Space
Comm – Commercial
Flood – Floodway
Inst – Institutional

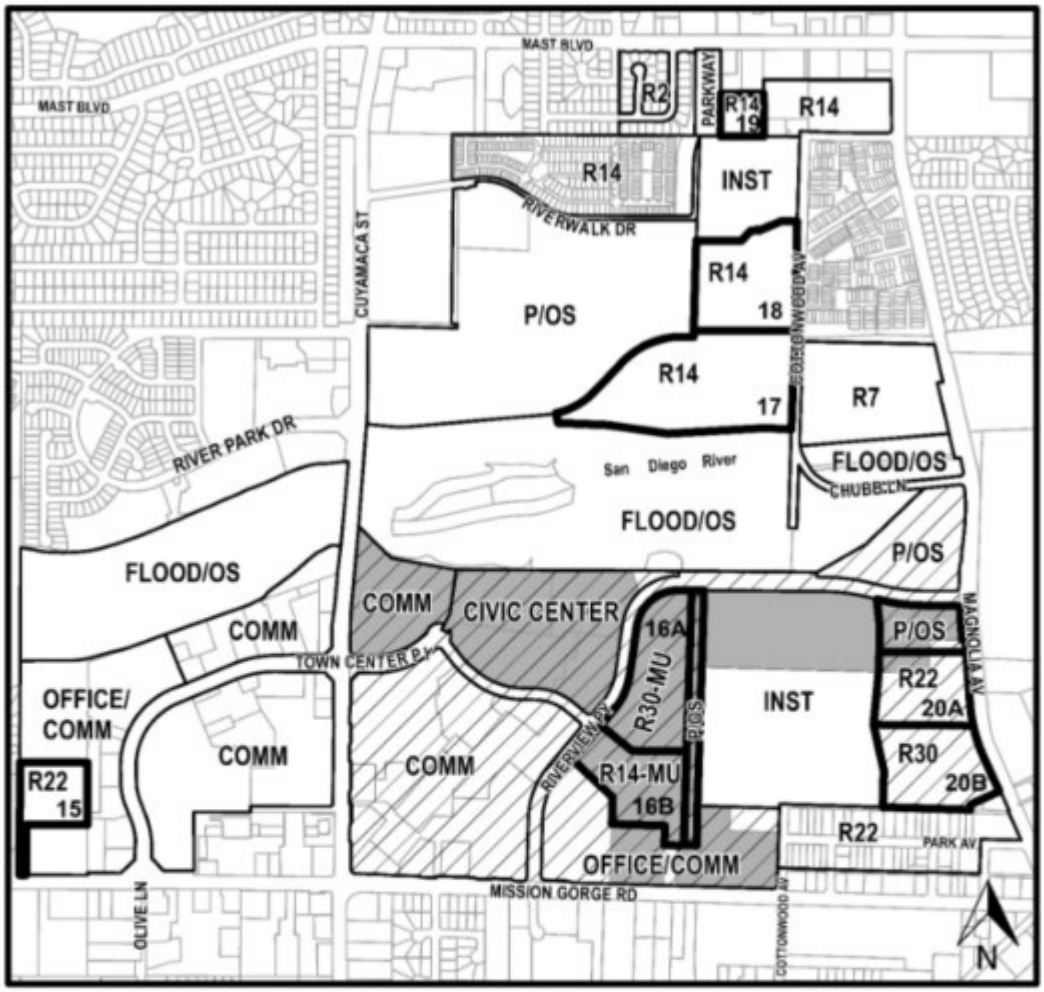
Arts & Entertainment Overlay District

RiverView Office Park Area

Appendix C

Proposed Town Center Specific Plan Land Use Designations

Proposed Town Center Specific Plan Land Use Designations



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P – Park
OS – Open Space
Comm – Commercial
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Inst – Institutional

Arts & Entertainment Overlay District

RiverView Office Park Area

Appendix D

Water Authority Accelerated Forecasted Growth Request

From:	Crutchfield, Jeremy
To:	lclapp@padre.org; ptubongbanua@padre.org
Cc:	Hammond, Leanne; Rivera, Elisa; Bombardier, Tim; Stephenson, Jeff; Bista, Seevani
Subject:	SDCWA UMWP - Accelerated Forecasted Growth
Date:	Wednesday, July 17, 2024 10:27:59 AM
Attachments:	image001.png Padre Dam AFG Request.pdf

Dear Mr. Clapp:
Thank you for your email regarding the Padre Dam MWD's City of Santee's proposed Town Center Specific Plan Project (Town Center Project). The following is the Water Authority's response to your request to use the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2020 Urban Water Management Plan to meet the unanticipated water demands associated with the Town Center Project

The purpose of the AFG component of the demand forecast is to estimate, on a regional basis, additional demand associated with proposed projects not yet included in local jurisdictions' general plans and to plan for sufficient regional supplies to reliably meet the water demand of those projects.

The Town Center Project identified in your July 8, 2024 letter (attached), meets the criteria for the AFG component of the Water Authority's 2020 UWMP and we are planning to have water supplies to reliably meet the demand associated with the project. Our accounting of the AFG demand component will be adjusted to reflect the additional demand of 41.8 acre-feet per year associated with the proposed project.

In order to accurately account for utilization of the AFG, we request that the Padre Dam MWD send the Water Authority notification of when this project or any other project that utilized the AFG demand component is approved.

Please let me know if you have any questions or want to discuss further.

Regards,

Jeremy

Jeremy Crutchfield
Manager, Water Resources Department
Office (858) 522-6834 | **Cell** (858) 344-3878
Email jcrutchfield@sdcwa.org

San Diego County Water Authority

PADRE DAM
Municipal Water District

July 8, 2024

Seevani Bista
Senior Water Resources Specialist
San Diego County Water Authority
sbista@sdcwa.org

Dear Ms. Bista,

The Padre Dam Municipal Water District (Padre Dam MWD) requests use of the Accelerated Forecasted Growth component of the San Diego County Water Authority's (Water Authority) 2020 Urban Water Management Plan for the City of Santee's proposed Town Center Specific Plan Amendment Project (Project). The Project is a mixed use village consisting of 79 acres located in the central portion of the City of Santee's Town Center Specific Plan. The Project is within the overall TCSP area that includes approximately 608 acres across several land uses and proposes a maximum anticipated development yield on certain properties:

- Arts and Entertainment (2,399,474 SF of non-residential buildings)
- Four Housing Element Sites (1,480 dwelling units)

The Project is bordered generally by Mast Boulevard to the north, Magnolia Avenue to the east, Santee Lakes to the west, and Mission Gorge Road to the south. The Project is currently located within the jurisdictions of Padre Dam MWD and the Water Authority. Please find the attached a vicinity map for your reference.

Most of the proposed development for this project was accounted for in the SANDAG Series 13 forecast, with the majority of the water demand associated with the Project included in the Padre Dam MWD 2020 Urban Water Management Plan. However, changes to the Project resulting in water demands associated with unaccounted growth were not included in the SANDAG Series 13 forecast or the Padre Dam MWD 2020 Urban Water Management Plan. The previously planned water use for the site was 796.4 AFY and changes to land use and development density results in an increase in water demands of 41.8 AFY; this increase would be supplied by the requested use of the Water Authority's Accelerated Forecasted Growth component. A summary of the Project's change in water demand is shown in the table below:

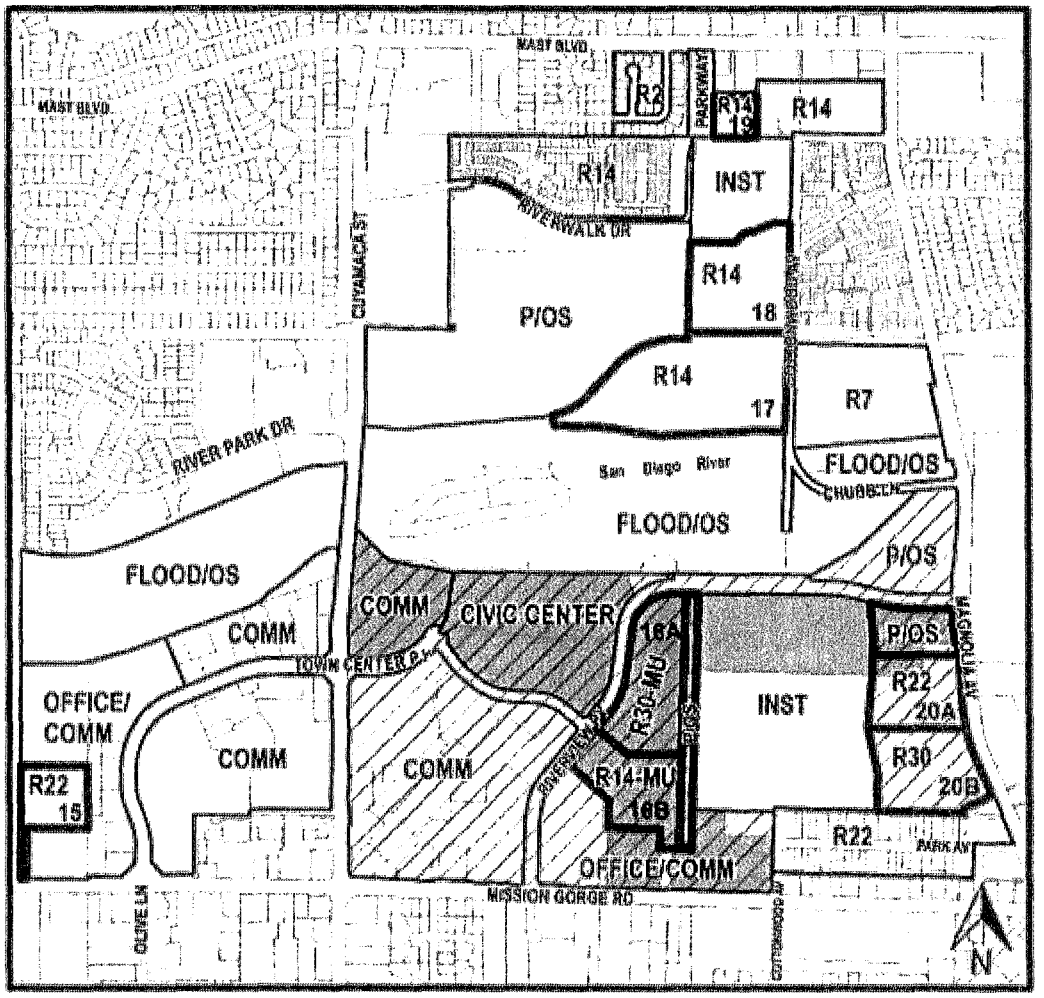
PADRE DAM
Municipal Water District

	Water Demands (Acre-Feet per Year)		
Project	**Initial Planned**	**Revised Projection**	**Increase**
Town Center Specific Plan	796.4	838.2	41.8

Sincerely,

Lewis Clapp
Director of Engineering

Proposed Town Center Specific Plan Land Use Designations



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Arts & Entertainment Overlay District

RiverView Office Park Area

Appendix E

City of Santee Request for Water Supply Assessment

March 18, 2024

Lewis Clapp, Engineering Manager
Padre Dam Municipal Water District
9300 Fanita Pkwy, Santee, CA 92071

Subject: Request for Water Supply Assessment

Dear Mr. Clapp:

The City of Santee is preparing a comprehensive update to its Town Center Specific Plan (TCSP), including updates to the Arts and Entertainment Neighborhood, and development of concept plans for four strategic Housing Element sites (Figure 1). The update would allow development to occur in the TCSP area shown in Figure 1 per the projections provided in the tables included on the following page. Table 1 represents the complete buildout of the TCSP; the projections for the AEN (Table 2) and four Housing Element sites (Table 3) are sub-geographies fully contained within the TCSP area and Table 1 projections. These development potentials are consistent with adopted plans and zoning, including the recently approved Housing Element, approved in October 2022. However, we understand not all of this development may have been anticipated in the most recent Urban Water Management Plan.

Because the project is located within the Padre Dam Municipal Water District service area and the projected buildout may not have been previously considered by the District, we are requesting a Water Supply Assessment in accordance with California Public Resources Code Section 15155 and Water Code Section 10910 - 10915. Please include in your analysis a discussion of whether the recent applicable Urban Water Management Plan addresses the proposed project water use, availability of both the potable and recycled water supplies during normal, single dry, and multiple dry water years during a 20-year projection, and potential impacts of its use on water availability and reliability.

Staff is prepared to work with you to ensure you have the information necessary to complete the assessment in a timely manner. Currently, we anticipate releasing the public review draft EIR in June 2024, and the requested Water Supply Assessment should be included within the public review draft EIR. If you have any questions, please contact me at 619-258-4100 ext. 160.

Sincerely,

M. Coyne

Michael Coyne
Principal Planner

TCSP Area Development Potential Tables

Table 1
TCSP Buildout Summary

	Existing Non-residential Buildings (SF)	Existing Dwelling Units	Potential Non-residential Buildings (SF)	Minimum Allowable Number of Dwelling Units	Maximum Allowable Number of Dwelling Units	State Density Bonus Assumptions	Total Dwelling Units
TCSP Totals	1,756,567	814	3,905,431	2,622	3,441	513	3,954

Table 2
Arts and Entertainment Neighborhood Buildout Summary

	Existing Non-residential Buildings (SF)	Existing Dwelling Units	Potential Non-residential Buildings (SF)	Minimum Allowable Number of Dwelling Units	Maximum Allowable Number of Dwelling Units	State Density Bonus Assumptions	Total Dwelling Units
AEN Totals	607,371	300	2,399,474	1,225	1,482	298	1,780

Table 3-3
Four Housing Element Sites Buildout Summary

Site	Land Use Designation	Allowed Density Range	Existing Non-residential Buildings (S.F.)	Existing Dwelling Units	Potential Non-Residential Buildings (S.F.)	Mixed Use Overlay Assumption	Minimum Allowable Number of Dwelling Units	Maximum Allowable Number of Dwelling Units	State Density Bonus Assumption	Total Dwelling Units
16A	TC-R-30	30-36 DU/AC	N/A	N/A	181,482	10%	333	400	120	520
16B	TC-R-14	14-22 DU/AC	N/A	N/A	90,012	10%	121	189	N/A	189
20A	TC-R-22	22-30 DU/AC	N/A	N/A	118,157	10%	171	233	70	303
20B	TC-R-30	30-36 DU/AC	N/A	N/A	N/A	N/A	300	360	108	468
HE Sites Totals	**N/A**	**N/A**	**N/A**	**N/A**	**389,651**	**N/A**	**925**	**1,182**	**298**	**1,480**

- Proposed Santee Town Center Specific Plan
- Proposed Arts and Entertainment Neighborhood
- Site 16A
- Site 16B
- Site 20A
- Site 20B
- Current Santee Town Center Specific Plan
- Current Art and Entertainment Boundary

0 800 Feet

Source: Aerial (SanGIS, 2023)

HELIX Environmental Planning

Project Boundaries

Figure 1