CITY OF
CHULA VISTA

Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project

Final Environmental Impact Report

EIR 20-0002

SCH No.

2020110148

July 2021

276 Fourth Ave. • Chula Vista • California • 91910

Sunbow Sectional Planning Area Plan Amendment
for the
Sunbow II, Phase 3 Project
Final Environmental Impact Report

Prepared for:

City of Chula Vista
276 Fourth Avenue
Chula Vista, California 91910
Contact: Oscar Romero

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Brian Grover, AICP

JULY 2021

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Preface to the Final Environmental Impact Report and Response to Comments

The City of Chula Vista, as the Lead Agency under the California Environmental Quality Act (CEQA), has prepared this Final Environmental Impact Report (Final EIR) for the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (proposed project) located within the Sunbow Master Planned Community of the City of Chula Vista. As described in Sections 15089 and 15132 of the CEQA Guidelines, the lead agency must prepare a Final EIR before approving a project. Pursuant to CEQA Guidelines Section 15132, a Final EIR shall consist of:

- The Draft EIR or a revision of the draft.
- Comments and recommendations received on the Draft EIR either verbatim or in summary.
- A list of persons, organizations, and public agencies commenting on the Draft EIR.
- The responses of the Lead Agency to significant environmental points raised in the review and consultation process; and
- Any other information added by the Lead Agency.

Pursuant to these guidelines, this Final EIR (State Clearinghouse No. 2020110148) includes in the following order: a list of persons, organizations, and agencies that provided comments on the Draft EIR; responses to comments received on the Draft EIR; the Draft EIR.

1.1 Comments Received on Draft EIR and Responses

The Draft EIR was circulated for public review on March 15, 2021 through April 28, 2021, in accordance with the 45-day comment period required under Section 15105(a) of the CEQA Guidelines. A total of five (5) comment letters were received on the Draft EIR from agencies, organizations, and individuals as shown in the list below. In response to the comments received during public review and to City staff input subsequent to distribution of the Draft EIR, minor revisions, clarifications, and/or additions have been made to the document which do not change the conclusions of the Final EIR regarding the project's potential environmental impacts and required mitigation. These minor revisions do not represent significant new information. No new significant environmental impacts would occur from these modifications, and similarly, no substantial increase in the severity of environmental impacts would occur.

Commenters on the Draft EIR are provided below:

- Comment Letter A: Sherry Barton
- Comment Letter B: San Diego Association of Governments, Tracy Ferchaw
- Comment Letter C: Bracken Ellis
- Comment Letter D: California Department of Fish and Wildlife, David A. Mayer
- Comment Letter E: San Diego County Archaeological Society, Inc., James W. Royle, Jr.

Copies of all letters received by the City of Chula Vista regarding the Draft EIR and the responses to comments follow.

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Comment Letter A

From: Sherry Barton <barton_sa@yahoo.com>
Sent: Monday, March 22, 2021 1:07 PM
To: Stacey Kurz <SKurz@chulavistaca.gov>
Subject: Sunbow II, Phase 3

Warning: External Email

Good Afternoon Stacey:

I am very interested in knowing more information on how Chula Vista is going to handle the increase in traffic along Olympic Parkway. Also I live up in the Robinhood Point Assoc. homes and currently we are having a water seepage coming out at the bottom of the hill where the 2 water tanks are located. We have been working hard for almost 2 years trying to find the source but unable. Otay Water says no it not them and we have eliminated our irrigation lines. Right now we are working on installing a drainage system to divert the water. Our engineering companies will be working with the city on the plans. While investigating this problem we noticed a damp section along the north side of the mountain which I think belongs to Sunbow. It's an ongoing damp section so Robinhood feels this is another area the water source may be seeping out. I would like to know what Sunbow plans to do about it on their property. A-1 A-2

Also within our area we are getting more wildlife coming into our community due to the building east of us and moving our way. Is the city making a plan to control the animals within your communities. I am reading how many homeowner's pet are being attached or killed. They are also getting comfortable around humans which could be a danger to our children. A-3

Thank you
Sherry Barton
President of Robinhood Point Assoc.

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Response to Comment Letter A

Sherry Barton
March 22, 2021

A-1 This comment pertains to the increase in traffic along Olympic Parkway as a result of the project. Impacts related to traffic are addressed in Section 5.15, Transportation, of the Draft EIR. In June 2020, the City of Chula Vista adopted its Transportation Study Guide to comply with Senate Bill 743, which replaced Level of Service (LOS) with Vehicle Miles Traveled (VMT) as the metric for determining the significance of a project's transportation impacts under CEQA. Nonetheless, the Transportation Impact Analysis (TIA) prepared for the project included a Local Mobility Analysis (LMA) to focus on automobile delay/LOS. The LMA is a City requirement for transportation analysis that is not tied to CEQA; therefore, implementation of measures to address LOS-related effects does not constitute CEQA mitigation. The TIA determined that the project would result in effects associated with unacceptable LOS under the General Plan LOS standards. While Olympic Parkway is built-out and the provision of additional lanes is considered physically infeasible, it is recommended that payment of the City's Transportation Development Impact Fee (TDIF) should be applied towards other planned network enhancements included in the Eastern TDIF program that would reduce traffic on Olympic Parkway and be implemented as a condition of approval for the project outside of this EIR. In addition, it is recommended that the project provide a fair share contribution toward the provision of Adaptive Traffic Signal Control (ATSC) modules to each signalized intersection along the Olympic Parkway corridor between the I-805 Ramps and La Media Road. These TDIF and other requirements associated with LOS deficiencies would be included as part of the project's conditions of approval, outside of this EIR.

A-2 The City acknowledges this comment and the concern of water seepage occurring where two existing Otay Water District above ground water tanks are located. Both existing water tanks are located southwest of the project site adjacent to the on-site open space preserve where no development is proposed. This comment has no bearing on the analysis contained in the Draft EIR. The City has already begun coordination with the commenter regarding this concern and will continue to do so in the future. No further response is required.

A-3 This comment pertains to the displacement of wildlife off open land as a result of the project. Impacts related to biological resources are addressed in Section 5.3, Biological Resources, of the Draft EIR. Development would primarily occur in the southeastern portion of the project site. The north, west, and southwestern boundaries of the site would remain open space preserve. The wildlife species known or expected to occur on site consist of urban tolerant species such as coyote and raccoon that are expected to continue to move throughout the site and along Poggi Creek after implementation of the project. The City is in the early stages of developing a Wildlife Management Plan which will include management for wildlife known to occur within the City, including the project site.

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Comment Letter B

From: Ferchaw, Tracy <Tracy.Ferchaw@sandag.org>
Sent: Monday, April 26, 2021 1:46 PM
To: Oscar Romero <oromero@chulavistaca.gov>
Cc: Litchney, Seth <Seth.Litchney@sandag.org>; Ferchaw, Tracy <Tracy.Ferchaw@sandag.org>
Subject: Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project Draft EIR - SCH # 2020110148

Warning: External Email

Dear Mr. Romero, Thank you for the opportunity to comment on the Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project Draft EIR. Please consider the following comments from SANDAG Mobility % Innovation team below:

SANDAG appreciates the integration of transportation demand management strategies (TDM) in the Sunbow II, Phase 3 Project EIR. The project is sited along the proposed SANDAG 2021 Regional Plan Complete Corridor network, which aims to improve access for all modes, with a focus on transit, active transportation, urban, and pooled ride services. Please consider including the following additional strategies to support the implementation of the 2021 Regional Plan, and further reduce the number of automobile trips generated by residents and vehicle miles traveled (VMT):

- Implement multimodal wayfinding signage to nearby bike and pedestrian pathways, transit, and local trails, to encourage residents to ride transit and choose alternatives to driving a car.
- Ensure a diverse set of bike parking options that are both secure and may accommodate an array of personally owned micromobility devices (e.g., larger ebikes, scooters, electric skateboards). Consider parking options for dockless micromobility given the City of Chula Vista's Shared Micro-Mobility Device Program.
- Promote use of the E. Palomar Transit Station to residents through transit rider education and outreach. At minimum, the developer could leverage existing education materials provided by MTS and share with residents (https://www.sdmts.com/rider-info-accessibility/travel-training-program)

Furthermore, the regional TDM program, iCommute, can assist in promoting commuter services such as the Regional Vanpool Program, Carpool Incentive Program, and Guaranteed Ride Home. These programs can be accessed through iCommuteSD.com.

If you have any questions, please contact Seth Litchney (seth.litchney@sandag.org) or Tracy Ferchaw (tracy.ferchaw@sandag.org).

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Response to Comment Letter B

San Diego Association of Governments (SANDAG)
Tracy Ferchaw
April 26, 2021

B-1 This comment pertains to the project site being located along the proposed SANDAG 2021 Regional Plan Complete Corridor network and suggests implementation of additional strategies to support the implementation of the 2021 Regional Plan, and further reduce the number of automobile trips generated by residents and vehicle miles traveled. Transportation demand management strategies (TDMs) are addressed in Section 5.15, Transportation, of the Draft EIR. The project incorporates the California Air Pollution Control Officers' Association (CAPCOA) land use and location TDM to reduce the project's VMT impact. Impacts related to VMT are less than significant and therefore mitigation measures are not required. Additional trip reduction strategies are identified in project design feature (PDF)-TRA-1 which would further reduce the number of automobile trips generated by residents of the project and the distance that the residents drive. Please note that the transportation analysis does not take credit for trip reduction strategies included in PDF-TRA-1; therefore, the less-than-significant determination for transportation impacts does not rely on PDF-TRA-1. As such, additional mitigation measures are not required to reduce transportation impacts to a level below significance. However, in response to this comment PDF-TRA-1 of the Draft EIR has been revised to include implementation of a multimodal wayfinding signage program. Note that the provision of transit information is already included in PDF-TRA-1. The suggestion regarding implementation of a dockless micromobility program would not likely be feasible within the project site given the proposed residential only land use.

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Comment Letter C

Mr. Oscar Romero
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 91910
oromero@chulavistaca.gov

RE: Sunbow Sectional Planning Area Amendment for the Sunbow II, Phase 3 Draft Environmental Impact Report, SCH 2020110148, dated March 2021

To Mr. Romeo:

My family has lived near the Sunbow development for over thirty years. The change in land use development for the Sunbow project is a poor decision for the community, and the EIR has errors, inconsistencies, omissions of data or analyses, conclusions not based on evidence, and failures to provide discussion required by CEQA. Below are my comments on the Sunbow II, Phase 3 Project EIR. C-1

RE: Section 5.2, Air Quality

The EIR states "odors are not likely to be detected by future residents at the Project site." This determination is based solely on mathematical models. As a resident of the community with family who has lived in the immediate area since 1991, I can confidently inform the EIR preparers their odor models are incorrect. Odors from the landfill are detected by current residents in nearby existing homes. We understand that living in this proximity to an active landfill, where the landfill existed prior to the homes, that we will occasionally have to deal with the stench from the operation. The landfill odor has become strong and persistent on occasion in the past, at which time we have notified the APCD. Past the notification, we do not know what steps are taken to remedy the odor, but it eventually does disappear. The EIR's conclusion in this respect is erroneous. C-2

RE: Section 5.10, Land Use and Planning

The EIR (page 5.10-17) references a market analysis completed for the site, loosely stating the determination that industrial development of the site is "unlikely to be financially feasible." I was unable to locate this market analysis in the EIR appendices and on the City of Chula Vista website. If the site were to be more than a future industrial property (i.e., if the developer proceeded with constructing leasable spaces for light industrial tenants), I would reasonably think the property would be more likely to be financially feasible under its current zoning.

Per the City of Chula Vista Housing Element 2021-2029 (February 2021, Appendix A, page AA-8), the largest employment sector in Chula Vista is Education services, Health Care and Social Assistance, followed by Professional, Scientific Management and Waste Management Services. These such businesses would be potential tenants in a light industrial park. Their current large presence in the City of Chula Vista supports the potential for similar industrial tenants at the project site.

In addition, if industrial development in this area were truly not feasible, then the nearby project for the construction of 165,647 sq. ft. retail buildings & 106,627 sq. ft. of industrial buildings (City of Chula Vista Project # DR19-0009) would not be moving forward, but it is. C-3

The EIR does not provide adequate evidence to support the conclusion that development of the site as it is currently zoned is financially infeasible. C-3 Cont.

RE: Section 5.11, Noise

Noise readings were taken in April 2020, when the County of San Diego was under a stay-at-home order. This noise data is misrepresentative of normal conditions and is a poor basis for use in predictive models and significance determinations. C-4

RE: Section 5.12, Population and Housing

The EIR (page 5.12-4) implies the City of Chula Vista is facing a "shortfall of housing." The Housing Element 2021-2029 (February 2021) shows the City has sufficient housing areas available under the current planning documents. This Sunbow project is not counted as housing in the Housing Element 2021-2029 since it is zoned Industrial. This Sunbow project is not necessary to meet housing demand in the City. C-5

The EIR (page 5.12-7), in discussing estimated population growth, downplays the increased population growth inevitably induced by converting the land use to Medium-High and High Residential. The discussion provides specific estimated numbers and percentages in relation to regional estimates in an attempt to minimize the growth inducement. Yet, for discussion on the existing Industrial land use, the EIR describes it in soft terms like "*some* amount of population growth" and "*some* percentage of [employees]." The numbers that are included in the EIR can be easily calculated to show the proposed project, with 2,315 residents, is 242 percent of the current zoned estimate of 957 employees (if all employees moved into the area), but the EIR discussion omits this explicit percentage increase calculation and omits the numbers of employees that would have been estimated to contribute to population growth.

It is not possible with the information in this EIR to objectively compare the existing Industrial versus Residential impacts and reach a clear determination of significance with respect to population growth. C-6

RE: Section 5.13, Public Services

As identified in the EIR, the conversion of land use would put a significant strain on multiple public services. This property was planned, for decades, to be an industrial development. The services provided to the general area were designed with this property as an industrial development. Changing it to a Medium-High and High Residential land use area is too significant to be supported by the public services (police, library, schools, and parks) planned for decades in this community. The mitigation measures, for the most part, are purely financial measures – throwing money at the problems raised by converting this to a residential land use. The mitigation measures do not provide any improvement in public services to the surrounding community. These funds will undoubtedly be spent in other parts of Chula Vista, leaving our area with lacking services. The financial approach to attempt resolving all the public services impacts, including parks, is unacceptable. This is not the project we need in this area. C-7

RE: Section 5.15, Transportation

Page 5.15-10 of the EIR explains the traffic analysis is based on use of a proxy site located a few hundred feet north on Olympic Avenue. Olympic Avenue is a six-lane Prime Arterial. There are no nearby housing C-8

developments north of the project site on Olympic Avenue that would directly access Olympic Avenue for traffic predictions. The EIR did not show the location of this proxy site. In addition, the proxy site is for single-family residential. The Sunbow development will include multi-family units and should be analyzed as a more dense residential area than those existing around it. The proxy site VMT is not an accurate estimation of the true project VMT; therefore, determinations strictly using the proxy site VMT are invalid. The EIR evaluation of the VMT analysis and impacts should include an error factor to account for the inaccurate use of the proxy site, prior to assignment of transportation demand management strategies.

C-8 Cont.

Although page 5.15-11 of the EIR states "many of the CAPCOA measures were applicable to the project," only one, single measure was selected and the EIR relies on this single measure to reduce the impact to allow a less than significant determination. Table 5.15-2 indicates a wide range of effectiveness of the single, solitary measure selected to reduce the impact. From a range of effectiveness from 0.3 percent to 30 percent, the selected applicable reduction for this project is 8.0 percent. The EIR fails to provide any discernible explanation for the selected number of 8.0 percent, and the EIR fails to describe to the reader, much less discuss, other applicable CAPCOA measures.

C-9

RE: Chapter 10, Alternatives

The EIR fails to provide the discussion required by CEQA Guidelines Section 15126.6(a); it does not discuss a reasonable range of alternatives for the project. The alternatives presented in the EIR are simply no build, no project, or small project. The Existing Land Use Designations Alternative is essentially a "No Project" alternative since the proposed project is to change the zoning of the site and build high-density residential instead of the existing, approved industrial land use. The EIR fails to consider a commercial or mixed-use development for the project site, which would be better suited to the community, reduce traffic impacts by reducing VMT with onsite jobs and shortened retail trips, and more closely align with the existing planning documents for the area.

C-10

C-11

RE: Figure 3-1, Existing General Plan Land Use

The extents of this figure are misleading. The area just south of where the figure cuts off is existing light industrial use. The representation on this figure would lead those unfamiliar with the area to conclude the Sunbow II, Phase 3 project as an Industrial land use would be inconsistent with the local area. Omitting this area from the EIR leads to erroneous review and consideration of the project's impacts.

C-12

RE: Figure 3-2 and Figure 3-3

The information on these figures is unreadable. This EIR has included illegible figures with information pertinent to the project understanding.

C-13

RE: Section 4.4.8.4

The project is relying on carpooling and transit services to reduce transportation demands. The City's own studies refute the practicality of Chula Vista residents carpooling to reduce trips. Per the Housing Element 2021-2029 (referring to Figures A-4 and A-5): "...more than 76% of residents living east of I-805 are commuting to work by driving alone... on either side of the I-805, very few residents choose to commute by carpooling."

C-14

Furthermore, the EIR itself confirms there are no transit lines that run along Olympic Parkway in the stretch where the project is located, and the Housing Element 2021-2029 (Appendix A, Page AA-20) states: "...east of I-805, less than 3.4% of residents are utilizing public transportation for their work commute."

Planned use of these specific trip reduction strategies leads to conclusions not based on evidence directly applicable to this specific project.

C-14 Cont.

RE: Section 5.7, Greenhouse Gas Emissions

In the consistency analyses, the EIR repeatedly states, in support of consistency with policy objectives or strategies, that the project is located "near commercial and employment centers." None of the figures in the EIR clearly identify these commercial and employment centers, nor are they described in the EIR discussions. Since the proposed project is changing a job-generating Industrial land use to Medium-High and High Residential land use, these "nearby commercial and employment centers" should be discussed and clearly identified for accurate analysis of the project impacts.

RE: Table 5.7-4, City of Chula Vista Climate Action Plan Consistency Analysis

The EIR states the proposed project is consistent with the Smart Growth & Transportation: Complete Streets & Neighborhoods Policy "Encourage higher density and mixed-use development in Smart Growth areas, especially around trolley stations and other transit nodes" giving the reason that "the project is located near commercial and employment centers in an urban setting." The current land use designation for the site (Industrial) would have created an employment center for local residents and been consistent with this policy in the larger master-planned development of the Sunbow area. This EIR has failed to include consideration of a mixed-use development on the project site. It is not consistent with this policy.

RE: Table 5.7-5, San Diego Forward: The Regional Plan Consistency Analysis

The EIR claims the project would be located near MTS bus routes 703 and 704, implying there are multiple routes for mobility choices. I searched best I could on the MTS website and found no mention of Route 703. Nearest to the project site, Route 704 runs north/south along Brandywine Avenue. There are no current bus routes that travel on Olympic Parkway next to the project site. The EIR presents misinformation in this section that is inconsistent with information in other EIR sections regarding transit services.

C-15

RE: Section 1.3.1, Project Objectives

The adopted Sunbow General Development Plan (GDP) since its approval in 1989 has had the primary objective to "create an efficient, self-contained village with a mix of residential, commercial, community recreation, industrial park, and open space/trails land uses." The GDP designates the Sunbow II, Phase 3 project to be developed as Industrial Park, including research/development and light industrial uses, to generate 2,800 job opportunities within approximately 700,000 square feet of leasable industrial space. The proposed project in this EIR unwisely converts all the planned industrial space to residential use, thereby negating the GDP's original objective to create an efficient, self-contained village. This proposed project will not provide job opportunities nor meet the objective to have a mix of uses, specifically including industrial.

C-16

The EIR specifically lists the eight objectives for proposed development on this site, four of which are not adequately met by the proposed project.

Objective 1 highlights development of a pedestrian-oriented community. According to SANDAG, "a successful pedestrian-oriented community or neighborhood should have a mix of complementary uses within convenient walking distance and connected with a comfortable pedestrian pathway network." This project does not provide a mix of complementary uses. Furthermore, this project is located on Olympic Parkway, a six-lane Prime Arterial, which is not conducive to connecting the project with a comfortable pedestrian pathway network. Just up the road, the closest high school (located on Olympic Parkway as well) included a pedestrian overpass to meet a similar goal. No such connection is proposed for the Sunbow II, Phase 3 project. The proposed project in this EIR does not meet its own Objective 1. C-17

Objective 2 is for the project to contribute to the growing housing needs of the City and the region. Per Appendix C of the Housing Element 2021-2029, the current zoning of the master planned communities in eastern Chula Vista (which includes the Sunbow II, Phase 3 site as Light Industrial) have the capacity to accommodate 8,910 dwelling units (Table C-3). The Housing Element 2021-2029 states *"Chula Vista has significant development capacity of residential land to meet the projected regional housing needs of the various income categories over the 2021-2029 planning period."* By the City's own findings, the Sunbow II, Phase 3 project is not necessary to meet the City's, nor the region's, housing needs. C-18

Objective 5 is to implement the goals, objectives, and policies of the General Plan, the MSCP Subarea Plan, the GDP, and the SPA Plan. As repeatedly stated in the EIR, the proposed project will be consistent with these multiple, well-developed, approved/adopted planning documents only by changing the documents. To most reasoned people, that would translate to the proposed project is inconsistent with the plans. C-19

Objective 6 is to implement the City of Chula Vista's Growth Management Ordinance to ensure that public and community facilities, such as transportation, water, flood control, sewage disposal, schools, and parks, are provided in a timely manner and financed by the parties creating the demand for, and benefiting from, the improvements. As explained above, the proposed project does not meet this objective for public services. The mitigation measures are simply paying fees in lieu of meeting the project objective, with no description of or guarantee the public and community facilities will benefit the local community or serve the community's demand. C-20

I am advocating for a revised EIR that includes evaluation of a better, mixed-use project that would truly provide a pedestrian-oriented community, meet more City goals, be consistent with more policies, have fewer environmental impacts, and result in an improvement for the neighborhood and our community. C-21

Sincerely,

Bracken Ellis
BrackenNCV@gmail.com
1557 Cavern Point Ct, Chula Vista, CA 91911

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Response to Comment Letter C

Bracken Ellis
April 28, 2021

C-1 The City acknowledges the commenter's opinion regarding the proposed project. The City, as lead agency, has prepared the Draft EIR in compliance with all criteria, standards, and procedures of the CEQA Guidelines (14 CCR Section 15000 et seq.). This comment is introductory in nature and summarizes specific comments to follow. Please refer to Responses to Comments C-2 though C-21 below.

C-2 This comment suggests that the Draft EIR's analysis regarding potential odors from the landfill is incorrect. A nuisance analysis was prepared for the project and is contained in Appendix C, and summarized in Section 5.2, Air Quality, of the Draft EIR. It should be noted that the nuisance Report analyzed the impact of the landfill on the residents of the project. The nuisance analysis was prepared to evaluate the potential impacts of odors emitted from the Otay Landfill on future residents of the project. The nuisance analysis for the project demonstrated that using the SDAPCD provided meteorological data for the project site and landfill emission parameters, odors are not likely to be detected by future residents at the project site. The significance threshold of 1.0 is based on greater than 50% likelihood that odor would be detected. As the analysis resulted in less than 1.0, it is concluded that a less than 50% likelihood that odor would be detected. Therefore, while odors may be detected from time to time it was determined they would not present a nuisance. The complete nuisance analysis is provided in Appendix D of Appendix C.

Section 5.2, Air Quality, of the Draft EIR, also noted that on April 26, 2020, the Otay Landfill submitted an application (proposed Otay Landfill Compostable Materials Handling Facility, Permit #37-AA-0984) for the addition of up to 200 tons per day of agricultural and food waste at the organics composting operation within the existing footprint of the Otay Landfill, which represents a 2.5% increase in volume allowed to be processed onsite. Based upon the applicant's environmental analysis (CEQA Addendum #2, dated September 12, 2019, PDS2019-MUP-76-046W2M3; ER76-18-026B; and CEQA document, dated October 29, 2020 SCH#96091009-6) there is a decrease in TAC emissions, specifically ammonia emissions, and no change in vehicular emissions; therefore, the proposed composting operation would most likely reduce odor levels as compared to the existing operation. There would also be a reduction of volatile organic compound and ammonia emissions by 80% or more, reducing odor units by 56%-80%, and diverting methane-forming organics away from landfill disposal. In addition, the composting operation would divert up to 100 tons per day of oxidation of organic matter away from landfill disposal, resulting in lower ammonia emissions and odors generated onsite as compared to the existing operation.

Finally, the landfill is anticipated to cease operations in 2030 according to its current permit. At that time, emissions of equipment, trucks, and working face fugitive emissions would cease. As such, emissions of odorous compounds and dust emissions would be significantly reduced upon closure of the landfill. As such, impacts from odor to future residents from landfill operations would be less than significant.

C-3 This comment suggests that the Draft EIR does not provide adequate evidence to support the conclusion that development of the site is financially infeasible. Per Section 15131 of the CEQA

Guidelines, economic or social information may be included in an EIR. However, the scope of an EIR is not to determine financial feasibility of any given project. Provided as background supporting information in Section 5.10, Land Use and Planning, the City conducted a market and financial analysis for the site relative to its existing industrial use; this analysis determined that industrial development of the site is unlikely to be financially feasible with an appropriate citation to the referenced analysis. All references cited within the Draft EIR are available upon request.

The City acknowledges the commenter's opinion regarding potential industrial development within Chula Vista. Please note that the example industrial project referenced by the commenter is a separate project in a different location with different circumstances and has no bearing on the potential future development of other parcels within the City, including the project site. As such, no revisions to the Draft EIR are necessary.

C-4 This comment pertains to noise data being misrepresentative of normal conditions as noise readings were taken in April 2020, when the County of San Diego was under a stay-at-home order. Impacts related to noise are addressed in Section 5.11, Noise, and Appendix J, of the Draft EIR. Sample measurements of the existing outdoor ambient sound environment conducted during COVID-19 response conditions may have quantified noise levels due to acoustic contribution from temporarily atypical or reduced roadway traffic flows. However, the basis for the traffic noise impact assessment is Federal Highway Administration (FHWA) Traffic Noise Model ("TNM", version 2.5) modeling which uses data from the Traffic Impact Analysis (TIA) prepared for the project (included as Appendix K to the Draft EIR) and thereby provides average daily trips input for the existing, near-term, and plus-project scenarios. Hence, the TNM-predicted existing (2019) scenario shown in Table 6 of the Noise Technical Report (Appendix J to the Draft EIR) shows community noise equivalent levels (CNEL) values that would be considered more representative of pre- and post-COVID 19 conditions (i.e., after traffic flows have returned to "normal") and were used for evaluating change to the outdoor ambient sound level due to project-added traffic. The measured equivalent noise level (L_{eq}) values shown in Table 2 of the Noise Technical Report, at four different perpendicular distances from Olympic Parkway, are less than the predicted existing (2019) case CNEL values but vary by comparable quantities with respect to geographic position and thus helps confirm that Olympic Parkway is—as expected—the dominant acoustical contributor to the existing outdoor ambient sound environment. Therefore, the noise data is not misrepresentative and revisions to the Draft EIR are not required.

C-5 This comment states that the City has sufficient housing sites available under the current planning documents and because the project site is zoned industrial, it is not being counted as housing in the Draft Housing Element 2021-2029 update. Potential impacts associated with housing needs are addressed in Section 5.12, Population and Housing, of the Draft EIR. Currently, the City is updating the General Plan Housing Element to account for housing needs and establish clear goals and objectives to inform future housing decisions for the 2021 to 2029 housing cycle. Because the 2021 to 2029 Housing Element has not been adopted and is subject to change, the Draft EIR relies on the current 2013 to 2020 Housing Element and most up to date Regional Housing Needs Assessment (RHNA) allocations provided by SANDAG. Tables 5.12-2 and 5.12.3 of the Draft EIR show the past performance RHNA from the 5th Cycle (2013–2020) and the current RHNA allocation for the 6th Cycle (2021–2029), respectively. Of the City's previous 5th Cycle RHNA allocation, the City has only met 8,590 out of 12,861 units; only 648 very-low and low units have been developed out of the 5,648 allocated. Although the project site may not be identified as potential housing within the Draft Housing Element 2021-2029 update, the City has the discretion to adjust allocated housing units or identified sites as

necessary to balance proposed plans for residential development, approved/constructed residential development, and sites identified within the housing inventory that are not yet planned for development. The City would then be able to account for the proposed units and estimated population resulting from the proposed project when considering future residential development proposals.

C-6 This comment suggests that the Draft EIR inadequately discloses potential population growth resulting from the proposed project compared to the existing underlying land use designations. CEQA guidelines require that the Draft EIR evaluate unplanned population growth in an area, either directly or indirectly. Potential impacts associated with population growth are addressed in Section 5.12, Population and Housing, of the Draft EIR. The proposed project was originally identified to be developed as Industrial Park in the Sunbow GDP and SPA Plan. As such, the change in land use from Industrial Park to Medium-High and High Residential would be considered unplanned population growth in excess of the original estimates in the Sunbow GDP and SPA Plan. As stated in the Section 5.12 of the Draft EIR, the project would result in approximately 2,314.83 persons (rounded to 2,315). A project consistent with the existing Industrial Park land use would result in approximately 957 employees, which is based on the best available employment density calculation for the area provided by SANDAG. As indicated by the commenter, and discussed in Section 5.12 of the Draft EIR, a conservative approached was taken that the proposed project would result in greater and unplanned population inducement when compared to the existing underlying designations which would also have resulted in an increase in population with the interpolated persons per household ratio of 3.224. Therefore, the Draft EIR clearly indicated the estimated potential population growth of both development scenarios, while also taking a conservative approach that acknowledges that it is unlikely that all estimated 957 potential employees would move to the area.

For additional reasons discussed in Section 5.12 of the Draft EIR (accommodation of the City's future growth projections and housing needs, the project site location surrounded by existing development and services, compliance with the City's Growth Management Program), although the proposed project would result in greater population inducement, the population inducement resulting from the proposed project would not be considered substantial. Thus, the Draft EIR adequately addresses unplanned population growth as a result of the project.

C-7 This comment suggests that public services provided in this area are intended to serve industrial development and that the proposed mitigation measures for impacts to public services are inadequate. Impacts related to public services are addressed in Section 5.13, Public Services, of the Draft EIR. As discussed in the Draft EIR, impacts associated with public services as a result of the project would be potentially significant and would require implementation of mitigation measures MM-PS-1 through MM-PS-3, to reduce impacts to less than significant levels. Please note that mitigation measures MM-PS-1 through MM-PS-3 require compliance with existing codes and regulations.

With respect to potential impacts to fire protection, police protection, libraries, and other public services, mitigation measures MM-PS-1 require the payment of a Public Facilities Development Impact Fee (PFDIF). The PFDIF is a program established by the City to address a project's proportional impact on capital facilities, such as structures and equipment associated with providing public services. It does not address the impact associated with operations and maintenance for those facilities. It is the city's policy to use public funds such as property taxes, sales taxes, and fees generated by the project to cover the incremental costs associated with providing public services like fire and police.

The project would be required to pay the PFDIF, which is used exclusively to fund facility improvements and ensures that the project contributes its fair share of the cost of such facilities and equipment as determined necessary to adequately accommodate new development in the City.

With respect to fire protection services, the proposed project is projected to slightly increase the nearest station's (Fire Station 3) current call volume, but not at significant levels, because the current call volume is considered slightly above average compared to other urban fire stations and the capacity would not be considered impacted to the point of resulting in a busy or stressed condition. In the event that new capital facilities or equipment are needed in the future, the project will contribute to the project's proportional impact on such capital facilities through the payment of the City's PFDIF as well as all future taxes and fees adopted by the city to cover fire protection services.

With respect to the increase demand for libraries, the proposed project would generate demand for approximately 1,158 square feet of additional library facilities within the City. Although the proposed project does not specifically include the development of a library, this demand would be satisfied through payment of PFDIF as stated in CVMC Section 3.50.030 and 3.50.060, which would go toward the City's library system expansion program.

With respect to police, the project would be required to pay the PFDIF, which would be used exclusively for future facility improvements necessary to ensure that the development contributes its fair share of the cost of police facilities and equipment determined to be necessary to adequately accommodate new development in the City.

Also, the City's Growth Management Program, adopted quality of life threshold standards for eleven public facility and service topics, including fire, police, library and emergency medical services. Adherence to these citywide standards is intended to preserve and enhance both the environment and residents' quality of life as growth occurs. The GMOC was created to provide an independent, annual, review of the effectiveness of the General Plan in regard to development and growth-oriented issues; to make determinations in regard to the impact of development of the "quality of life" in Chula Vista, using adopted threshold criteria as a basis; and to publish findings and make recommendations. Should the GMOC determine that the growth management threshold standard is not being satisfied because of the impacts of growth, the City Council is required to consider adopting measures to bring the condition into conformance, prior to issuing further building permits. The combination of PFDIF fees and compliance with existing city policies and mechanisms would ensure that the GMOC threshold standard is achieved.

With respect to potential impacts to schools, mitigation measure MM-PS-2 requires payment of appropriate fee charge, dedication, or other requirement levied by the school districts. Pursuant to Government Code Section 65996, the payment of these fees by a developer serves to fully mitigate all potential project impacts on school facilities to less than significant levels.

With respect to potential impacts to parks, mitigation measure MM-PS-3, requires the applicant to pay the Park Benefit Fee, as outlined in the project's Development Agreement, equal to the City's Park Acquisition and Development (PAD) Fee Update pursuant to the Park Lands Dedication OrdinanceChula Vista Municipal Code Section 17.10 et seq. The Park Lands Dedication Ordinance, which requires the dedication of three acres of parkland per 1,000 people or a combination of land dedication, in-lieu

fees, or park development improvements. With implementation of MM-PS-3, the project would satisfy its park obligations.

In all instances, new or expanded facilities constructed through the use of these funds would be subject to CEQA compliance and environmental review at a later time. Therefore, no revisions to the Draft EIR are necessary.

C-8 This comment related to the use of a proxy site located across Olympic Parkway from the project site within the vehicle miles traveled (VMT) analysis. Potential impacts related to VMT are discussion is Section 5.15, Transportation, of the Draft EIR. As discussed in the Draft EIR, the project site is currently zoned for industrial uses and therefore it would not be appropriate to use that site to conduct the VMT analysis because the proposed land use is different from the underlying designations. The proxy site is located within a few hundred feet and is a single family residential site located immediately north of the project site across Olympic Parkway. Typical trip lengths associated with residential uses are approximately 8.0 miles, therefore the use of a proxy site just a few hundred feet away would still result in an accurate VMT calculation. In addition, per the *SANDAG Trip Generation Brief Guide*, single-family and multi-family residential units have the same trip lengths, therefore, the difference in unit type between the proxy site and the project site does not alter the VMT analysis. The proxy site does not have direct access, to Olympic Parkway which results in longer trip lengths (and therefore greater VMT) as compared to the project site. Therefore, the VMT analysis is conservative. Lastly, the Office of Planning and Research (OPR) and SANDAG do not differentiate VMT between multi-family and single-family land uses, so the fact that the proxy site contains single-family uses is not relevant. Therefore, the Draft EIR contains an accurate VMT analysis in compliance with CEQA and industry standards of practice. In response to this comment, Section 5.15 of the Draft EIR has been revised to provide clarification of the use of the proxy site.

C-9 This comment pertains to the use of measures published by the California Air Pollution Control Officers' Association (CAPCOA) in the project VMT analysis. Potential impacts related to VMT are discussed in Section 5.15, Transportation, of the Draft EIR. As discussed in Section 5.15 and shown in Table 5.15-2 of the Draft EIR, the project VMT only needed to be reduced by 1.4% to avoid a potentially significant impact. Because implementation of one CAPCOA measure would reduce the VMT by more than 1.4%, the inclusion of several reduction measures was not warranted. While many of the CAPCOA measures were considered applicable to the project, Land Use and Location series measure LUT-1 was selected based on the intrinsic characteristics of the project (e.g. suburban infill, proximity to transit, schools, employment, etc.).

The commenter is correct in that a range of effectiveness is described for the recommended measure. However, the actual reduction percentage is calculated based on the density of the project. As shown in Table 5.15-2, based on the project's density of 16.3 units per acre, the VMT reduction would be 8%, when compared to the proxy site. Please refer to Appendix G of the TIA (Appendix K to the Draft EIR) for detailed calculations. No revisions to the Draft EIR are necessary.

C-10 This comment suggests that the Draft EIR does not provide a reasonable range of alternatives for the project. Alternatives are addressed in Section 10, Alternatives, of the Draft EIR. As stated in Section 15126.6 of the CEQA guidelines, an EIR need not consider every conceivable alternative to a project. The range of alternatives evaluated in an EIR is governed by the "rule of reason" that requires the EIR set forth only those alternatives necessary to permit a reasoned choice. Alternatives addressed in the

Draft EIR include the No Project/No Build Alternative, the Existing Land Use Designations Alternative, and the Reduced Development Alternative. In developing the alternatives addressed in this EIR, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the project, while reducing or avoiding the environmental impacts of the project identified in Section 5.0, Environmental Analysis, of the EIR. No further analysis is required in the Draft EIR.

C-11 This comment states that the Draft EIR fails to consider a commercial or mixed-use development for the project site in the alternatives analysis. Per Section 15126.6 of the CEQA Guidelines, in developing the alternatives to be addressed in this EIR, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the project, while reducing or avoiding the environmental impacts of the project identified in Section 5.0, Environmental Analysis, of the EIR. The commenter suggests that other alternatives not considered within the Draft EIR may reduce traffic impacts. As discussed in Section 5.15, Transportation, of the Draft EIR, transportation impacts, including VMT, would be less than significant. As such, consideration of alternatives focuses on reduction of significant environmental impacts.

The commentor has suggested that the Draft EIR be revised to consider a commercial or mixed-use alternative. Because no description of this alternative has been proposed, a reasonable evaluation of this particular alternative cannot be provided. An EIR need not consider an alternative whose effects cannot be reasonably evaluated when there is insufficient detail regarding the alternative and whose implementation is remote and speculative (CEQA Guidelines Sections 15126.6(f)(3), 15145)

As stated above, the proposed project identified a significant impact for greenhouse gas emissions which informed the basis for the alternative analysis in the Draft EIR. Under the Reduced Development Alternative, construction and operational GHG emissions would be reduced as compared to the proposed project. But the Reduced Development Alternative's service population (residents) would also be reduced due to the reduction in number of residential units, resulting in similar impacts as the proposed project in the context of the City's GHG efficiency metric threshold. Therefore, impacts to GHGs were determined to remain significant and unavoidable under this alternative.

Similarly, a commercial or mixed-use alternative would also result in a reduction in number of residential units, resulting in similar impacts to GHG as described in the Reduced Development Alternative, with impacts remaining significant and unavoidable. There may be some additional employees added to the site, however commercial uses in a mixed-use site that would still require avoidance of MSCP preserve areas, would not be of significant size to make any considerable difference with respect to the City's GHG efficiency metric threshold. While this alternative would place some employment in proximity to residential uses reducing VMT, impacts to transportation would still be similar to the Reduced Development Alternative and the proposed project.

A commercial or mixed-use development would require a General Plan, General Development Plan, SPA and Zoning Ordinance amendment similar to the Reduced Development Alternative. The alternative proposed by the commentor would not achieve the goal of contributing to the growing housing needs of the City and region to the same extent as the project. Because there is insufficient detail regarding the commercial or mixed-use alternative, it impossible to determine if the land use plan can be realistically developed within a foreseeable time frame and under projected economic conditions as described in objective 8. Additionally, mixed-use is not likely feasible at this location given the required density to support such uses. The proposed project would support the existing Sunbow community,

which provides a variety of including housing, child-care, a school, public parks, and neighborhood-serving commercial and office uses, which serve the entire community.

Because there is no CEQA mandate to include additional alternatives that achieve the same end relative to impact avoidance/reduction to a less than significant level, this alternative was not considered in the Draft EIR. Therefore, the Draft EIR adequately considers a reasonable range of alternatives and no revisions are required.

C-12 This comment suggests that the extent shown on Figure 3-1, Existing General Plan Land Use, is misleading and omits existing industrial uses. Figure 3-1 identifies existing General Plan land use designations for Limited Industrial directly east of the project site and to the southwest. Please refer to Figure 4-1, Project Location, which provides an aerial image at a greater extent and includes the referenced existing industrial land uses to the south beyond the Otay Landfill. Other figures provided throughout the Draft EIR and its appendices provide varying extents showing the greater vicinity surrounding the project site. Therefore, the Draft EIR provides accurate information regarding existing land uses and designations in the vicinity of the project site.

C-13 This comment indicates that Figures 3-2 and 3-3 of the Draft EIR are unreadable. The City acknowledges that Figures 3-2 and 3-3 present challenges with respect to legibility; please note that these images are the original land use exhibits contained in the Sunbow General Development Plan (GDP) and Sunbow Sectional Planning Area (SPA) Plan, adopted in 1989 and 1990, respectively. Updated maps have not been generated to improve legibility. However, Sections 3.2.3 and 3.2.4 of the Draft EIR provide an accurate text description existing Sunbow GDP and SPA Plan designations. Therefore, accurate information pertinent to the project is contained in the Draft EIR.

C-14 This comment states that the project is relying on carpooling and transit services to reduce transportation demands. Please note that this comment is in reference to Section 4.4.8.4 of the Draft EIR, which includes project design features (PDFs) related to transportation. PDF-TRA-1 includes a list of trip reduction strategies to be employed by the project during operation. Note that the analysis contained in Section 5.15, Transportation, and in the TIA (Appendix K) of the Draft EIR do not take credit for any transit usage, bicycle usage, or carpooling. In other words, the conclusion of a less than significant transportation impact is supported without accounting for any trip reductions that may occur through implementation of PDF-TRA-1. Refer to Appendix K of the Draft EIR for detailed analysis.

C-15 This comment states that the EIR does not clearly identify nearby commercial and employment centers. As described in Section 5.10, Land Use and Planning, the project would develop new, higher density housing on a site in a central location within the City that is already near existing commercial and employment centers. These commercial and employment centers include the commercial/industrial uses along Main Street to the south, the Sharp Chula Vista Medical Center, and the Sunbow Village Center commercial area that includes retail/commercial and medical office space. Additionally, the project is located near the University Innovation District, which plans for approximately 10.1 million of university and regional technologies uses, while the Eastern Urban Center SPA Plan provides for development of approximately 3.8 million square feet of commercial/mixed use development.

The comment also states that the project is not consistent with the City's Climate Action Plan (CAP) policy related to Smart Growth & Transportation. Consistency with the City's CAP is discussed in Section 5.7, Greenhouse Gas Emissions, of the Draft EIR. As discussed, the project would be consistent with

the Smart Growth & Transportation measure by developing multifamily residential units that would provide higher density development and would expand the housing choices in the region near existing commercial and employment cetners. In addition, the project would be located close to public transit, Interstate 805 (I-805), and located approximately one mile from the East Palomar Transit Station. The project would also support the Smart Growth & Transportation measure by providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, encourage bicycling by providing on-site bicycle infrastructure such as bike racks.

This comment states that the Draft EIR includes misinformation regarding available MTS bus routes. Available transit options to the project are discussed in Section 5.7, Greenhouse Gas Emissions, and Section 5.15, Transportation, of the Draft EIR. Section 5.7 of the Draft EIR inadvertently referenced outdated information regarding MTA bus route 703 that previously existed nearby the project site; Route 703 was previously a limited service route that traveled along a similar route as Route 704 in the vicinity of the project site. In response to this comment, Section 5.7 of the Draft EIR has been revised to remove references to MTS bus route 703. As described in Section 5.15 of the Draft EIR, there are no bus routes that travel directly along Olympic Parkway adjacent to the project site and that five existing bus routes generally serve the project area. The Draft EIR otherwise makes no claim that existing bus service travels along Olympic Parkway adjacent to the project site. Furthermore, as described in Section 5.7, Greenhouse Gas Emissions, of the Draft EIR, the East Palomar Transit Station is located approximately one mile from the project site, providing future residents of the project transit opportunities. Therefore, multiple transit options exist in the vicinity of the project site.

Please refer to Responses to Comment C-10 and C-11 regarding alternatives.

C-16 This comment suggests that the project would not meet the Sunbow GDP's principal objective. Consistency with applicable land use documents is discussed in Section 5.10, Land Use and Planning. The project includes concurrent processing of amendments to the Sunbow GDP and SPA Plan, changing the land use designations from Industrial Park to Residential Multi-Family and Residential Condominium. These amendments to the GDP and SPA Plan would allow the proposed land uses to be developed on the project site consistent with the GDP as amended by the proposed project. The project would not conflict with the principal objective of the Sunbow Planned Community "to create an efficient, self-contained village." Even without the industrial uses in the GDP, Sunbow would still contain a compatible mix of uses that includes the Sunbow Village Center Commercial Area with retail/commercial and medical office space uses and the Sharp Hospital in close proximity to the project's residential uses. The proposed project would provide a variety of housing types, recreational facilities, and open space that would satisfy the GDP's other objectives.

C-17 This comment suggests that Project Objective 1, which highlights development of a pedestrian-oriented community, would not be adequately met by the project. Section 5.15, Transportation, of the Draft EIR addresses pedestrian facilities. The project would propose a high-density residential use located in close proximity to major streets such as Olympic Parkway, Brandywine Avenue, Heritage Road and the I-805 freeway. Future residents of the project would have access to existing Class 2 bike lanes and sidewalks and the Chula Vista Regional Trail adjacent to the project site along Olympic Parkway. Two fully signalized intersections with pedestrian crossings are planned at Streets "A" and "B" at Olympic Parkway are planned as part of the project. Located adjacent to the project site at the intersection of Olympic Parkway and Brandywine Avenue are four signalized crosswalks with ramps on each corner.

Within the Sunbow community, a mix of uses that includes the Sunbow Village Center Commercial Area with retail/commercial and medical office space uses are located in close proximity to the project (approximately 0.6 miles to the north, or approximately 1.5 miles driving distance). The surrounding area is served by transit provided by the San Diego MTS. While there are no bus routes that travel directly along Olympic Parkway adjacent to the project site, transit connection for route 704 is provided at the transit stop on Brandywine Avenue located approximately 250-feet west of the project site. As such, the future residents of the project would have access to transit, bicycle, and pedestrian facilities and is located in close proximity to the Sunbow Village Center Commercial Area. Thus, the project would be consistent with Project Objective 1.

C-18 This comment suggests that Objective 2, contribution to the growing housing needs of the City and region, would not be adequately met by the project. Please refer to Responses to Comments C-5 and C-6 regarding housing needs as they relate to the project.

C-19 This comment suggests that Project Objective 5, which encourages implementation of goals, objectives, and policies of the General Plan, the MSCP Subarea Plan, the GDP, and the SPA Plan, would not be adequately met by the project. Section 5.10, Land Use and Planning, of the Draft EIR addresses the project's consistency with applicable planning documents. A consistency analysis of the City's General Plan Land Use and Transportation Element, Housing Element, Economic Development Element, Public Facilities and Services Element, Environmental Element, and Growth Management Element, showed that the project would not result in conflicts with any element of the General Plan. Additionally, as discussed in Section 5.3, Biological Resources, the project would not result in conflicts with the City's MSCP Subarea Plan through compliance with the MSCP Boundary Line Adjustment functional equivalency criteria. Please refer to Response to Comment C-16 regarding the Sunbow GDP. SPA Plan objectives for the Industrial Park District are not included in the Draft EIR as they would no longer apply if the project proposed amendments are approved. The environmental analysis of the Draft EIR must assume that the proposed amendments are approved because the proposed amendments are a component of the project. The proposed amendments are not a separate action requested by the project applicant.

It should be noted that Appendix G of the CEQA Guidelines (used as the thresholds of significance for environmental analysis within the EIR) require an EIR to consider whether a proposed project conflicts with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact. Under CEQA, a conflict or inconsistency with an applicable plan is not, by itself, considered a significant environmental impact. Instead, the inconsistency must result in a significant physical impact for there to be a significant impact under CEQA. The final determination of consistency with the General Plan will be made by City Council.

C-20 This comment suggests that Project Objective 6, implementation of the City's Growth Management Ordinance (GMO), would not be adequately met by the project. The project includes a Supplemental Public Facilities Financing Plan as required by the City's GMO to ensure that development of the project would not adversely impact the City's quality of life standards by requiring public facilities and services be provided concurrent with demand. Additionally, the project would pay PFDIFs which would ensure the project would not significantly impact public services and facilities; please refer to Response to Comment C-7. Furthermore, as discussed in Section 5.16, Utilities and Service Systems, there would be adequate water supply and utility infrastructure to serve the project and impacts associated with public utilities would be less than significant. The project would not conflict with the City's GMO.

C-21 The City acknowledges the commenter's suggestion of an alternative to the proposed project. Please refer to Responses to Comment C-10 and C-11 regarding alternatives, as well as other responses to specific comments contained in this comment letter.

Comment Letter D

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Rd
San Diego, CA 92107
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

April 28, 2021

Mr. Oscar Romero
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 91910
ORomero@chulavistaca.gov

Subject: Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project (Project) Draft Environmental Impact Report (DEIR), SCH #2020110148

Dear Mr. Romero:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a DEIR from the City of Chula Vista (City) for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW administers the Natural Community Conservation Planning (NCCP) program (Fish and Game Code 2800, *et seq.*). On November 2003, CDFW issued a permit for the City's Multiple Species Conservation Program (MSCP) Subarea Plan (SAP). The City's SAP is the mechanism by which the City has obligated to assemble a preserve consistent with the goals of the MSCP Subregional Plan.

PROJECT DESCRIPTION SUMMARY

Proponent: City of Chula Vista

Objective: The project encompasses approximately 135.7 acres (project site) that includes a 67.5-acre development area comprised of 44.2 acres of residential uses, a 0.9-acre Community

D-1

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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Purpose Facility site, 5.9 acres of public streets and 16.5 acres of manufactured slopes/basins. Approximately 4.3 acres of conserved Poggi Creek Easement area, 0.3 acre of conserved wetland resource area, and 63.6 acres of adjacent MSCP Preserve area are also within the project site. The proposed project includes a Chula Vista General Plan Amendment, Sunbow General Development Plan (GDP) Amendment, Sunbow II Sectional Planning Area (SPA) Plan Amendment, a rezone, and a Tentative Map. The proposed project also includes a Chula Vista MSCP Boundary Adjustment. The purpose is to implement minor adjustments to the development limits and the adjacent MSCP Preserve areas. The adjustments will result in a 0.09-acre increase to MSCP Preserve Area and a MSCP Minor Amendment to address off-site grading adjacent to the southwestern boundary of the development area.

Location: The project site (Assessor's Parcel Numbers 644-011-06-00 and 644-020-11-00) is located south of Olympic Parkway (previously East Orange Avenue) and east of Brandywine in the City of Chula Vista. The project site is situated within Sections 17 and 18, Township 18 South, Range 1 West of the U.S. Geological Survey Imperial Beach, California Quadrangle.

Biological Setting: The project site is bordered by the Otay Landfill to the south and southeast, and undeveloped land approved for industrial and residential land uses is located to the east. Residential Medium High Density land uses are located to the west of the project site, across Brandywine Avenue. The existing Olympic Parkway forms the northern boundary of the project site. The project site consists of the following vegetation types: Diegan coastal sage scrub (37.08 acres), native grassland (24.09 acres), non-native grassland (64.19 acres), and non-native vegetation (0.53 acre), southern willow scrub (2.06 acres), mule fat scrub (0.03 acre), and coastal and valley freshwater marsh (7.66 acres).

Twelve sensitive floral species were identified within the project site: Otay tarplant (*Deinandra conjugens*), Orcutt's birds-beak (*Dicranostegia orcuttiana*), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), coast barrel cactus (*Ferocactus viridescens*), San Diego bursage (*Ambrosia chenopodiifolia*), San Diego marsh-elder (*Iva hayesiana*), small-flowered bindweed (*Convolvulus arvensis*), Palmer's sagewort (*Artemisia palmeri*), San Diego County needlegrass (*Stipa diegoensis*), San Diego viguiera (*Bahiopsis laciniata*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), and ashy spike-moss (*Selaginella cinerascens*).

Ten sensitive fauna species were identified within the project site: least Bell's vireo (*Vireo bellii pusillus*); coastal California gnatcatcher (*Polioptila californica californica*); yellow-breasted chat (*Icteria virens*); yellow warbler (*Dendroica petechia*); Cooper's hawk (*Accipiter cooperii*); Nuttall's woodpecker (*Picoides nuttallii*); northern harrier (*Circus cyaneus*); white-tailed kite (*Elanus leucurus*); orange-throated whiptail (*Aspidoscelis hyperythra*); and two-striped garter snake (*Thamnophis hammondii*).

Due to the abundance of grassland habitat, western burrowing owl (*Athene cunicularia*) has a potential to occur on site but was not detected.

Timeframe: Approximately 7 years, beginning May 2021

D-1 Cont.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document. CDFW recommends the measures or revisions below

D-2

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be included in a science-based monitoring program that contains adaptive management strategies as part of the Project's CEQA mitigation, monitoring and reporting program (Public Resources Code, § 21081.6 and CEQA Guidelines, § 15097).

I. Project Description

Comment #1: Clarification of Conservation Easement Areas in relation to Mitigation Plan

Section: 4.4.1.3 Open Space, page 4-6 of the DEIR

Issue: The DEIR states that the Project site contains 19.2 acres of conservation easement (CE) areas: 9.7 acres within a recorded CE with the United States Army Corps of Engineers (USACE) as Grantee, 5.6 acres of proposed CE that will be recorded in the future, and 3.9 acres of proposed Poggi Creek Conservation Easement that will be recorded in the future. Of these 19.2 acres, 12.4 acres are within the proposed Chula Vista MSCP Boundary. Clarification is needed regarding if any, or part of, the CE areas are proposed to be used as mitigation for the Project impacts.

D-2 Cont.

Specific impacts: Without very clear evidence that the conservation easement areas described in the DEIR are independent of the mitigation requirements for Project impacts, it is difficult to determine if the Project mitigation is sufficient.

Evidence impact would be significant: Conservation easement lands used to mitigate impacts for previous/completed projects should not serve to mitigate impacts for the proposed Project. CDFW is not aware of unused credits that had been recognized as available for future projects, and this approach is not inconsistent with banking practices.

Recommendation #1: CDFW recommends that land set aside as mitigation for the current Project be independent of lands set aside for previous projects. CDFW further recommends that both the recorded and future conservation easement areas be described using clear language and figures which distinguishes conservation achieved by past projects and the current Project, and that this information be included in the City's SAP annual report.

Comment #2: Impact Analysis Shortcoming for Burrowing Owl

Issue: The DEIR states that there is high suitability habitat for burrowing owl on site. The DEIR and Biological Impact Analysis Report (BIAR) state that no burrowing owl nor sign of burrowing owl was detected on site. However, the DEIR does not include provisions for continued burrowing owl monitoring prior to or during construction activities or recognize that following the initial grading the site could become attractive to owls during the construction period.

Specific impact: If burrowing owls subsequently occupy the site, Project activities may result in direct and/or indirect burrowing owl mortality or injury.

D-3

Why impact would occur: There is suitable habitat for burrowing owl on site, and once initial grading begins and large tracts become devoid of vegetation, the site may become even more attractive to burrowing owls. Nest and roost burrows of the burrowing owl are most commonly dug by ground squirrels (*Otospermophilus beecheyi*), but they have also been known to use a variety of other species dens or holes, including coyote (*Canis latrans*) (Gervais et al 2008). These associated species having either been observed or are expected to occur on site. If subsequently present on site, impacts to burrowing owl could result from vegetation clearing and other ground

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disturbing activities. Project disturbance activities may result in crushing or filling of active owl burrows, causing the death or injury of adults, eggs, and young.

Evidence impact would be significant: Take of individual burrowing owls and their nests is defined by Fish and Game Code section 86 and prohibited by sections 3503, 3503.5, and 3513. Take is defined in Fish and Game Code section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." Without appropriate take avoidance surveys prior to Project operations including, but not limited to, ground and vegetation disturbing activities, adverse impacts to burrowing owl may occur because species presence/absence had not been verified during ongoing construction monitoring.

Recommended Potentially Feasible Mitigation Measure(s)

Mitigation Measure #1: To reduce potential impacts to burrowing owl, CDFW recommends that the Project perform pre-construction inspection of potential habitat, and that minimum twice weekly inspections be performed while rough grading is ongoing. All survey efforts should be conducted prior to any project activities that could result in habitat disturbance to soil, vegetation or other sheltering habitat for burrowing owl. If any owls or sign of owls is detected, the Wildlife Agencies (jointly, CDFW and USFWS) shall be contacted; efforts must be made to determine the breeding status of the species on site, and whether it is safe at that point to exclude owls from occupied burrows. Active or passive relocation methods shall only be employed with concurrence by CDFW and USFWS. In California, the burrowing owl breeding season extends from 1 February to 31 August with some variances by geographic location and climatic conditions.

D-3 Cont.

Editorial Comments and Suggestions

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the DEIR to assist the City in identifying and mitigating Project impacts on biological resources.

D-4

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Questions regarding this letter or further coordination should be directed to Melanie Burlaza, Environmental Scientist, at Melanie.Burlaza@wildlife.ca.gov.

D-4 Cont.

Sincerely,

DocuSigned by:
David Mayer
D700B4520375406...

David A. Mayer
Environmental Program Manager I
South Coast Region

Attachments: Attachment A: Recommended Mitigation Measures

ec: CDFW
Karen Drewe, San Diego – Karen.Drewe@wildlife.ca.gov
Jennifer Ludovissy, San Diego – Jennifer.Ludovissy@wildlife.ca.gov
Susan Howell, San Diego – Susan.Howell@wildlife.ca.gov
CEQA Program Coordinator, Sacramento – CEQACommentLetters@wildlife.ca.gov
State Clearinghouse, Sacramento – State.Clearinghouse@opr.ca.gov
Jonathan Snyder, USFWS – Jonathan_d_Snyder@fws.gov

REFERENCES

California Fish and Game Code §1600, §2080, §2800, §3503

California Natural Diversity Database 2021. Calif. Dept. of Fish and Wildlife. Biogeographic Information and Observation System (BIOS). Available from https://apps.wildlife.ca.gov/bios/

California Office of Planning and Research. 2019 or current version. CEQA: California Environmental Quality Act. Statutes and Guidelines, CEQA Guidelines Appendix G.

Gervais, J. A., D. K. Rosenberg, and L.A. Comrack. 2008. Species accounts: Burrowing Owl. *in* W.D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and CDFW.

California Department of Fish and Wildlife. *2012. Staff Report* on *Burrowing Owl* Mitigation. Sacramento, CA, USA.

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Attachment A: Recommendations and Mitigation Measures

Biological Resources			
	Recommendations and Mitigation Measures	Timing	Responsible Party
Recommendation #1:	CDFW recommends that any proposed land set aside for mitigation purposes be independent of lands set aside for previous projects. Both the recorded and future conservation easement areas described within the DEIR shall not be included as mitigation credit nor count towards the Boundary Line Adjustment requirements. The final EIR should include clear language and figures demonstrating that these conservation easement areas are independent of Project mitigation requirements.	Prior to Construction	City of Chula Vista
Mitigation Measure #1:	**Mitigation Measure #1:** To reduce potential impacts to burrowing owl, CDFW recommends that the Project perform pre-construction inspection of potential habitat, and that minimum twice weekly inspections be performed while rough grading is ongoing. All survey efforts should be conducted prior to any project activities that could result in habitat disturbance to soil, vegetation or other sheltering habitat for burrowing owl. If any owls or sign of owls is detected, the Wildlife Agencies (jointly, CDFW and USFWS) shall be contacted; efforts must be made to determine the breeding status of the species on site, and whether it is safe at that point to exclude owls from occupied burrows. Active or passive relocation methods shall only be employed with concurrence by CDFW and USFWS.	Prior to Construction	City of Chula Vista

Response to Comment Letter D

California Department of Fish and Wildlife (CDFW)
David A. Mayer
April 28, 2021

D-1 This comment is introductory in nature and provides an explanation of CDFW's role in environmental review, a summary of the proposed project, and existing biological setting, with specific comments to follow. As this comment does not pertain to the adequacy of the Draft EIR, no further response is provided.

D-2 This comment requests clarifications be made regarding the conservation easement areas. Potential impacts to biological resources and proposed mitigation are discussed in Section 5.3, Biological Resources, and in the Biological Impact Analysis Report and Functional Equivalency Analysis Report (Appendix D) of the Draft EIR. The proposed project does not include habitat compensatory mitigation within the onsite existing recorded and unrecorded conservation easements. In response to this comment, the Draft EIR has been revised to include clarifications as requested:

- Figure 5.3-5 of the Draft EIR and Figure 6 of the Biological Impact Analysis Report have been revised to delineate the 48.95 acres of proposed habitat mitigation area to demonstrate its location outside of any existing conservation easements onsite.

- The project description within the Biological Impact Analysis Report has been revised as follows: "None of the conservation easement areas are proposed as habitat compensatory mitigation or proposed as a part of the Give area to the Preserve in the proposed BLA (See Functional Equivalency Analysis for a MSCP BLA Report, Figure 6)."

D-3 This comment requests that additional mitigation measures for potential impacts to burrowing owl be incorporated into the project. Note that this species was not present during the numerous biological surveys conducted onsite and is not expected to occur onsite. The Draft EIR include the following mitigation measures MM-BIO-2 and MM-BIO-7, which require a qualified biologist to monitor the construction activities full time during habitat clearing and grubbing activities to avoid take of wildlife species (including burrowing owl), as well as the requirement to conduct pre-construction surveys to determine the presence of any actively nesting birds (including burrowing owl) onsite within the proposed project impact areas, if construction activities cannot avoid the avian breeding season. While these mitigation measures do not explicitly identify burrowing owl, they do not exclude the species from surveys and monitoring. However, in response to this comment mitigation measure MM-BIO-7 and the surrounding discussion in Section 5.3 of the Draft has been revised to include the commenter's recommended measures to reduce potential impacts to burrowing owl during construction.

D-4 This comment provides a link for which the information contained in the Draft EIR can be added to biological resources databases, filing fee requirements, and concludes the comment letter.

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Comment Letter E

San Diego County Archaeological Society, Inc.
Environmental Review Committee

23 April 2021

To: Mr. Oscar Romero, Associate Planner
Development Services Department
City of Chula Vista
276 Fourth Avenue, Building B
Chula Vista, California 91910

Subject: Draft Environmental Impact Report
Sunbow SPA Plan Amendment
EIR 20-0002

Dear Mr. Romero:

I have reviewed the cultural resources aspects of the subject DMND on behalf of this committee of the San Diego County Archaeological Society.

Based on the contents of the DEIR and its Appendix E, we agree with the impact analysis and with mitigation measure MM-CUL-1 as included in the DEIR.

E-1

SDCAS appreciates the opportunity to participate in the public review of this project's environmental documents.

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: Dudek
SDCAS President
File

P.O. Box 81106 San Diego, CA 92138-1106 (858) 538-0935

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Response to Comment Letter E

San Diego County Archaeological Society, Inc.
James W. Royle, Jr.
April 23, 2021

E-1 The City appreciates the San Diego County Archaeological Society committee's review of the Draft EIR. This comment pertains to the agreeance with the impact analysis and mitigation measure MM-CUL-1 included in the Draft EIR. No further response is required.

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1 Executive Summary

This environmental Impact Report (EIR) is an informational document intended for the use by the City of Chula Vista (City), other public agencies, and members of the general public in evaluating the potential environmental effects of the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (proposed project).

California Environmental Quality Act (CEQA) Section 21002 requires that an EIR identify the significant effects of a project on the environment and provide measures or alternatives that can mitigate or avoid these effects. This Draft EIR evaluates the environmental effects associated with development of the project and discusses the manner in which the project's significant effects can be reduced or avoided through the implementation of mitigation measures or feasible alternatives to the proposed project. In accordance with Section 15130 of the CEQA Guidelines, this EIR also includes an examination of the effects of cumulative development.

This summary provides a brief synopsis of (1) the proposed project, (2) results of the environmental analysis contained within this environmental document, (3) alternatives to the proposed project that were considered, and (4) major areas of controversy and issues to be resolved by decision makers. This summary does not contain the extensive background and analysis found throughout the individual chapters within the EIR. Therefore, the reader should review the entire document to fully understand the proposed project and its environmental consequences.

1.1 Project Location and Setting

ACI Sunbow LLC (applicant) is proposing to develop an approximately 135.7-acre site (Assessor's Parcel Numbers 644-171-12500, 644-011-0600, 644-020-1100) within the Sunbow Master Planned Community of the City of Chula Vista (Figure 4-1, Project Location). The project site is located within the southern portion of the City of Chula Vista (City), in southwestern San Diego County, California. The site is located south of Olympic Parkway, east of Brandywine Avenue, and north and northwest of the Otay Landfill. Undeveloped land approved for industrial and residential land uses within Otay Ranch Village Two is located to the east of the site. The project site is approximately 3.8 miles southeast of downtown Chula Vista, 9.9 miles southeast of downtown San Diego 2.3 miles west of State Route 125 (SR-125) and approximately 0.5 miles east of Interstate 805 (I-805).

1.2 Project Background

The Sunbow General Development Plan (GDP), which originally included 604.8 acres in eastern Chula Vista, was adopted on December 5, 1989, with the primary objective to create an efficient, self-contained village with a mix of residential, commercial, community recreation, industrial park, and open space/trails land uses. The GDP is implemented through the adoption of a subsequent, more detailed Sunbow Sectional Planning Area (SPA) Plan, tentative tract maps, and potential annexation and development agreements. The GDP is designed to function as a policy bridge between the City of Chula Vista General Plan (General Plan) and the SPA Plan, which provides more detailed plans for development of the Sunbow Master Planned Community (City of Chula Vista 1989).

The portion of the Sunbow Master-Planned Community designated as Sunbow II, Phase 3 (project site), includes the area slated to be developed as Industrial Park (formerly referred to as Planning Area 23 in the GDP and SPA Plan), while the rest of the project site was designated as Open Space in the GDP and the SPA

Plan. The GDP designated the 54.7 acres as Industrial Park to include research/development and light industrial uses, with approximately 700,000 square feet of leasable area generating approximately 2,800 employment opportunities. Based upon the City's Multiple Species Conservation Program (MSCP) Preserve Boundary data, the applicant's civil engineer determined that there is an approximately 67.5-acre development area within the project site. This area (referred to herein as the proposed development area), would be developed with residential uses and associated infrastructure. The remainder of the project site would be left as MSCP Preserve and Open Space area.

1.3 Project Description

The proposed project is primarily a residential project with associated infrastructure and open space areas. The proposed land uses are summarized in Table 1-1 and shown in Figure 4-2, Proposed General Plan Land Use; Figure 4.3, Proposed General Development Plan Land Use; and Figure 4-4, Proposed SPA Plan Land Use, all included in Chapter 4, Project Description. Development would be centered within the southeastern portion of the site. The approximately 67.5-acre development area would be composed of 44.2 acres of residential uses, a 0.9-acre Community Purpose Facility (CPF), 5.9 acres of public streets, 4.3 acres of Poggi Creek conservation easements, 16.5 acres of manufactured slopes and basins, and a 0.3-acre wetland avoidance area. Approximately 63.6 acres designated MSCP Preserve are also within the project site. Under the proposed project, the Industrial Park area (Planning Area 23) would be modified to Medium-High and High Residential land uses (see Figures 4-2 and 4-3).

Table 1-1. Sunbow II, Phase 3 Sectional Planning Area Plan Land Use Summary

Land Use	Planning Area	Units	Gross Acres	Target Density
Residential				
Multi-Family (Medium-High) Residential – 13–16 du/ac				
MF	R-1	131	8.5	15.4
MF	R-2	73	4.6	15.8
MF	R-3	108	8.1	13.3
MF	R-4	118	8.2	14.4
MF	R-5	104	7.0	14.7
Multi-Family Medium-High Residential Subtotal		*534*	*36.5*	*14.7*[a]
Multi-Family (High) Residential – 24.1 du/ac				
MF	R-6	184	7.6	24.1
Multi-Family High Residential Subtotal		*184*	*7.6*	*24.1*
Residential Total		**718**	**44.2**	**16.3**[a]
Other				
Community Purpose Facility (CPF)				
CPF	CPF	—	0.9	—
CPF Subtotal		—	*0.9*	—
Other Total		—	*0.9*	—

Table 1-1. Sunbow II, Phase 3 Sectional Planning Area Plan Land Use Summary

Land Use	Planning Area	Units	Gross Acres	Target Density
Open Space				
MPCP Open Space Preserve (OS)				
OS	OS-1	—	42.8	—
OS	OS-2	—	10.0	—
OS	OS-3	—	9.6	—
OS	OS-9b	—	1.1	—
MSCP Open Space Preserve Subtotal		—	*63.6*	—
Poggi Creek Conservation Easement				
OS	OS-4	—	2.6	—
OS	OS-5	—	0.7	—
OS	OS-6a	—	1.0	—
OS	OS-6b	—	0.1	—
Poggi Creek Conservation Easement Subtotal		—	*4.3*	—
Manufactured Slopes/Basins				
OS	OS-7	—	3.2	—
OS	OS-8	—	0.5	—
OS	OS-9a	—	0.5	—
OS	OS-10	—	4.9	—
OS	OS-11	—	1.3	—
OS	OS-12	—	1.6	—
OS	OS-13	—	4.6	—
Manufactured Slopes/Basins Subtotal		—	*16.5*	—
Wetland Avoidance Area				
OS	OS-14	—	0.3	—
Wetland Avoidance Area Subtotal		—	0.3	—
Open Space Total		**—**	**84.7**	**—**
Circulation				
Public Streets[b]	Circulation	—	5.9	—
Circulation Subtotal		—	5.9	—
Circulation Total		**—**	**5.9**	**—**
All Land Use Types – Summary				
All Land Use Types Total		**—**	**135.7**	**—**

Notes: du/ac = dwelling units per acre; MSCP = Multiple Species Conservation Program.
Subtotals and totals may not sum precisely due to rounding.

[a] Target density represents the average densities proposed.

[b] The acreages for all proposed private streets are included as a part of the residential portion.

1.3.1 Project Objectives

Following are the objectives of the proposed project:

1. Develop a pedestrian-oriented community on an underutilized site with a range of residential uses, open space and MSCP Preserve areas, and recreational opportunities, which are compatible with the adjacent established residential communities.
2. Contribute to the growing housing needs of the City and the region by providing for multi-family housing units with a range of housing types to accommodate a spectrum of demographics.
3. Preserve portions of the project site as permanent open space and increase MSCP Preserve Areas.
4. Provide pedestrian and bicycle facilities, including a pedestrian connection to the Chula Vista Regional Trail and connection to bike lanes within Olympic Parkway and nearby transit.
5. Implement the goals, objectives, and policies of the General Plan; the MSCP Subarea Plan; the GDP; and the SPA Plan.
6. Implement the City's Growth Management Ordinance to ensure that public and community facilities, such as transportation, water, flood control, sewage disposal, schools, and parks, are provided in a timely manner and financed by the parties creating the demand for, and benefiting from, the improvements.
7. Ensure new uses are compatible with the existing community by establishing setbacks, design regulations and guidelines, best practices, and performance standards that enhance quality of life for neighboring properties.
8. Create a land use plan that can realistically be developed within a foreseeable time frame and under economic conditions.

1.3.2 Discretionary Actions

A discretionary action is an action taken by an agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project. The following discretionary actions are associated with the proposed project and would be considered by the City:

- Certification of a Final EIR and adoption of a Mitigation Monitoring and Reporting Program pursuant to CEQA
- Approval of amendments to the General Plan
- Approval of amendments to the GDP
- Approval of amendments to the SPA Plan
- Approval of the Tentative Map for Sunbow II, Phase 3
- Chula Vista MSCP Subarea Plan Boundary Adjustment and Minor Amendment
- Rezone
- Approval of the Development Agreement between the applicant and the City

1.4 Areas of Controversy

Pursuant to Section 15082 of the CEQA Guidelines, the City circulated a Notice of Preparation (NOP) dated November 9, 2020, to begin a 30-day public scoping period, to interested agencies, organizations, and parties. The

NOP was also sent to the State Clearinghouse at the California Office of Planning and Research. The State Clearinghouse assigned a state identification number (SCH No. 2020110148) to this EIR.

Comments received during the NOP public scoping period were considered during the preparation of this EIR. The NOP and comments are included in Appendix A to this EIR.

1.5 Issues to Be Resolved by the City Council

The issues to be resolved by the decision-making body are whether to adopt the proposed project and how to mitigate significant effects created by its implementation. The City will decide if benefits of the project outweigh any significant unmitigable impacts associated with greenhouse gas emissions.

The City will also decide if the significant impacts associated with the environmental issues of biological resources, cultural and tribal cultural resources, geology and soils, hazards and hazardous materials, public services, recreation, and wildfire have been fully mitigated below a level of significance. Lastly, the City would determine whether any alternative might meet the key objectives of the project while reducing its environmental impact.

1.6 Project Alternatives

Pursuant to the CEQA Guidelines, EIRs are required to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (14 California Code of Regulations (CCR) 15126.6(a)). This EIR "must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation" (14 CCR 15126.6(a)). The alternatives discussion is required even if these alternatives "would impede to some degree the attainment of the project objectives or would be more costly" (14 CCR 15126.6(b)).

1.6.1 No Project/No Build Alternative

CEQA Guidelines Section 15126.6 requires the inclusion of a No Project/No Build Alternative to be analyzed. Under the No Project/No Build Alternative, no development would occur on the project site. Accordingly, the site characteristics of this alternate would be equivalent to the existing conditions for each category analyzed in Chapter 5, Environmental Impact Analysis, of this EIR. Although no development would occur, surrounding land uses in the region would continue to be built out.

1.6.2 Existing Land Use Designations Alternative

The Existing Land Use Designations Alternative would include the development consistent with the General Plan, the GDP, and the SPA Plan. The General Plan designates the development area within the southeastern portion of the site as Limited Industrial (see Figure 3-1, Existing General Plan Land Use). The GDP designated the 54.7 acres as Research & Industrial Park to include research/development and light industrial uses (see Figure 3-3, Existing General Development Plan Land Use Designation), with approximately 700,000 square feet of leasable area generating approximately 2,800 employment opportunities; however, actual leasable area may be less than this approximation when accounting for required infrastructure and amenities. Note, that the development areas under the existing land use designations and the proposed project are different because the MSCP hardline was

established after the approval of the Sunbow GDP and SPA Plan. The rest of the project site would be preserved as Open Space and MSCP Preserve, similar to the proposed project. It is anticipated that access would be provided via Olympic Parkway and internal circulation on the project site would be similar to the proposed project. However, features such as pedestrian and bicycle circulation, the Community Purpose Facility (CPF), and active and passive recreational open space areas, proposed to be developed throughout the residential uses under the proposed project, would not be developed under the Existing Land Use Designations Alternative.

1.6.3 Reduced Development Alternative

The Reduced Development Alternative would include the development of 360 residential units, within a similar area as the proposed residential developments area under the project. This number of units, which is 358 fewer units than the proposed project, was chosen in order to provide low to medium density residential. This alternative would still include associated infrastructure, a reduced size Community Purpose Facility, and Open Space/MSCP Preserve areas as proposed under the project. Due to the decreased number of units and the same development area, the Reduced Development Alternative is assumed to be developed with low to medium density residential rather than medium-high and high density residential as proposed under the project. As discussed in Section 5.3, Biological Resources, of the EIR, the proposed project would require a Boundary Line Adjustment (BLA) between the currently proposed development boundaries and the mapped Multiple Species Conservation Program (MSCP) preserve on site. Due to the reduced development of this alternative, this BLA would be avoided under this alternative.

1.7 Summary of Significant Environmental Impacts

Table 1-2 is a summary of the proposed project's significant environmental impacts under CEQA, including mitigation measures (MMs) incorporated. For issue areas where impacts were determined to be less than significant or no impact, including aesthetics, air quality, energy, hydrology and water quality, land use, noise, population and housing, transportation, and utilities, refer to the respective discussions in Chapters 5 and 9 of this EIR.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
5.3 Biological Resources			
Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Wildlife Service?	The project would result in direct and indirect impacts to sensitive plant and wildlife species.	**MM-BIO-1** The Applicant shall include an irrevocable offer of dedication (IOD) to the City of Chula Vista on the first final map for 62.16 acres of onsite Preserve land within Preserve Management Area 3, Subunits 3-1a, 3-1b, and 3-1c of the Chula Vista Central City Preserve lands. The MSCP Preserve land shall be conserved, maintained, and managed by the City of Chula Vista or its designee in perpetuity as directed in the Chula Vista Central City Preserve Area-Specific Management Directives (ASMDs) for Preserve Management Area 3 (PMA 3) (RECON Environmental, April 26, 2004) and funded by the Sunbow Preserve Community Facilities District (No. 98-3). The City of Chula Vista Preserve Habitat Manager shall be responsible for the long-term Preserve management activities identified in the Central City Preserve ASMD. Said IOD for the 62.16 acres Proposed MSCP Preserve shall include 48.95 acres to mitigate for significant habitat impacts to 7.79 acres of native grassland, 8.55 acres of Diegan coastal sage scrub, and 55.61 of non-native grassland as well as the following sensitive species significant impacts: • *Coastal California Gnatcatcher*- occupied Diegan coastal sage scrub to mitigate for significant direct impacts to coastal California gnatcatcher occupied habitat; • *Otay Tarplant*- 0.34 acre of Otay tarplant occupied habitat (i.e.,native grassland) to mitigate for direct impacts to 0.34 acre of Otay tarplant occupied habitat that currently supports 836 Otay tarplant individual plants; • *Orcutt's Bird's-beak*- Orcutt's bird's-beak habitat (i.e., Diegan coastal sage scrub) to mitigate for significant direct impacts to onsite Diegan coastal sage scrub that currently supports 91 Orcutt's bird's-beak individual plants; • *Decumbent Goldenbush*- Decumbent goldenbush habitat (i.e., Diegan coastal sage scrub and native grassland), that includes at least 289 decumbent goldenbush individual plants) to mitigate for significant direct impacts to onsite native grassland and Diegan coastal sage scrub that currently supports 289 decumbent goldenbush individual plants; and • *San Diego Viguiera*- San Diego viguiera habitat (i.e., Diegan coastal sage scrub) that includes at least 2,979 San Diego viguiera individual plants) to mitigate for significant direct impacts to onsite Diegan coastal sage scrub that currently supports 5,958 San Diego viguiera individual plants. **MM-BIO-2** Prior to initiation of construction related activities including clearing and grubbing or prior to vegetation/ground disturbance or prior to site mobilization activities or issuance of a grading permit, the Applicant shall submit documentation to the City demonstrating that the Applicant has contracted with a qualified biologist(s) to monitor the project construction activities and avoid any inadvertent impacts to sensitive biological and ensure complete avoidance of jurisdictional resources. Each qualified biologist shall have demonstrated expertise with the sensitive habitats, special status species of the project region. The qualified biologist(s) shall monitor the installation of the construction temporary fencing and/or flagging, silt fencing, and other best management practices (BMPs) along the construction limits prior to construction activities. The qualified biologist shall be present full-time during all initial vegetation clearing and grubbing activities, and potentially on a less frequent basis during grading activities to ensure construction remains within the approved project development area. The Applicant shall report results of biological monitoring activities to the City on a regular basis through the preparation and submission of summary monitoring reports. **MM-BIO-3** Prior to the issuance of any land development permits including for clearing and grubbing or grading, the Applicant shall prepare a Restoration Plan prepared by a qualified biologist to mitigate for impacts to sensitive plant species consisting of Otay tarplant, Orcutt's bird's-beak, decumbent goldenbush, and San Diego County viguiera consistent with the conceptual Restoration Plan (Merkel & Associates, Inc. 2021, Appendix D). The Applicant shall implement the 5-year maintenance and monitoring activities consistent with the Habitat Restoration and Sensitive Plant Specifies Mitigation Plan to the satisfaction of the Development Services Director (or their	Less than significant.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		designee). The revegetation plan must be prepared by a qualified City approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project Applicant shall be required to prepare and implement the revegetation plan subject to the oversight and approval of the Development Services Director (or their designee). NOTE: Since the revegetation is critical to approving the MSCP Boundary Line Adjustment, the applicant will be required to enter into a Secured Agreement with the City and will be required to provide a cash deposit. **MM-BIO-4** To avoid any direct impacts to nesting coastal California gnatcatcher, all vegetation clearing, grubbing and grading activities within gnatcatcher occupied habitat (i.e., Diegan coastal sage scrub) shall be conducted outside of the gnatcatcher breeding season (February 15 to August 15). **MM-BIO-5** Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall delineate coastal California gnatcatcher occupied habitat located adjacent to the proposed project development area during the breeding season (February 15 to August 15) by orange biological fencing or comparable materials to ensure that no work shall occur within these habitats. In addition, a minimum 300-foot buffer and on-site noise reduction/attenuation techniques shall be incorporated, as appropriate to avoid impacts to breeding gnatcatcher from elevated construction noise levels. The City Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. Noise monitoring may be required to ensure that the elevated construction noise levels are appropriately attenuated at the edge of occupied habitat to a level that is not expected to adversely affect nesting bird behavior (i.e., not to exceed an hourly average of 60 A-weighted decibels (dBA) or ambient at the edge of occupied habitat). **MM-BIO-6** Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall delineate least Bell's vireo occupied habitat by orange biological fencing or comparable to avoid direct impact to vireo within occupied habitat located adjacent to the proposed project during the breeding season (March 15 to September 15). In addition, a minimum 300-foot buffer and on-site noise reduction/attenuation techniques shall be incorporated, as appropriate to avoid impacts to breeding vireo from elevated construction noise levels. The City Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. Noise monitoring may be required to ensure that the elevated construction noise levels are appropriately attenuated at the edge of occupied habitat to a level that is not expected to adversely affect nesting bird behavior (i.e., not to exceed an hourly average of 60 dBA or ambient at the edge of occupied habitat). **MM-BIO-7** To avoid any direct impacts to migratory birds and/or raptors protected under the federal Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3513, removal of habitat that supports active nests on the proposed area of disturbance should occur outside of the breeding season for these species. The breeding season is defined as January 15–August 31 for raptor species and February 15–August 15 for other non-raptor birds (excluding listed species). If removal of habitat on the proposed area of disturbance must occur during the breeding season, then prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds (including burrowing owl) on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and the results must be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan, as deemed appropriate by the City, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities are	

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's mitigation monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. To reduce potential impacts to burrowing owl during construction, the City-approved biologist shall perform pre-construction inspection of potential habitat, and, at minimum, twice weekly inspections be performed while rough grading is ongoing. All pre-construction survey efforts shall be conducted prior to any project activities that could result in habitat disturbance to soil, vegetation or other sheltering habitat for burrowing owl. If any burrowing owls or sign of burrowing owls are detected, the Wildlife Agencies (jointly, CDFW and USFWS) shall be contacted; efforts shall be made to determine the breeding status of the species on site, and whether it is safe at that point to exclude burrowing owls from occupied burrows. Active or passive relocation methods shall only be employed with concurrence by CDFW and USFWS. **MM-BIO-8** Prior to approval of the first final map, the Applicant shall submit a Landscape Master Plan for the entire project which shall demonstrate compliance with the proposed fence and wall plan for the project. The proposed fence and wall plan shall include appropriate fencing and barriers (e.g., vegetation) where applicable to shield human presence and deter human intrusion into the Preserve. **MM-BIO-9** Concurrent with design review and prior to issuance of a building permit for any development located adjacent to the Preserve, the Applicant shall prepare, a lighting plan and photometric analysis for review and approval the Development Services Director (or their designee). The lighting plan shall illustrate the location of the proposed lighting standards and type of shielding measures. Low-pressure sodium lighting shall be used, if feasible, and shall be subject to the approval of the Development Services Director (or their designee). **MM-BIO-10** Prior to approval of the first final map, the Applicant shall submit a Landscape Master Plan for the entire project which shall demonstrate compliance with the proposed plant palette for the project. The proposed plant palette shall prohibit invasive non-native plant species on the California Exotic Pest Plant Council List of Exotic Pest Plants of Greatest Ecological Concern in California that could spread into the adjacent Preserve. No invasive non-native plant species shall be introduced into areas immediately adjacent to the preserve. All slopes immediately adjacent to the Preserve shall be planted with native species that reflect the adjacent native habitat. Further, the proposed plant palette shall be consistent with the plant list contained in the "Wildland/Urban Interface: Fuel Modification Standards," and provided as Appendix L of the Subarea Plan, must be reviewed and utilized to the maximum extent practicable when developing landscaping plans in areas adjacent to the Preserve. **MM-BIO-11** To avoid habitat degradation to the adjacent Preserve lands, project irrigation shall be contained to the project development and fuel modification zones and shall not drain or overspray resulting in potential erosion/sedimentation, spread of invasive plant species, and/or non-native species such as Argentine ants. **MM-BIO-12** Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall demonstrate how the project would avoid or minimize applicable inadvertent impacts during construction. To ensure the avoidance and minimization of impacts to biological resources during construction the following construction BMPs shall be implemented: a) Prior to ground disturbance, all permanent and temporary disturbance areas shall be clearly delineated by orange construction fencing and the identification of environmentally sensitive areas with flagging and/or fencing. b) To minimize disturbance of areas outside the project site, all construction and operation vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas shall be included in pre-construction surveys and, to the	

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		extent possible, shall be established in locations disturbed by previous activities to prevent further impacts. c) Construction and operation vehicles shall observe appropriate safe speed limits and adhere to safety practices. d) Dust suppression shall occur during construction activities when necessary to meet air quality standards and protect biological resources. e) No vehicles or equipment shall be refueled or undergo maintenance within 100 feet of a jurisdictional waters feature. Spill kits shall be maintained on the site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of contaminated fluids. f) All general trash, food-related trash items (wrappers, cans, bottles, food scraps, cigarettes, etc.), and other human-generated debris scheduled to be removed shall be stored in animal-proof containers and removed from the site on a regular basis (weekly during construction, and at least monthly during operations). No deliberate feeding of wildlife shall be allowed. g) Use of chemicals, fuels, lubricants, or biocides shall comply with all local, state, and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation. Use of first-and second- generation rodenticides shall not be permitted except for the limited use of zinc phosphide, or a rodenticide approved by the City, and only after other means of pest control (e.g. rodent traps) have proven to be ineffective. **MM-BIO-13** Prior to issuance of a grading permit, prior to vegetation clearing, grubbing, grading, or any ground disturbing activities, the Applicant shall submit evidence to the City that the Applicant has retained qualified biologists to prepare a Worker Environmental Awareness Program that shall be presented to all construction personnel and employees before any ground-disturbing activities commence at the project site and shall be continued through the construction phase for all new construction personnel. The program shall consist of a brief presentation going over the on-site sensitive biological resources and compliance with project impact and open space boundaries, and applicable environmental laws and requirements with all personnel involved in the project. This presentation shall explain to construction personnel how best to avoid impacts sensitive resources during construction. The program shall include a description of all special status species potentially on the project site and their habitat needs; an explanation of the status of the species and their protection under the state and federal regulations; specific mitigation measures applicable to listed and other special status species; permit conditions, and the penalties for violation of applicable laws. The program shall also explain to construction personnel how to avoid impacts to jurisdictional waters, including wetlands. The program shall include a map and description of jurisdictional waters on the site to be avoided and measures to implement to ensure the protection and avoidance of jurisdictional waters.	
Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	The project would result in direct and indirect impacts to sensitive natural communities.	**MM-BIO-1, MM-BIO-2, and MM-BIO-8 through MM-BIO-13**	Less than significant.
Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	The project would require an MSCP Boundary Line Adjustment and Minor Amendment that would result in impacts to sensitive biological resources.	**MM-BIO-1 through MM-BIO-13** **MM-BIO-14** Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall prepare a revegetation plan for the temporary impact areas within the 25-foot grading buffer in the Minor Amendment Area that utilizes a native erosion control hydroseed mix acceptable to the City and the Wildlife Agencies (U.S. Fish and Wildlife Service and California Department of Fish and Wildlife) to ensure soil stability and prevent subsequent erosion.	Less than significant.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		The revegetation plan must be prepared by a qualified City approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project Applicant shall be required to prepare and implement the revegetation plan subject to the oversight **MM-BIO-15** Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall receive approval by the City and Wildlife Agencies for the MSCP BLA. The Applicant shall be required to implement conditions associated with the BLA subject to the oversight and approval of the Development Services Director (or their designee). **MM-BIO-16** Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall receive approval by the City and Wildlife Agencies for the MSCP Minor Amendment. The Applicant shall be required to implement conditions associated with the Minor Amendment subject to the oversight and approval of the Development Services Director (or their designee).	
5.4 Cultural and Tribal Cultural Resources			
Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5?	The project has the potential to encounter previously unidentified subsurface cultural deposits.	**MM-CUL-1** **A.** Prior to beginning construction activities, the project archaeologist and Native American representative shall attend any pertinent preconstruction meetings with the construction manager and/or grading contractor in order to provide recommendations and answer questions relating to the archaeological monitoring program. The project archaeologist shall be familiar with the cultural inventory conducted for the current project and shall be prepared to introduce any pertinent information concerning expectations and probabilities of discovery during ground-disturbing activities. **B.** Both an archaeological monitor familiar with local resources and a Native American monitor shall be present full time during the initial disturbance of soil with potential to contain cultural deposits. All areas of initial project-related subsurface disturbance shall be assumed to have the potential to contain cultural deposits. Monitoring of initial ground disturbance shall not exceed a depth of 5 feet (1.5 meters) unless cultural resources are identified or if, through direct inspection of subsurface exposures by the project Archaeologist, an area is observed to have the potential to support the presence of archaeological deposits at greater depths. Cultural resources monitoring may be reduced from initial full-time monitoring to periodic spot checks, or discontinued if appropriate, once the project archaeologist determines that there is little or no risk of encountering cultural material. **C.** Daily archaeological and Native American monitoring logs shall be prepared. Logs shall include monitor names and affiliations, a description of general activities observed, cultural discoveries, as well as comments or concerns as applicable. **D.** In the event of an archaeological discovery, and when requested by the archaeological monitor or Native American monitor, the resident contractor will divert, redirect, or temporarily halt ground disturbing activities in the area of discovery or impacts to allow for preliminary inspection of potentially significant archaeological resources or impacts. The significance of the discovered resources or impacts shall be determined by the archaeologist, in consultation with the City of Chula Vista (City). For significant cultural resources, a Research Design and Data Recovery Program shall be prepared and carried out to mitigate impacts before grading activities in the area of discovery shall be allowed to resume. **E.** The project archaeologist shall be responsible for ensuring that all cultural materials collected will be cleaned, catalogued, and curated permanently with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to the City; that all artifacts are	Less than significant.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		analyzed to identify function and chronology as they relate to the history of the area; that faunal material will be identified as to species; and that specialty studies are completed, as appropriate. The project archaeologist shall make a good-faith effort to ensure that all archaeological material collected through previous work is appropriately curated with any material recovered through construction monitoring. **F.** If human remains are discovered, work shall halt in that area and procedures set forth in the California Public Resources Code (Section 5097.98) and State Health and Safety Code (Section 7050.5) shall be followed by the archaeological monitor after notification to the County Coroner by the project Archaeologist. If Native American remains are present, the County Coroner shall contact the Native American Heritage Commission to designate a Most Likely Descendant, who shall arrange for the dignified disposition and treatment of the remains. **G.** Within 3 months following the completion of monitoring, two copies of a monitoring results report (even if negative) and/or evaluation report, if applicable, that describes the results, analysis, and conclusions of the archaeological monitoring program (with appropriate graphics) shall be submitted to City. **H.** For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the final evaluation monitoring report. Two copies of the final monitoring report for significant archaeological resources, if required, shall be submitted to the City. This final monitoring report should also incorporate a summary of the evaluation results and analyses previously conducted within the project area. **I.** The archaeologist shall be responsible for recording (on the appropriate CA DPR 523 Series forms) any significant or potentially significant resources encountered during the archaeological monitoring program in accordance with Section 106 and the City's Cultural Resources Guidelines, and submittal of such forms to the South Coastal Information Center at San Diego State University with the final monitoring results report.	
Disturb any human remains, including those interred outside of formal cemeteries?	The project has the potential to inadvertently encounter human remains.	**MM-CUL-1**	Less than significant.
Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: **A.** Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? **B.** A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	The project has the potential to inadvertently encounter tribal cultural resources.	**MM-CUL-1**	Less than significant.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
5.6 Geology and Soils			
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	The project has the potential to inadvertently encounter paleontological resources.	**MM-GEO-1: Paleontological Monitoring Program.** Prior to the issuance of grading permits, the applicant shall provide written confirmation to the City that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with an MS or PhD in paleontology or geology who is familiar with paleontological procedures and techniques.) A pre-grading meeting shall be held that shall include the paleontologist and the grading and excavation contractors. A paleontological monitor shall be on site at all times during the original cutting of previously undisturbed sediments of highly sensitive geologic formations (i.e., Otay Formation and San Diego Formation) to inspect cuts for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.) The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall be on site on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive geologic formations (e.g., unnamed river terrace deposits and the Mission Valley Formation) to inspect cuts for contained fossils. However, neither of these rock units have been mapped within the project area of potential effect (APE) and are therefore not anticipated to be impacted during construction. The monitor shall be on site on at least a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (e.g., Lindavista Formation and Santiago Peak Volcanics [metasedimentary portion only]) to inspect cuts for contained fossils. However, these deposits have not been mapped within the project APE and are therefore not anticipated to be impacted during construction. The monitor shall periodically (every several weeks) inspect original cuts in deposits with an unknown resource sensitivity (i.e., Quaternary alluvium). In the event that fossils are discovered in unknown, low, or moderately sensitive formations, the Applicant shall increase the per-day field monitoring time. Conversely, if fossils are not discovered, the monitoring, at the discretion of the City's Deputy City Manager/Development Services Director or its designee, shall be reduced. A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics, metavolcanic portion). When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances and at the discretion of the paleontological monitor to set up a screen-washing operation on the site. Prepared fossils along with copies of all pertinent field notes, photos, and maps shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed. This report shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.	Less than significant.
5.7 Greenhouse Gas Emissions			
Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	This project has the potential to result in significant greenhouse gas emissions during construction and operational activities.	**MM GHG-1: Greenhouse Gas Emissions Reduction Measures.** The following GHG emissions reduction measures shall be implemented: • Off-road construction equipment with engines rated at 75 horsepower or greater shall meet at a minimum Tier 3 standard. • Install purple pipes to provide reclaimed water for outdoor water use. • Install low-flow water fixtures such as low-flow toilets, faucets, showers, etc.	Significant and unavoidable.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		• Two parking spaces shall be pre-wired for electric vehicle (EV) capable and designated as preferential parking spaces shall be provided for carpool, shared, electric, and hydrogen vehicles. • 718 parking garages shall be pre-wired to be EV capable. • Energy-efficient lighting shall be used for all street, parking, and area lighting associated with the proposed project, including all on-site and off-site lighting. • Energy-efficient design practices, such as high-performance glazing, Energy Star compliant systems and appliances, radiant heat roof barriers, insulation on all pipes, programmable thermostats, and sealed ducts, shall be implemented. • Native species and drought-tolerant species shall be used for a minimum of 50% of the ornamental plant palette in non-turf areas to minimize water demand. • Recycling of construction debris and waste shall be ensured through administration by an on-site recycling coordinator and presence of recycling/separation areas. Exceed the City of Chula Vista's Construction and Demolition Debris Waste Management Plan's 65% diversion of construction and demolition waste. • Install cool roofs that meet the U.S. Green Building Council standards with a greater solar reflectivity to help conserve energy. • Install 1,462-kilowatt solar photovoltaic system meeting the minimum 2019 Title 24 standards. • Install bicycle racks. • The project shall plant 600 trees and 40 acres of shrubs.	
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	This project has the potential to result in significant greenhouse gas emissions causing the project to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	**MM-GHG-1**	Significant and unavoidable.
5.8 Hazards and Hazardous Materials			
Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	There is the potential for the project to exacerbate impacts involving wildland fires.	**MM-WF-1: Site Access** Site access, including fire lane, driveway, and entrance road widths, primary and secondary access, gates, turnarounds, dead end lengths, signage, aerial fire apparatus access, surface, and other requirements will comply with the requirements of the 2019 California Fire Code and the Chula Vista Fire Department (CVFD) Standards. Fire access will be reviewed and approved by CVFD prior to construction (see the FPP, Appendix H3, for additional details). The developer will provide information illustrating the new roads, in a format acceptable to the City, for updating of City maps. **Ignition Resistant Construction** All new structures within the Proposed Project will be constructed to at least the California Fire Code standard. Each of the proposed buildings will comply with the enhanced ignition-resistant construction standards of the 2019 CBC (Chapter 7A) and Chapter 5 of the Urban-Wildland Interface code, except where buildings require enhanced ignition resistance as part of an alternative material and method proposal. These requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires (see the FPP, Appendix H3, for additional details). **Fire Protection Systems** • Water supply requirements specified in the California Fire Code (see FPP, Appendix H3, for additional details) including for hydrants and interior sprinklers will be provided for the proposed project.	Less than significant.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		• Hydrants shall be located along fire access roadways and cul-de-sacs as determined by the CVFD Fire Marshal to meet operational needs. Hydrants will be consistent with CVFD Design Standards and provided every 500 feet (on-center). • All structures within the Proposed Project will include interior sprinklers, per code requirements (see FPP, Appendix H3, for additional details). Sprinklers will be specific to each occupancy type and based on the most recent National Fire Protection Association (NFPA) 13, 13R, or 13D, requirements. • All residential units shall have a fire alarm system be installed in accordance with NFPA 72, *Fire Protection Signaling System* and CVFD requirements. The fire alarm system will be supervised by a third-party alarm company. The system will be tested annually, or as needed, with test results provided to CVFD. Additionally, all residences will be equipped with residential smoke detectors and carbon monoxide detectors and comply with current CBC, CFC, and California Residential Code standards. All residential dwelling units shall have electric-powered, hard-wired smoke detectors with battery backup per CVFD. **Defensible Space and Vegetation Management** Fuel Modification Zones (FMZs) would be located on the perimeter of all structures and along both ingress/egress roadways to and from Olympic Parkway. All brush management zones and related fuel modification activities shall occur outside of the Preserve. FMZs shall be a minimum of 100 feet in width. A 100-foot-wide FMZ will be installed for lots abutting designated Preserve Lands to the north and west of the Project Site. To ensure long-term identification and maintenance, each respective FMZ shall be identified by a permanent marker system meeting the approval of CVFD. **Other Vegetation Management** • New roads will be subject to fuel modification zones with Zone 1 and/or Zone 2 standards described above. The combustible vegetation will be modified within 30 feet from each side of Streets A and B. Roadway-adjacent fuel modification does not preclude the planting of street trees in these fuel modification zones, as long as they are not found on the Prohibited Plant List (Appendix D of the FPP) and are included in the Approved Plant Palette (Appendix C of the FPP). • Pre-Construction Requirements: • Perimeter fuel modification areas must be implemented and approved by the CVFD prior to combustible materials being brought on site. • Existing flammable vegetation shall be reduced by 50% on vacant lots upon commencement of construction. • Dead fuel, ladder fuel (fuel which can spread fire from ground to trees), and downed fuel shall be removed, and trees/shrubs shall be properly limbed, pruned, and spaced per this plan. • Undesirable Plants. Certain plants are considered to be undesirable in the landscape due to characteristics that make them highly flammable. These characteristics can be physical (structure promotes ignition or combustion) or chemical (volatile chemicals increase flammability or combustion characteristics). The plants included in the Prohibited Plant List (Appendix D of Appendix H3, FPP) are unacceptable from a fire safety standpoint and will not be planted on the site or allowed to establish opportunistically within fuel modification zones or landscaped areas. No fuel modification zones are proposed within the MSCP areas, thus no vegetation within the MSCP will be removed. **Tree Notes for Publicly Owned Areas.** The project shall maintain all trees in publicly owned areas, per the project's FPP. These requirements include, but are not limited to (see Appendix H3 for additional details): • All standard form (single trunk) trees to include a single strong central leader with no branches extending at an angle narrower than 30 degrees from the main trunk. If the tree does not	

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		display a single strong central leader, a tree may be approved if the Developer's arborist or landscape architect of record can demonstrate that a single strong central leader can be achieved through structural pruning. • No grafted species that sucker from the base stock will be allowed as a street tree. **Vacant Parcels and Lots** The project shall comply with requirements of the project's FPP related to vacant parcels and lots. These requirements include, but are not limited to: • Vegetation management would not be required on vacant lots until construction begins. However, perimeter FMZs must be implemented prior to commencement of construction utilizing combustible materials. • Vacant lots adjacent to active construction areas/lots would be required to implement vegetation management if they are within 50 feet of the active construction area. Perimeter areas of the vacant lot would be maintained as a vegetation management zone extending 50 feet from roadways and adjacent construction areas. • Prior to issuance of a permit for any construction, grading, digging, installation of fences, etc., on a vacant lot, the 50 feet at the perimeter of the lot is to be maintained as a vegetation management zone. • FMZ on slope L&I does not have to be completed prior to construction starting, but all flammable vegetation and plants found on the Prohibited Plant List, needs to grubbed and graded or mowed prior to any construction. **Fuel Modification Area Vegetation Maintenance** All fuel modification area vegetation management shall be completed annually by May 1 of each year and more often as needed for fire safety, as determined by the CVFD. Annual Fuel Modification Area Vegetation Maintenance The property owner would obtain an FMZ inspection and report from a qualified CVFD-approved 3rd party inspector in May of each year certifying that vegetation management activities throughout the Project Site have been performed pursuant to this FPP. A copy of the annual inspection report would be provided to the proposed project homeowner association (HOA) and a copy made available to CVFD, if requested. **Reduced Fuel Modification Zone Discussion** Due to site constraints, it is not feasible to achieve a 100-foot FMZ width on the south side of the proposed development. This FPP incorporates additional fire protection measures as described in this mitigation measure that shall be implemented to compensate for potential fire related threats. These measures ~~are~~ were customized for this site based on the analysis results and focus on providing functional equivalency for reduced defensible space. **Landscape and Building Hardening.** **1.** Provide exterior glazing in windows (and sliding glass doors, garage doors, or decorative or leaded glass doors) facing the open space areas to be dual pane with both panes tempered glass, exceeding the fire-building code requirement. **2.** Ensure no eave overhangs and combustible construction in portion of yards facing natural open space areas. **3.** Install 1-hour rated walls (Type X- 5/8-inch thickness of gypsum) behind non-combustible covering (stucco, fiber cement siding) for a façade facing the open space areas to the east and south. **4.** Conduct a formal landscaping plan review for structures with a façade facing open space area. Landscape plans shall be reviewed and approved by the Chula Vista Fire Department.	

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
		5. Annually hire a third-party inspector to evaluate whether designated fuel modification zone areas meet the requirements of the project Fire Protection Plan. **6.** Provide a non-combustible fire-rated 6-foot-tall masonry block or view wall at the property line on the south and east sides of the proposed project to provide a physical, non-combustible barrier that would deflect heat and flame and would capture ground-blowing embers before they reached the proposed project's developed areas. The proposed project's slopes to the south provide an opportunity to place a non-combustible, 6 foot-tall, heat-deflecting wall (or view wall with lower 1 to 2 feet block wall and upper 4 to 5 feet dual-pane, one pane tempered glazing) to provide additional deflection for these lots to compensate for the reduced fuel modification zones. The wall shall meet any of the following specifications: • Be constructed of multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or • Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or • Be tested to meet the performance requirements of SFM Standard 12-7A-2. **Homeowner's Wildfire Education Program** Per the FPP, the proposed project's residents shall be provided a proactive educational component disclosing the potential wildfire risk and this report's requirements as part of their purchase documents. Property owners shall be required to sign notice of receiving this information during escrow. This educational information must include maintaining the landscape and structural components according to the appropriate standards and embracing a "Ready, Set, Go" stance on evacuation.	
5.13 Public Services			
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services?	The project would result in an incremental increase in demand for fire and emergency services.	**MM-PS-1:** Prior to the issuance of each building permit for any residential dwelling units, the applicant shall pay a Public Facilities Development Impact Fee (PFDIF) in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Supplemental Public Facilities Finance Plan, unless stated otherwise in a separate development agreement.	Less than significant.
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services?	The project would result in an incremental increase in demand for police services.	**MM-PS-1**	Less than significant.
Result in substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services?	The project would result in an incremental increase in demand for library services.	**MM-PS-1**	Less than significant.

Table 1-2. Summary of Significant Environmental Impacts and Mitigation

Environmental Issue	Result of Impact Analysis	Mitigation Measures	Impact Level After Mitigation
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for school services?	The project would result in an incremental increase in demand for schools.	**MM-PS-2:** Prior to the issuance of a building permit, the applicant shall provide evidence or certification by the Chula Vista Elementary School District (CVESD) and the Sweetwater Union High School District (SUHSD) that any fee charge, dedication or other requirement levied by the school district(s) has been complied with or that the district(s) has determined the fee, charge, dedication or other requirements do not apply to the construction or that the applicant has entered into a school mitigation agreement. School facility mitigation fees shall be in accordance with the fees in effect at the time of building permit issuance.	Less than significant.
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?	The project would result in an incremental increase in demand for parks.	**MM-PS-3**: No earlier than issuance of certificate of occupancy~~Prior to the issuance of each building permit for any residential dwelling units~~, the applicant shall pay the Park Benefit Fee as outlined in the project's Development Agreement, equal to the City's Park Acquisition and Development (PAD) Fee Update pursuant to Chula Vista Municipal Code Section 17.10. The final Park Benefit Fee amount shall be determined based on the number and type of residential units constructed and the PAD fee rates in effect as of the effective date of ~~payment~~the project's Development Agreement. To create this Park Benefit Fee, the City will waive the parkland dedication and development requirements set in Chapter 17.10 of the Chula Vista Municipal Code, including the Parkland Acquisition and Public Facilities Development fees, and Quimby Act fees. The Park Benefit Fee shall satisfy the project's park obligations and may be utilized by the City to acquire or develop parkland, as the City determines appropriate and in the best interest of the City.	Less than significant.
5.14 Recreation			
Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	The project would result in an incremental increase in demand for parks.	**MM-PS-3**	Less than significant.
5.17 Wildfire			
Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	There is the potential for the project to exacerbate impacts involving wildland fires.	**MM-WF-1**	Less than significant.

2 Introduction

This chapter of the environmental impact report (EIR) describes the purpose, scope, and legislative authority of the EIR, the intent of the California Environmental Quality Act (CEQA) and other pertinent environmental rules and regulations, and the environmental review process. The section also includes the structure, required contents, and relationship of the EIR to other potential responsible or trustee agencies.

2.1 Project Purpose and Background

This EIR addresses the environmental effects associated with the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Proposed Sunbow II, Phase 3 Project (project or proposed project). Implementation of the project requires a Chula Vista General Plan Amendment, Sunbow General Development Plan Amendment, Sunbow Sectional Planning Area Plan Amendment, a rezone, and a Tentative Map.

This EIR was prepared in accordance with CEQA (Public Resources Code, Section 21000 et seq.), the CEQA Guidelines (14 CCR 15000 et seq.), and the City of Chula Vista (City) environmental review procedures. The City is the lead agency for the EIR and processing of the project.

This EIR provides decision makers, public agencies, and the public with detailed information about the potential for significant adverse environmental impacts to occur as a result of the proposed project. Similarly, responsible agencies will use this EIR to fulfill their legal authority associated with permits issued for the project. The analysis and findings in this document reflect the independent judgment of the City.

2.2 Hierarchy of Sunbow Planning Documents

2.2.1 City of Chula Vista General Plan

California law requires that each county and city adopt a General Plan "for the physical development of the County or City, and of any land outside its boundaries which…bears relation to its planning" (California Government Code, Section 65300). Each General Plan must be internally consistent and all discretionary land use plans and projects must also be consistent with the General Plan.

The City of Chula Vista City Council adopted an updated General Plan on December 13, 2005 (Resolution Nos. 2005-424, 2005-425, 2005-426). The General Plan outlines goals, objectives, and policies for land use in the City in response to the community's vision for the City. This General Plan also guides day-to-day decision making to ensure that there is a continuing progress toward the attainment of the General Plan goals.

The General Plan Update includes Area Plans for specific parts of the City, including the East Planning Area, where the project is located (City of Chula Vista 2005). The East Planning Area encompasses approximately 23,807 acres in the City's incorporated area. In the East Planning Area, developments are suburban in nature and characterized by single-use residential areas, curvilinear streets, cul-de-sacs, and commercial malls; however, future development would be designed to support regional transit service, provide neighborhood and regional commercial areas, and offer a variety of housing opportunities. The vision for future development would require new infrastructure inclusive of improvements to roads, utilities, and community parks. The East Planning Area is divided into six subareas: East

Main Street Subarea, unincorporated Sweetwater Subarea, Otay Ranch Subarea, Master Planned Communities Subarea, unincorporated East Otay Ranch Subarea, and other miscellaneous subareas (City of Chula Vista 2005). The project is located within the Master Planned Communities Subarea, which is further broken down into six subareas: Sunbow, Rancho del Rey, Eastlake, Rolling Hills Ranch, San Miguel Ranch, and Otay Ranch.

2.2.2 Sunbow General Development Plan

The Sunbow General Development Plan (GDP), which originally included 604.8 acres in eastern Chula Vista, was adopted on December 5, 1989, with the primary objective to create an efficient, self-contained village with a mix of residential, commercial, community recreation, industrial park, and open space/trails land uses. The principal objective of the GDP was to develop an efficient, self-contained village (City of Chula Vista 1989).

The GDP is implemented through the adoption of a more detailed SPA Plan, tentative tract maps, and potential annexation and development agreements. The GDP is designed to function as a policy bridge between the City of Chula Vista General Plan (General Plan) and the SPA Plan, which provides more detailed plans for development of the Sunbow Master Planned Community (City of Chula Vista 1989).

2.2.3 City of Chula Vista Multiple Species Conservation Program

The project site is part of the City's Multiple Species Conservation Program (MSCP), which was adopted in 2003. The municipalities of southern San Diego County collaborated in producing the MSCP Subregional Plan. The MSCP Subregional Plan is implemented through individual Subarea Plans adopted by each jurisdiction and would allow "take" authorization for covered species through specific conditions of coverage pursuant to Section 4(d) of the Federal Endangered Species Act. The Chula Vista MSCP Subarea Plan provides for conservation of upland habitats and species through Preserve design, regulation of impacts and uses, and management of the Preserve (City of Chula Vista 2003). The MSCP identifies coastal sage scrub, coastal California gnatcatcher, coastal cactus wren, snake cholla, and barrel cactus as preserve species within and adjacent to the project site.

The MSCP outlines covered projects, which include projects involving land use development within the City for which hardline preserve boundaries have been established pursuant to the approved MSCP Subarea Plan, and where conservation measures consistent with the MSCP Subregional Plan and Chula Vista Subarea Plan have been or will be specified as biding conditions of approval in such projects' plans and approval. The proposed project was not identified as a covered project in the MSCP. However, the MSCP established a hardline preserve boundary within the project site, adjacent to the Sunbow II Phase 3 area.

2.2.4 Sectional Planning Area Plans

The SPA Plan was approved by the City Council on February 20, 1990. According to the City, GDPs are implemented through the adoption of SPA Plans, which are more detailed in its zoning, design regulations, and development parameters. The purpose of the SPA Plan is to ensure high-quality development, create an economically viable plan, provide a plan for long-range development, facilitate provisions for community facilities, preserve open space, and establish a planning and development framework. Regulations within the SPA Plan supersede other regulations where there is potential conflict between the GDP and the General Plan.

2.3 Scope of the EIR

Pursuant to Section 15161 of the CEQA Guidelines, this document was prepared as a "project EIR" and is "focused primarily on the changes in the environment that would result from the development" (i.e., the buildout of the proposed project). Where environmental impacts have been determined to be potentially significant, this EIR presents mitigation measures directed at reducing those adverse environmental effects. The development of mitigation measures provides the lead agency with ways to substantially lessen or avoid the significant effects of the project on the environment, to the degree feasible. Alternatives to the proposed project are presented to evaluate whether there are alternative development scenarios that can further minimize or avoid significant impacts associated with the project.

2.4 Environmental Procedures

2.4.1 CEQA Compliance

The California Public Resources Code (Section 21000 et seq.) requires the preparation and certification of an EIR for any project that a lead agency determines may have a significant effect on the environment. This EIR has been prepared in compliance with all criteria, standards, and procedures of the CEQA Guidelines (14 CCR Section 15000 et seq.).

2.4.2 Notice of Preparation and Scoping

CEQA establishes mechanisms whereby the public and decision makers can be informed about the nature of a proposed project and the extent and types of impacts that the project and its alternatives would have on the environment, should the project or alternatives be implemented. Pursuant to Section 15082 of the CEQA Guidelines, the City circulated a Notice of Preparation (NOP) dated November 9, 2020, to begin a 30-day public scoping period, to interested agencies, organizations, and parties. The NOP was also sent to the State Clearinghouse at the California Governor's Office of Planning and Research. The State Clearinghouse assigned a state identification number (SCH No. 2020110148) to this EIR.

The NOP is intended to encourage interagency communication regarding the proposed action so that agencies, organizations, and individuals are afforded an opportunity to respond with specific comments and/or questions regarding the scope and content of the EIR. A pre-recorded public scoping presentation was published on the City's website to gather additional public input. The pre-recorded presentation was made available during the entire public scoping period.

Comments received during the NOP public scoping period were considered during the preparation of this EIR. The NOP and comments are included in Appendix A to this EIR.

Based on the scope of the proposed project as described in the NOP, the following issues were determined to be potentially significant and are addressed in Chapter 5, Environmental Impact Analysis, of this EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Tribal 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
- Utilities and Service Systems
- Wildfire

2.4.3 Overview of the EIR Process

This EIR will be made available to members of the public, public agencies, and interested parties for a 45-day public comment period in accordance with Section 15105 of the CEQA Guidelines. Public comment of the EIR is intended to focus "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (14 CCR 15204). The Notice of Completion of the EIR will be filed with the State Clearinghouse as required by Section 15085 of the CEQA Guidelines. In addition, the Notice of Availability of the EIR will be distributed pursuant to Section 15087 of the CEQA Guidelines. Interested parties may provide comments on the EIR in written form. This EIR and all related technical appendices are available for review upon request during the 45-day public comment period by the following means:

- The EIR is available to review electronically at http://www.chulavistaca.gov/departments/development-services/planning/public-notices/environmental-notices.
- For additional options to review, please contact Oscar Romero, Associate Planner, by email at oromero@chulavistaca.gov or phone at 619.691.5098.

Once the 45-day public comment period has concluded, the City will review all public comments on the EIR, provide written responses to comments, and authorize revisions to the EIR text, if necessary. The final Mitigation Monitoring and Reporting Program (MMRP) will be incorporated into the Final EIR. Mitigation measures contained in the EIR consider future monitoring requirements and are written in sufficient detail to address impacts of the proposed project, referencing the appropriate implementing permits and plans. If one or more significant environmental impacts are determined, written findings for each of those significant effects, accompanied by an overriding justification and rationale for each finding in the form of a statement of overriding considerations will also be included in the Final EIR, if necessary. The Final EIR includes all comment letters received, final written response to comments, a Final EIR preface, if applicable, edits made to the EIR as a result of public review/comment, and findings of fact and statement of overriding considerations, if necessary.

2.5 Intended Uses of the EIR

According to Section 21002.1(a) of the Public Resources Code (CEQA), "[t]he purpose of an environmental impact report is to identify the significant effects of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." This EIR provides relevant information concerning the potential environmental effects associated with construction and operation of the proposed project and identifies and evaluates potentially significant effects that may result from implementation of the proposed project. It is intended for use by decision makers and the public.

As the designated lead agency, the City has assumed responsibility for preparing this EIR. When deciding whether to approve the proposed project, the City will use the information provided in this EIR to consider potential impacts to the physical environment associated with the proposed project. The City will consider all written comments received on the EIR during the 45-day public comment period in making its decision to certify the EIR as complete and in compliance with CEQA and in making its determination whether to approve or deny the project. In the final review of the document, environmental considerations, and economic and social factors will be weighed to determine the most appropriate course of action.

After certification of the Final EIR, agencies with permitting authority over all or portions of the project will use the Final EIR as the basis for their evaluation of environmental effects related to the project and approval or denial of other applicable permits or authorizations.

2.6 Organization and Content of the EIR

This EIR is organized to provide a tiered project-level analysis of the potentially significant environmental impacts, mitigation measures, and alternatives for the proposed project. To describe the direct, indirect, and cumulative impacts, mitigation measures, and alternatives for the proposed project, this EIR is organized as follows:

- Chapter 1, Executive Summary, outlines the conclusions of the environmental analysis and a summary of the project as compared to the alternatives analyzed in the EIR. This section also includes a table summarizing all environmental impacts identified in this EIR along with the associated project design features and mitigation measures proposed to reduce or avoid each impact.
- Chapter 2, Introduction, serves as a foreword to this EIR, introducing the project background, applicable environmental review procedures, and the organization of the EIR.
- Chapter 3, Environmental Setting, describes the project location and physical environmental setting.
- Chapter 4, Project Description, provides a thorough description of the proposed project and required discretionary approvals, along with project design features used as part of the City's standard practice to minimize project impacts.
- Chapter 5, Environmental Impact Analysis, provides an analysis of the potentially significant environmental impacts identified, and proposed mitigation measures to reduce or avoid any potentially significant impacts.
- Chapter 6, Cumulative Impacts, provides an analysis of the cumulative effects of the proposed project.
- Chapter 7, Growth Inducement, discusses the project's potential growth-inducing impact.
- Chapter 8, Significant Irreversible Environmental Changes, addresses impacts that have been identified as significant and irreversible.
- Chapter 9, Effects Found Not to Be Significant, address impacts that were determined to not be significant during the scoping process.
- Chapter 10, Alternatives, analyzes a range of reasonable alternatives to the proposed project that would lessen or avoid significant environmental effects of the proposed project.
- Chapter 11, References, provides a compiled list of references cited in each section of the EIR.
- Chapter 12, List of Preparers, provides a list of persons who contributed to the preparation of this EIR.
- Appendices include various technical studies and correspondence prepared for the project, as listed in the table of contents.

2.7 Mitigation Monitoring and Reporting Program

The City will prepare an MMRP prior to project approval. The MMRP will include all mitigation measures outlined in the EIR, the responsible entity for implementation, implementation timing (prior to construction, during construction, post-construction), and any follow-up reporting requirements (such as submittal of materials to regulatory agencies). The City, as the designated lead agency, is responsible for enforcing and verifying that each mitigation measure is implemented as required.

3 Environmental Setting

This chapter of the environmental impact report (EIR) provides a description of the existing site conditions, surrounding land uses, and land use planning context relevant to the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). Additionally, this chapter includes a description and map of related projects and growth factor assumptions for the project area.

3.1 Existing Site Conditions

The Sunbow Master Planned Community lies within the East Planning Area of the City of Chula Vista (City), as identified in the General Plan (City of Chula Vista 2005). The approximately 135.7-acre project site is located south of Olympic Parkway and east of Brandywine Avenue. The Otay Landfill is located to the south and southeast of the site and undeveloped land approved for industrial and residential land uses is located to the east within Otay Ranch Village Two. The existing Olympic Parkway, a six-lane prime arterial roadway, forms the northern boundary of the project site. The project site is approximately 3.8 miles southeast of downtown Chula Vista, 9.9 miles southeast of downtown San Diego approximately 2.3 miles west of State Route 125, and approximately 0.7 miles east of Interstate 805 (I-805). The project site consists of vacant and undeveloped land.

3.1.1 Surrounding Land Uses

The project site is bordered by the Otay Landfill to the south and southeast of the site, and undeveloped land approved for industrial and residential land uses is located to the east. Residential Medium High land uses are located to the west of the project site, across Brandywine Avenue (City of Chula Vista 2005). The existing Olympic Parkway forms the northern boundary of the project site and an open space area is located to the north of the project site, across Olympic Parkway, and residential development is located approximately 400 feet to the north. Olympic Parkway is designated a scenic roadway in the General Plan.

3.1.2 Existing Topography and Soils

Soils on the site consist of previously placed compacted fill, topsoil, alluvium, colluvium, San Diego formation, Otay formation, and Sweetwater formation. The compacted fill is associated with previous grading operations for Olympic Parkway and is present along the northern project boundary. The topsoil encountered consists of unconsolidated, clayey sands to sandy clays with a high expansion potential. Alluvium is present within the three main drainages within the northern portion of the site and along Olympic Parkway. Colluvium deposits are present along the hillsides above the alluvial drainages within the northern portion of the site. The San Diego Formation overlies the Otay Formation and consists of dense, fine to medium-grained sandstone with relatively low cohesion and moderate to high permeability. Otay Formation is the predominant geologic unit on the site. It consists of dense, silty to clayey, sandstone and hard, siltstone and claystone bed with continuous to discontinuous interbeds of weak, highly-plastic bentonitic claystone. The Sweetwater Formation, commonly referred to as the gritstone layer of the Otay Formation, underlies the Otay Formation and is characterized as dense to very dense, gravelly, and fine to coarse sandstone that is locally cemented.

3.1.3 Climate

The San Diego Air Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit) from the mid-40s to the high 90s. Most of the region's precipitation falls during November through April, with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation in the City of Chula Vista is approximately 9.7 inches; the amount increases with elevation as moist air is lifted over the mountains to the east (WRCC 2017).

3.1.4 Access

Primary regional access to the project site is from I-805 via Olympic Parkway. There is currently no public roadway access to or within the site. The project site is currently accessible from Olympic Parkway through two existing unpaved culverts crossing Poggi Canyon Creek in the northern portion of the site.

3.2 Existing Land Use Designations

3.2.1 Existing General Plan Designations

As shown on Figure 3-1, the project site's land use is designated largely as Open Space Preserve with small sections designated as Open Space, as well as Research & Limited Industrial within the southeastern portion of the site. Land uses designated as Open Space Preserve are areas within the Chula Vista Multiple Species Conservation Program Subarea Plan for the permanent conservation of biological resources (City of Chula Vista 2005). The Open Space land use designation is intended for lands to be protected from urban development, including floodplains, canyon, mountain, and agricultural uses (City of Chula Vista 2005).

3.2.2 Existing Zoning

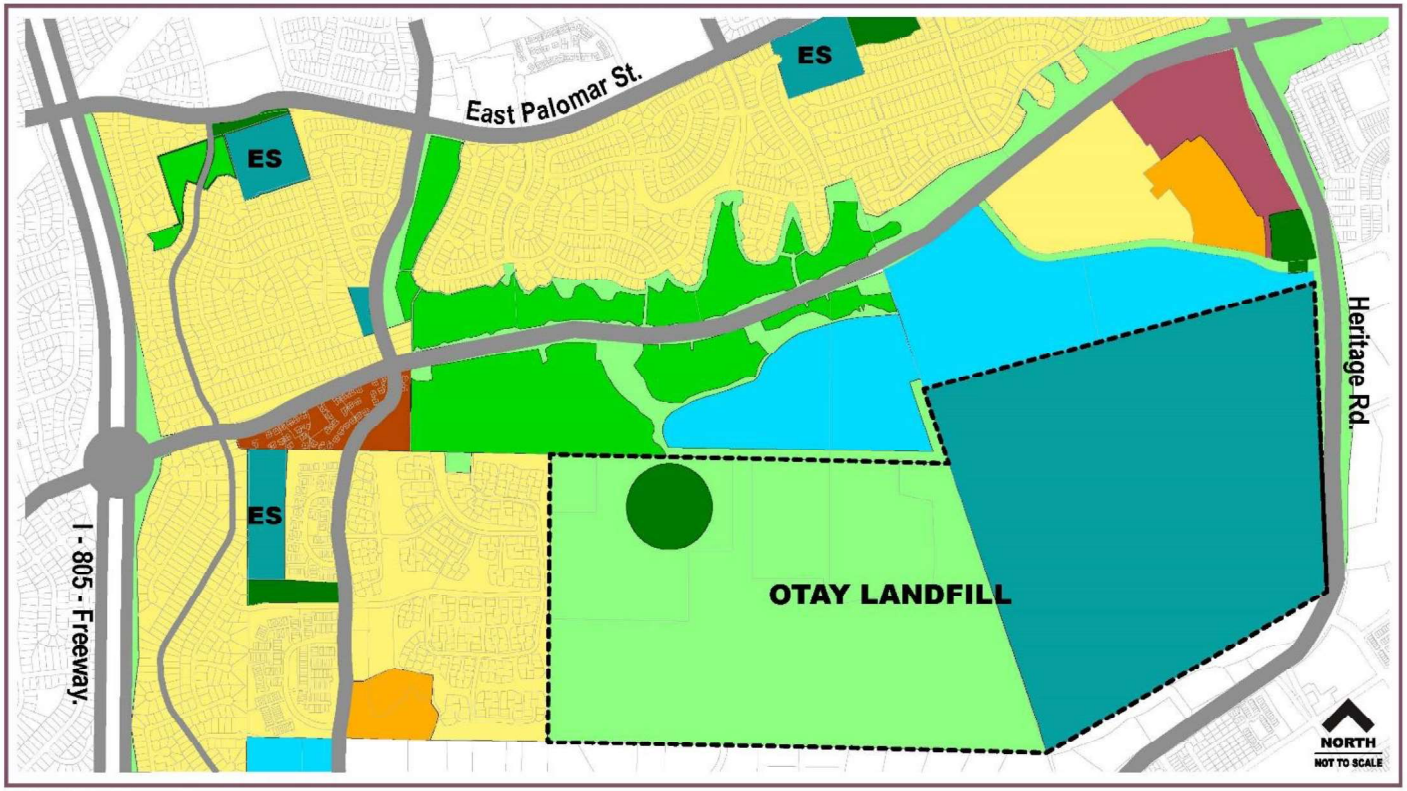
The City of Chula Vista Zoning Map designates the zoning of the project site as a Planned Community (P-C) Zone. Per Title 19 of the City of Chula Vista Municipal Code, the City's Zoning Code, P-C Zones shall be divided into sectional planning areas. Thus, the project site is designated as SPA under the P-C Zone (City of Chula Vista 2020). Specific land use districts are established by the SPA Plan (described below).

3.2.3 Existing Sunbow General Development Plan Designation

The General Development Plan designates the project site as Industrial Park and Open Space, as shown on Figure 3-2 (City of Chula Vista 1989).

3.2.4 Existing Sunbow Sectional Planning Area Plan Designation

Zoning (land use district) for the project site is established in the Sunbow SPA Plan. The SPA Plan designates the project site as Industrial Park and Open Space, as shown on Figure 3-3 (City of Chula Vista 1990).



SOURCE: RH Consulting Group, LLC 2020

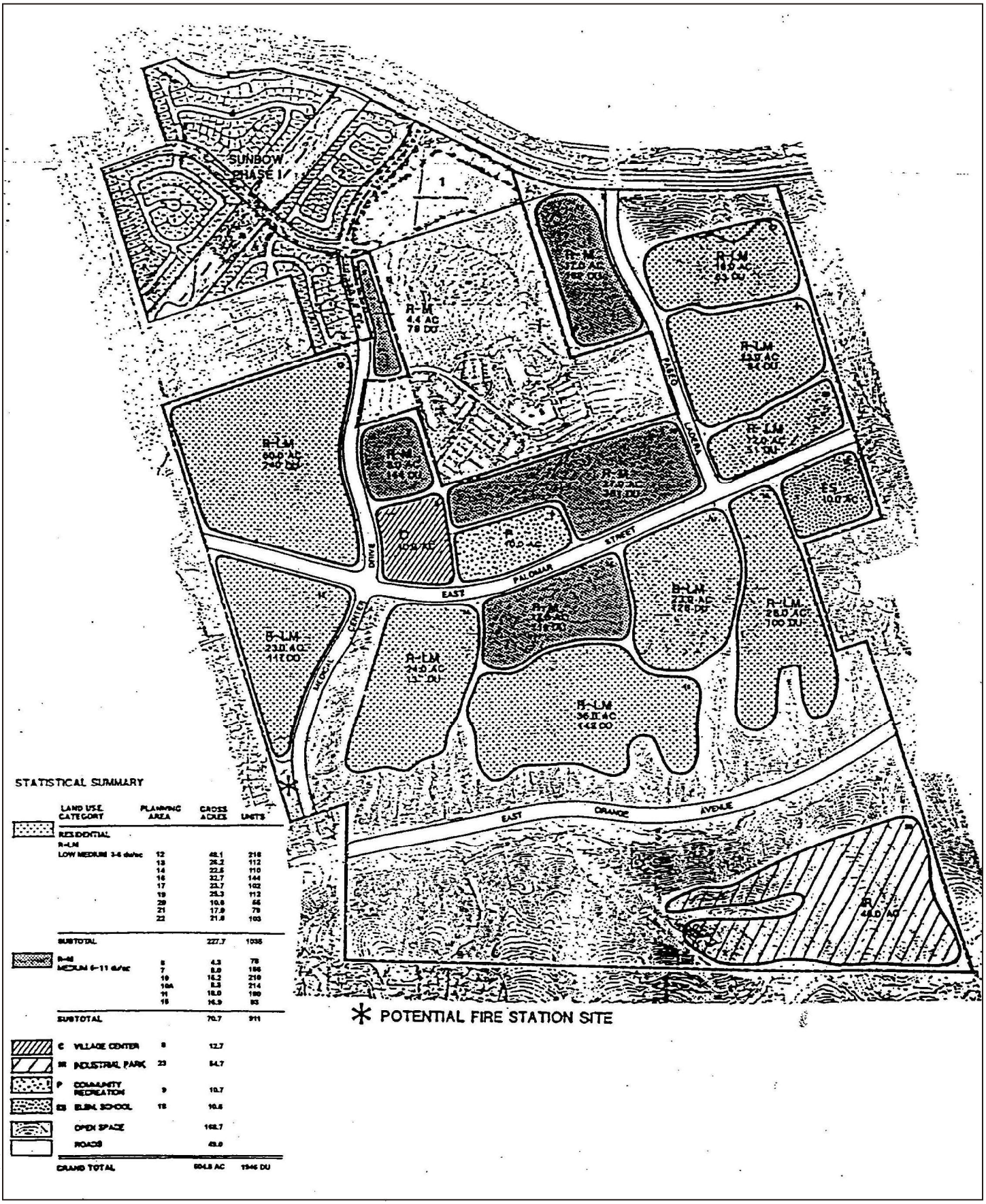
FIGURE 3-1

Existing General Plan Land Use

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, LLC

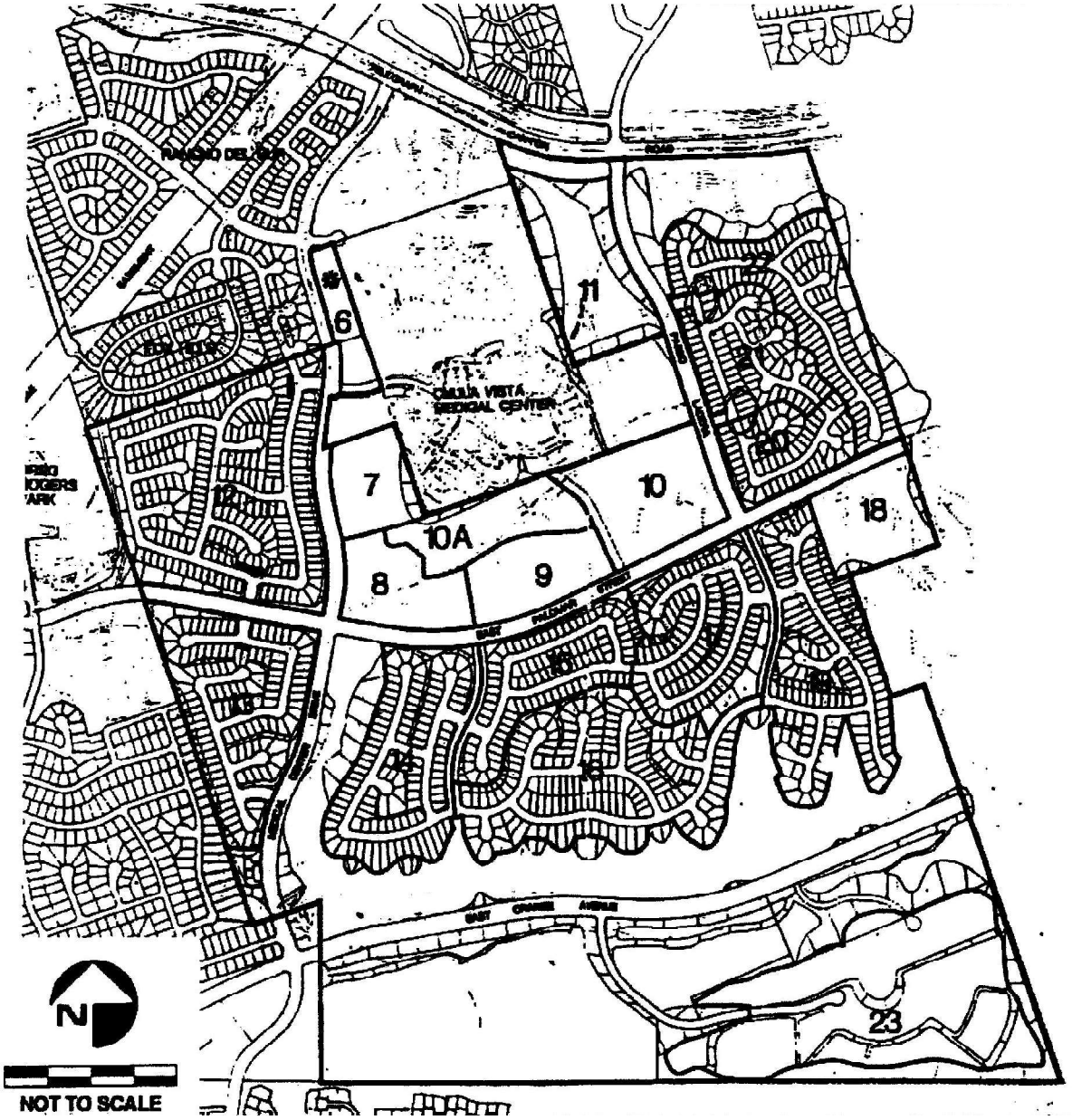
FIGURE 3-2

Existing General Development Plan Land Use Designation

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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STATISTICAL SUMMARY

PLANNING AREA	LAND USE DISTRICTS	GROSS ACRES	TOTAL UNITS
6	RM	5.7	78
7	RM	10.8	180
10	RC	17.0	208
10A	RC	10.8	214
11	RC	19.3	160
12	RS	60.9	216
13	RS	30.2	112
14	RS	24.5	110
15	RP	18.0	93
16	RS	34.8	146
17	RS	24.9	102
19	RS	28.8	112
20	RS	13.0	67
21	RS	16.0	81
22	RS	24.0	101
SUBTOTAL		329.7	1946
8	VC	11.0	
23	IP	46.0	
18	RS-ELEM. SCHOOL	11.0	
9	OS/COMM. REC.	10.0	
	OPEN SPACE & ROADS	194.3	
GRAND TOTAL		602.0	1946

CANDIDATE CHURCH SITE

RS – RESIDENTIAL SINGLE FAMILY
RP – RESIDENTIAL PLANNED DEVELOPMENT
RM – RESIDENTIAL MULTI-FAMILY
RC – RESIDENTIAL CONDOMINIUM
VC – VILLAGE CENTER
IP – INDUSTRIAL PARK
OS – OPEN SPACE

NOTE:
ALL GROSS ACREAGE NUMBERS FOR EACH PLANNING AREA ARE CALCULATIONS BASED ON THE PLANNING AREA BOUNDARY EXTENDING TO THE CENTERLINE OF THE ADJACENT ROAD

SOURCE: ERC Environmental and Energy Servies Co.

FIGURE 3-3

Existing SPA Plan Land Use Plan

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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4 Project Description

This chapter of the environmental impact report (EIR) provides a description of the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). As required by Section 15124 of the California Environmental Quality Act (CEQA) Guidelines, this chapter includes the precise location of the project site, a statement of the project objectives, a general description of project characteristics that accounts for public service facilities, and a summary of the discretionary actions that would be required.

4.1 Location

ACI Sunbow LLC (applicant), is proposing to develop an approximately 135.7-acre site (Assessor's Parcel Numbers 644-171-12500, 644-011-0600, 644-020-1100) within the Sunbow Master Planned Community of the City of Chula Vista (Figure 4-1, Project Location). The project site is located within the southern portion of the City of Chula Vista (City), in southwestern San Diego County, California. The site is located south of Olympic Parkway, east of Brandywine Avenue, and north and northwest of the Otay Landfill. Undeveloped land approved for industrial and residential land uses is located to the east of the site within Otay Ranch Village 2. The project site is approximately 3.8 miles southeast of downtown Chula Vista 9.9 miles southeast of downtown San Diego approximately 2.3 miles west of State Route (SR) 125, and approximately 0.5 miles east of Interstate (I) 805.

4.2 Background

The Sunbow General Development Plan (GDP), which originally included 604.8 acres in eastern Chula Vista, was adopted on December 5, 1989 (City of Chula Vista 1989), with the primary objective to create an efficient, self-contained village with a mix of residential, commercial, community recreation, industrial park, and open space/trails land uses. The GDP is implemented through the adoption of a more detailed SPA Plan, tentative tract maps, and potential annexation and development agreements. The GDP is designed to function as a policy bridge between the City of Chula Vista General Plan (General Plan; City of Chula Vista 2005) and the SPA Plan, which provides more detailed plans for development of the Sunbow Master Planned Community (City of Chula Vista 1990.

The portion of the Sunbow Master Planned Community designated as Sunbow II, Phase 3 (project site), includes the area slated to be developed as Industrial Park (formerly referred to as Planning Area 23 in the GDP and the SPA Plan), while the rest of the project site was designated as Open Space in the GDP and the SPA Plan. The GDP designated the 54.7 acres as Industrial Park to include research/development and light industrial uses, with approximately 700,000 square feet of leasable area generating approximately 2,800 employment opportunities. Based on the City's Multiple Species Conservation Program (MSCP) Preserve Boundary data, the applicant's civil engineer determined that there is an approximately 67.5-acre development area within the project site. The development area (referred to herein as the proposed development area) would consistent of residential uses, a community purpose facility, manufactures slopes, basins, and associated infrastructure. The remainder of the project site would be designated MSCP Preserve, Poggi Creek Conservation Easement areas, a 0.3-acre wetland resources area, with 63.6 acres preserved as permanent Open Space as part of the City MSCP Subarea Plan Preserve.

4.3 Project Objectives

Following are the objectives of the proposed project:

1. Develop a pedestrian-oriented community on an underutilized site with a range of residential uses, open space and MSCP Preserve areas, and recreational opportunities, which are compatible with the adjacent established residential communities.
2. Contribute to the growing housing needs of the City and the region by providing for multi-family housing units with a range of housing types to accommodate a spectrum of demographics.
3. Preserve portions of the project site as permanent open space and increase the MSCP Preserve Areas.
4. Provide pedestrian and bicycle facilities, including a pedestrian connection to the Chula Vista Regional Trail and connection to bike lanes within Olympic Parkway and nearby transit.
5. Implement the goals, objectives, and policies of the General Plan; the MSCP Subarea Plan; the GDP; and the SPA Plan.
6. Implement the City's Growth Management Ordinance to ensure that public and community facilities, such as transportation, water, flood control, sewage disposal, schools, and parks, are provided in a timely manner and financed by the parties creating the demand for, and benefiting from, the improvements.
7. Ensure that new uses are compatible with the existing community by establishing setbacks, design regulations and guidelines, best practices, and performance standards that enhance quality of life for neighboring properties.
8. Create a land use plan that can realistically be developed within a foreseeable time frame and under projected economic conditions.

4.4 Project Description

The following section describes the components of the proposed project. Amendments to the General Plan, GDP, SPA Plan, and a rezoning of the project site would be required to implement the proposed project as described below.

4.4.1 Land Uses

The 135.7-acre project site will consist of an approximately 67.5-acre development area composed of 44.2 acres of residential uses, a 0.9-acre Community Purpose Facility (CPF), 5.9 acres of public streets, and 16.5 acres of manufactured slopes and drainage basins. The project will also preserve 4.3 acres of Poggi Creek conservation easement areas and a 0.3-acre wetland avoidance area. Approximately 63.6 acres will be designated MSCP Preserve. The proposed land uses are summarized in Table 4-1 and shown in Figure 4-2, Proposed General Plan Land Use; Figure 4.3, Proposed General Development Plan Land Use; Figure 4-4, Proposed SPA Plan Land Use; and Figure 4-5, Proposed Zoning. Development would be centered within the southeastern portion of the site. Under the proposed project, the Industrial Park area (Planning Area 23) would be modified to Medium-High and High Residential land uses (see Figures 4-2 and 4-3).

Table 4-1. Sunbow II, Phase 3 Sectional Planning Area Plan Land Use Summary

Land Use	Planning Area	Units	Gross Acres	Target Density
Residential				
Multi-Family (Medium-High) Residential – 13–16 du/ac				
MF	R-1	131	8.5	15.4
MF	R-2	73	4.6	15.8
MF	R-3	108	8.1	13.3
MF	R-4	118	8.2	14.4
MF	R-5	104	7.0	14.7
Multi-Family Medium-High Residential Subtotal		*534*	*36.5*	*14.7[a]*
Multi-Family (High) Residential – 24.1 du/ac				
MF	R-6	184	7.6	24.1
Multi-Family High Residential Subtotal		*184*	*7.6*	*24.1*
Residential Total		**718**	**44.2**	**16.3[a]**
Other				
Community Purpose Facility (CPF)				
CPF	CPF	—	0.9	—
CPF Subtotal		—	*0.9*	—
Other Total		**—**	**0.9**	**—**
Open Space				
MSCP Open Space Preserve (OS)				
OS	OS-1	—	42.8	—
OS	OS-2	—	10.0	—
OS	OS-3	—	9.6	—
OS	OS-9b	—	1.1	—
MSCP Open Space Preserve Subtotal		—	*63.6*	—
Poggi Creek Conservation Easement				
OS	OS-4	—	2.6	—
OS	OS-5	—	0.7	—
OS	OS-6a	—	1.0	—
OS	OS-6b	—	0.1	—
Poggi Creek Conservation Easement Subtotal		—	*4.3*	—
Manufactured Slopes/Basin				
OS	OS-7	—	3.2	—
OS	OS-8	—	0.5	—
OS	OS-9a	—	0.5	—
OS	OS-10	—	4.9	—
OS	OS-11	—	1.3	—
OS	OS-12	—	1.6	—
OS	OS-13	—	4.6	—
Manufactured Slopes/Basin Subtotal		—	*16.5*	—

Table 4-1. Sunbow II, Phase 3 Sectional Planning Area Plan Land Use Summary

Land Use	Planning Area	Units	Gross Acres	Target Density
Wetland Avoidance Area				
OS	OS-14	—	0.3	—
Wetland Avoidance Area Subtotal		—	*0.3*	—
Open Space Total		—	**84.7**	—
Circulation				
Public Streets[b]	Circulation	—	5.9	—
Circulation Subtotal		—	*5.9*	—
Circulation Total		**—**	**5.9**	**—**
All Land Use Types – Summary				
All Land Use Types Total		—	**135.7**	—

Notes: du/ac = dwelling units per acre; MSCP = Multiple Species Conservation Program.
Subtotals and totals may not sum precisely due to rounding.
[a] Target density represents the average densities proposed.
[b] The acreages for all proposed private streets are included as a part of the residential portion.

4.4.1.1 Residential

As shown in Table 4-1, the proposed project would introduce 534 multi-family medium-high-density residential dwelling units on 36.5 acres, and 184 multi-family high-density residential dwelling units on 7.6 acres, for a total of 718 units on approximately 44.2 acres of the project site. The medium-high-density development would range from 13 to 16 dwelling units per acre, and the high-density development would be 24.1 dwelling units per acre.

Proposed residential uses would feature four unique multi-family attached residential product types with 15 unique floorplans, ranging in square footage from approximately 1,100 to 2,050, in two- and three-story homes. The proposed residences would feature a contemporary architectural style and unique combinations of elevations and colors, focusing on creating a varied street scene. Proposed garages would be accessed from private driveways, while front doors and balconies would face streets, private yards, and communal open space areas.

The project applicant would be required to enter into a Balanced Community Affordable Housing Agreement, in accordance with the inclusionary housing policy to increase the diversity of housing prices and rents throughout the community. Per the City's Balanced Community Affordable Housing Agreement, the project's affordable housing obligation is 72 affordable housing units, including 36 low-income and 36 moderate-income affordable units.

Various passive and active recreational open space areas would be distributed throughout the residential areas to provide recreational opportunities within walking distance of proposed residences (see Figure 4-6, Illustrative Concept Plan). Active recreation areas may include children's play areas, bocce ball courts, a fenced dog run, and open turf areas, while passive recreational uses may include shaded picnic areas and movable seating areas.

Landscaping

Proposed landscaping is shown in Figure 4-6. All landscaping will be provided in accordance with the Sunbow II Phase 3 Landscape Master Plan, prepared for the project, and the Chula Vista Landscape Manual, which requires the use of recycled water for irrigated open space slopes and common landscaped areas, wherever feasible.

Drought-tolerant plants would also be provided per the Chula Vista Landscape Manual. Further, all landscaping shall comply with the Landscape Water Conservation Ordinance (CVMC Section 20.12), the Fire Protection Plan and the Chula Vista MSCP Subarea Plan.

Park Requirements

According to Chula Vista Municipal Code (CVMC), Section 17.10, Parklands and Public Facilities, and the City of Chula Vista Park Acquisition and Development (PAD) Fee Update, the project would generate a parkland obligation of 5.6 acres. The Community Benefit Agreement, between the City and the applicant, includes a provision for payment of a Park Benefit Fee, equal to the PAD fee that would have been due pursuant to CVMC Section 17.10, of approximately $11.03 million based on 2019 PAD fees, which may be revised by the City from time to time. The final Park Benefit Fee amount will be determined based on the number and type of residential units constructed and the PAD fee rates in effect as of the effective date of ~~payment~~the project's Development Agreement. To create this Park Benefit Fee, the City will waive the parkland dedication and development requirements set in Chapter 17.10 of the CVMC, including the Parkland Acquisition and Public Facilities Development fees, and Quimby Act fees. The Park Benefit Fee shall satisfy the project's park obligations and may be used by the City to acquire or develop parkland, as the City determines appropriate and in the best interest of the City.

4.4.1.2 Community Purpose Facility

CVMC Section 19.48.040 P-C Planned Community Zone requires 1.39 acres of Community Purpose (CPF) land per 1,000 persons be provided. For the purposes of determining CPF obligation, the project would generate approximately 2,334 persons resulting in an obligation to provide approximately 3.2 acres of CPF land. Approximately 0.9 acres within the project site would be designated community purpose facility (CPF). The CPF area would be centrally located in the project site, toward the southeast (see Figure 4-4). The CPF would be used as a community recreation area and would accommodate a swimming pool, spa, and associated pool uses; a clubhouse; a shaded BBQ area; a children's play area; a multi-use hard court area; and a level turf area (see Figure 4-7, Community Purpose Facility Conceptual Site Plan). As shown in Figure 4-4, the CPF would be located directly to the south of proposed Street 'A,' (Street A) and would be bounded by R-4 to the east, south, and west The community recreation area is designed consistent with the provisions of CVMC)Section 19.48.025 as a qualified CPF private recreation use. The project applicant would enter into an agreement with the City to ensure compliance with the remaining 2.3-acre CPF obligation as part of the Development Agreement.

4.4.1.3 Open Space

The Sunbow Master Planned Community was created to achieve the residential goals and objectives of the GDP. As shown in Figure 4-3, the western portion and northern boundary of the project site was anticipated to be developed as open space in the GDP. Approximately 84.8 acres of the project site would be designated as open space and open space preserve. Within the development area, approximately 16.5 of open space acres would be comprised of manufactured slopes, basins and fuel modification zones. Open Space areas preserved outside the development area would be comprised of a 0.3-acre wetland resource area, 4.3 acres of Poggi Creek Conservation Easement areas and approximately 63.6 acres designated MSCP Preserve open space. Preserved open space would be managed by the City with funding from Community Facilities District (CFD) 98-3. The project's homeowner's association would manage the manufactured slopes, basins, and wetland avoidance areas.

MSCP Open Space Preserve

Approximately 63.6 acres of Open Space (Parcels OS-1, OS-2, OS-3, and OS-9b) would be preserved as MSCP open space under the City's MSCP Subarea Plan. The MSCP open space area would be dedicated to the City of Chula Vista. Land use and design of these areas is regulated by the MSCP Subarea Plan, as discussed in the SPA Plan Amendment (see Appendix B).

The project also includes a Chula Vista MSCP Boundary Adjustment (BLA) that would correct an inadvertent error in the MSCP that placed a 100% Preserve overlay on the project site even though the project was not identified as a Covered Project. The BLA would implement minor adjustments to the development limits and the adjacent open space and MSCP open space preserve areas (see Section 4.4.4, MSCP Boundary Line Adjustment and Minor Amendment, and Section 5.3, Biological Resources, for additional details). The applicant is also requesting an MSCP Minor Amendment to allow off-site temporary project impacts that would encroach 25 feet onto City's property and within this Minor Amendment Area (see Figure 5.3-1, Local Environmental Setting Map, and Figure 5.3-4, Biological Impacts Map). This off-site area would result in the installation of permanent buttressing; however, the impacts from grading would be temporary as this area would be return to its original condition. These areas are intended to remain unimproved and/or restored and their use strictly limited consistent with the Chula Vista MSCP Subarea Plan. Vegetation would consist of native plants that already occur on site. Only under limited circumstances may certain facilities, as determined by the City to be compatible with the goals and objectives of the City's MSCP Subarea Plan, be permitted within the preserve. Any proposed facilities within the MSCP Open Space Preserve area shall be subject to the prior review and approval of the Director of Development Services. The proposed project would limit grading for proposed Street 'A' and Street 'B' (Street A and Street B) to the north of the project site, as they intersect the MSCP Preserve area. Development of Streets A and B would occur consistent with previously approved alignments and existing Poggi Creek crossing improvements.

The proposed MSCP Preserve includes a portion of a water quality basin (OS-9b) as a Future Facility within the existing MSCP Preserve. The relocation of this basin to minimize impacts to the MSCP Preserve was considered during project design; however, due to site specific topography for drainage and the confined development footprint the basin was instead modified to reduce potential impacts to the MSCP Preserve to the extent practicable. This encroachment into the MSCP Preserve would quality as a Future Facility (a conditional compatible use) and is analyzed for Functional Equivalency Criteria. Refer to Section 5.3, Biological Resources.

Poggi Creek Conservation Easement Areas

Approximately 3.9 acres of open space, located in the northern portion of the project site, within Parcels OS-4, OS-5, OS-6a, and OS-6b, would consist of the Poggi Creek Conservation Easement Areas. There are currently 19.2 acres of recorded and unrecorded conservation easements associated with Poggi Creek within the project site. This includes the 9.7-acre recorded conservation easement, a 5.6-acre proposed unrecorded conservation easement, and the 3.9-acre proposed unrecorded Poggi Creek Conservation Easement. Of the recorded and unrecorded easements of Poggi Creek, 12.4 acres are within the proposed Chula Vista MSCP Boundary, as shown on Figure 4-8, Proposed Poggi Creek Conservation Easement and MSCP Boundary. The Poggi Creek Conservation Easement areas would remain undeveloped and allow for protection of the existing Poggi Creek. Note that the existing Poggi Creek Crossing (culverts) were analyzed as part of previous projects in this area and mitigation for impacts is fully complete.

Manufactured Slopes/Basins/Wetland Resources

Approximately 16.8 acres of open space within the proposed project site, located on Parcels OS-7, 8, 9a, 10 and 13, and would consist of manufactured slopes, basins, fuel modification zones and associated buffer areas. A 0.3 acre wetland resource is preserved on-site and is designated OS-14 in the Sunbow SPA Amendment. Two proposed detention/water quality control basins would be constructed within the northeast and northwest portion of the development area, within Parcels OS-9a and OS-11, to treat on-site stormwater runoff. Large landscaped slopes would be provided along the perimeter of the development area within Parcels OS-7, OS-10, and OS-12 and would incorporate a diverse plant palette and planting program. Fuel modification areas would also be provided in these areas and would be landscaped consistent with the Fire Protection Plan prepared for the project.

4.4.2 Access and Circulation Network

4.4.2.1 Site Access

Regional access to the project site is from I-805, which runs north–south and is located approximately 0.5 miles west of the project site. Additional north–south access is provided from SR-125, located approximately 2.3 miles east of the project site, and I-5, located approximately 3.8 miles west of the project site. SR-125 and I-5 both provide north–south circulation. SR-54 and SR-905 provide regional east–west circulation and are located approximately 4.3 miles north and 2.8 miles south, respectively, of the project site.

East–west access is provided by the existing Olympic Parkway, located adjacent to the project site to the north, connecting to I-805 to the west and SR-125 to the east. Olympic Parkway is designated as a scenic roadway within the General Plan. Direct access to the project site would be provided by two proposed public streets, Street A and Street B. Street A would extend south from Olympic Parkway, through the project site, and then curve to the east and connect with Street B. Street B would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figure 4-2, Project Site Plan, and Figure 4-9, Vehicular Circulation Plan). Both Street A and Street B would be signalized at the Olympic Parkway intersections, with pedestrian crossings. The impact areas of both Street A and Street B within Poggi Creek are within areas previously addressed and mitigated for impacts to Poggi Creek described above.

4.4.2.2 Internal Circulation

The proposed project's circulation system provides a system of roadway corridors to support both vehicular and non-vehicular modes of transportation to serve the site and the community. This system includes the development of internal systems to serve the SPA area, including planned roads, pedestrian improvements, and transit from adjacent villages.

The proposed project establishes the on-site public and private street cross sections for the project. Street pattern organizes traffic into a hierarchy of travel ways, arranged according to anticipated volumes and modes of travel. The western portion of the project site would be primarily developed as open space and no internal vehicular circulation is proposed. The street pattern in the development area of the site is a suburban street pattern, provides a transition to the natural open space areas to the west, and reflects the topography of this portion of the site.

As shown in Table 4-1, approximately 5.9 acres of the project site would be used for public streets, which includes proposed public Streets A and Street B, discussed in Section 4.4.2.1, Site Access, and shown in Figure 4-9. Pedestrian and bicycle circulation proposed is shown in Figure 4-10, Bicycle and Pedestrian Circulation Plan.

Streets 'A' and 'B'

Streets A and B would be classified as Modified Class III Collector Streets, planned as two unique street sections to serve the project. The Modified Class III Collector, with a 55-foot-wide right-of-way, 13-foot-wide travel lanes, two 7.5-foot-wide landscape parkways, and a 6-foot-wide sidewalk and parking on one side of each street, would be implemented on the portion of Street A from Olympic Parkway to the entrance of neighborhoods R-1/R-3 and along Street B between Olympic Parkway and the intersection at Street A. This narrowed street section is designed to provide an enhanced pedestrian experience, while minimizing grading adjacent to MSCP Preserve areas. The wider 61-foot-wide right-of-way is implemented on Street A within the development area and includes two 11-foot-wide travel lanes, a 5-foot-wide sidewalk, and 7.5-foot-wide landscaped parkways on both sides of the street. Parking is permitted on both sides of this segment of Street A. Class 3 Bike Lane would also be provided along Streets A and B.

One roundabout would be constructed at the intersection of Streets A and B. The roundabout would be designed to identify the main entrance into the community as well as provide traffic calming. The center of the proposed roundabout may include low landscaping and enhanced paving. The design of Street A and B sections, shown on Figure 4-11 , as well as the design of the proposed roundabout, will be implemented on the site plan, may be refined during final engineering, and shall be subject to City approval.

Private Streets

In addition to the proposed public Streets A and B, various private streets and drives are proposed throughout the proposed development area. Two types of private streets are proposed throughout the project site. Private neighborhood collector streets are planned within the proposed residential areas and would be comprised of two 12-foot-wide travel lanes, 5-foot-wide sidewalks, and 5.5-foot-wide landscaped parkways on both sides. No parking would be allowed within the private neighborhood collector streets. Private residential streets with parking would also be planned throughout the project site and would be designed to include two 12-foot-wide travel lanes, 8-foot-wide parallel or 18-foot-wide perpendicular parking lanes, a contiguous sidewalk on one side, and a 5-foot-wide landscaped parkway on the opposite side. The design of both of these street sections, shown on Figure 4-12, Private Residential Streets –Typical Street Sections, will be implemented on the site plan, may be refined during final engineering and shall be subject to City approval. Pedestrian connections from the end of proposed private drives to walkways within individual neighborhoods would be provided, where feasible.

Pedestrian and Bicycle Circulation

As shown in Figure 4-10, the residential street pattern would be designed to provide access into the neighborhoods and promote walkability. The proposed project would provide a pedestrian connection to the existing Chula Vista Regional Trail, located to the north of the project site, across Olympic Parkway. Pedestrian access to the Regional Trail would be provided at the two signalized intersections of Streets A and B and Olympic Parkway. A Class 3 Bike Lane would be provided along Streets A and B and would connect with the existing Class 2 Bike Lane along Olympic Parkway as well as the San Diego Metropolitan Transit System bus stop located at the corner of Olympic Parkway and Brandywine Avenue. Bicyclists using the proposed on-site Class 3 Bike Lanes would share the roadway with vehicles along Streets A and B. Internal pedestrian circulation would be provided via a network of sidewalks and paseos connecting neighborhoods and public streets.

4.4.3 Public Service and Utilities

4.4.3.1 Water Service

Water service for the proposed project would be provided by the Otay Water District (OWD). A water system would be installed in accordance with OWD standards and would be maintained and operated by OWD. One existing OWD potable waterline and one existing OWD recycled water line are located within Olympic Parkway. The proposed project would receive water by expanding the existing 624 Pressure Zone, located within the Central Area System of OWD, through creating two domestic service connections and two fire service connections transmission lines within ~~Olympic Parkway~~ public streets~~, directly to the north of Streets A and B~~. In addition, an on-site loop would be constructed for domestic and fire protection systems and would include a proposed public 12-inch OWD potable waterline~~, an 8-inch-diameter private domestic waterline, an 8-inch-diameter private fire protection waterline,~~ and an 8-inch-diameter public OWD recycled water line, to be constructed within Streets A and B, and an 8-inch-diameter private domestic waterline, an 8-inch-diameter private fire protection waterline, and a 6-inch private recycled waterline, to be constructed outside of the public streets. Recycled water would be used to irrigate all common landscaped areas, the on-site open space areas, and the CPF site. The proposed water and recycled water systems are shown in Figure 4-13.

4.4.3.2 Sewer Service

Sewer service for the proposed project would be provided by and connected to the existing City of Chula Vista Poggi Canyon Interceptor. The proposed project sewer would result in construction of an 8-inch-diameter public gravity sewer line along the proposed Street A, that would convey flow to the existing Poggi Canyon Interceptor, located within Olympic Parkway, to the north of the project site. Private sewer lines would be connected to this new public sewer line and extended to the proposed building sewer laterals. All utilities would be underground, and easements would be provided as necessary. The City operates and maintains its own sanitary sewer collection system that connects to the City of San Diego's Metropolitan Sewer System. The proposed sewer plan is shown in Figure 4-14.

4.4.3.3 Drainage and Stormwater Facilities

The approximately 135.7-acre site generally consists of natural grades and hills covered by native vegetation and shrubs, and the drainage of the site generally flows from south to north, toward Poggi Canyon Creek. The Poggi Canyon Creek, located within the northern portion of the project site, flows from the northeast to southwest and accepts stormwater runoff from the surrounding area, as well as downstream runoff from the project site. Site elevations within the site range from approximately 231 feet above mean sea level at the open space area of the project site to approximately 440 feet above mean sea level, toward the southeastern portion of the site, where it abuts the Otay Landfill.

The proposed storm drain system and layout, shown in Figure 4-15, would be designed to address peak flows and to integrate water quality features needed to comply with the City's Standard Urban Stormwater Mitigation Plan requirements for water quality. The proposed storm drain system would be designed to prevent the co-mingling of treated flows with untreated runoff. Drainage easements shall be provided as required by the City Development Services Department.

Under the proposed project, two proposed detention/water quality control basins would be constructed within the northeast and northwest portion of the development area to treat stormwater runoff. In addition, various storm drains, curb inlets, and cleanouts would be constructed within proposed private roads and parking areas to collect

and convey stormwater runoff associated with the proposed project. All stormwater facilities would be designed using low impact development techniques and best management practices (BMPs).

Specific methods of handling stormwater are subject to detailed approval by the development services department at the time of submission of improvement and grading plans. Design shall be accomplished on the basis of requirements of the City of Chula Vista Subdivision Manual.

4.4.3.4 Dry Utilities

Dry utilities would be extended underground throughout the project site, primarily within streets and other public easements. Telephone, cable television, and internet service would be provided by companies such as Cox Communications, Time Warner, and AT&T. Gas and electric services would be provided by San Diego Gas & Electric Company.

4.4.3.5 Schools

The Chula Vista Elementary School District serves the project site. More specifically, Valle Lindo Elementary School (grades K–6) serves the project site and surrounding area (Chula Vista Elementary School District 2020). Valle Lindo Elementary School is the closest elementary school to the project site, located approximately 0.3 miles west of the project site.

The Sweetwater Union High School District serves the project site. The majority of the project site is within the attendance boundary of Rancho Del Rey Middle School, while the southwestern portion of the project site is served by Castle Park Middle School. Similarly, the majority of the project site is served by Otay Ranch High School, while the southwestern portion of the site is served by Castle Park High School (Sweetwater Union High School District 2020). All middle schools (grades 7–12) and high schools (grades 9–12) are located approximately 1 mile from the project site. Additionally, Southwestern College is located 1 mile north of the project site.

4.4.3.6 Police and Fire Services

The Chula Vista Police Department currently provides police services within the City. Development of the project site would increase demand for police services. To meet Growth Management Ordinance service thresholds, additional personnel and facilities may be required at buildout of the project. The proposed project would contribute and estimated $1.5 million in Development Impact Fees dedicated to police services.

The Chula Vista Fire Department would provide fire service for the project. Fire Station Number 3 is the closest fire station to the project site, located approximately 910 feet to the northwest of the site, at 1410 Brandywine Avenue. Additional fire equipment, staff, and facilities required to serve the increased population as a result of the proposed project is identified in Section 5.13, Public Services, and the Supplemental Public Facilities Financing Plan prepared for the proposed project. The proposed project would contribute an estimated $840,000 in Development Impact Fees dedicated to Fire Suppression.

American Medical Response (AMR) currently provides emergency medical services on a contract basis within the City. There are five AMR South County paramedic units: two are located in Chula Vista, two are in National City, and one is in Imperial Beach. However, the Chula Vista Fire Department is planning to take over ambulatory services for the City once AMR's current contract expires in September 2021.

4.4.4 MSCP Boundary Line Adjustment and Minor Amendment

The proposed project includes an MSCP Boundary Line Adjustment to adjust the existing MSCP Preserve Boundary in areas on site that overlap with the proposed project's development area. As a part of the proposed MSCP Boundary Line Adjustment, the proposed project is required to set aside a potentially suitable area currently located outside of the MSCP Preserve to incorporate into the MSCP Preserve at a 1:1 acreage ratio. The proposed MSCP Boundary Line Adjustment would be required to result in equal or higher biological value as compared to the existing MSCP Preserve. The determination of biological value of the proposed MSCP Preserve Boundary Line Adjustment shall be made by the City, as the local jurisdiction, in concurrence with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife. The proposed MSCP Boundary Adjustment would meet the MSCP Boundary Line Adjustment functional equivalency criteria and would result in a 0.09-acre increase to the MSCP Preserve Area. Section 5.3 of this EIR provides a detailed description of the conditions of the "give" and "take" areas separately. Where it is appropriate to discuss the give and take areas together, the area is referred to as the Boundary Line Adjustment Area. An MSCP Minor Amendment is also proposed to address off-site grading adjacent to the southwestern boundary of the development area.

4.4.5 Tentative Map

The Tentative Map, shown in Figure 4-16, would address subdivision of the project site, street standards, and infrastructure. The Tentative Map would also address provisions for underground encroachment (e.g., all underground utilities lines) into the right-of-way, off-site streets (traffic signals at Olympic Parkway), and grading required to implement the subdivision. This includes the proposed sewer line within the Street A and Street B right-of-way, which would convey flow to the existing Poggi Canyon Interceptor, located within Olympic Parkway to the north of the project site, as shown in Figures 4-14 and 4-16.

4.4.6 Conceptual Grading

Conceptual grading and cut-and-fill plans are shown in Figure 4-17. Grading for the proposed project would consist of cuts and fills that are planned to have maximum heights of approximately 100 feet, with a maximum slope inclination of 2:1 (horizontal to vertical). The proposed raw grading quantity for the project is approximately 1,200,000 cubic yards of balanced cut and fill material.

4.4.7 Construction and Phasing

Construction of the proposed project would commence in May 2021 and would last approximately 7 years, ending in May 2028. Grading of the project site would commence in June 2021 and last approximately 8 months. Building construction would occur over 6 years and 5 months and would begin in December 2021. Paving would take approximately 6 months, and architectural coatings would take approximately 6 years and 5 months. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- **Site Preparation:** one month (May 2021 to June 2021)
- **Grading:** 8 months (June 2021 – February 2022)
- **Building construction:** 6 years and 5 months (December 2021 to May 2028)
- **Paving:** 6 months (March 2022 to September 2022)
- **Architectural coatings:** 6 years and 5 months (December 2021 to May 2028)

Grading of the project site would require 1,200,000 cubic yards of balanced cut and fill and is expected to occur over 8 months. The proposed project would involve development of 718 multi-family residential units[1] but would be developed in phases. The phased occupancy of the proposed residential development would begin in 2023 and the residential development would be fully occupied by 2028.

4.4.8 Project Design Features

4.4.8.1 Air Quality

The following project design features (PDFs) would be implemented as part of the proposed project:

PDF-AQ-1 **Fugitive Dust Control.** The applicant or its designee shall implement the following measures to minimize fugitive dust (PM_{10} and $PM_{2.5}$):

a. A non-toxic dust control agent shall be used on the grading areas or watering shall be applied at least three times daily.
b. Grading areas shall be stabilized as quickly as possible.
c. Chemical stabilizer shall be applied, a gravel pad shall be installed, or the last 100 feet of internal travel path within the construction site shall be paved prior to public road entry and for all haul roads.
d. Visible track-out into traveled public streets shall be removed with the use of sweepers, water trucks, or similar method at the end of the workday.
e. All soil disturbance and travel on unpaved surfaces shall be suspended if winds exceed 25 mph.
f. On-site stockpiles of excavated material shall be covered.
g. A 15 mph speed limit on unpaved surfaces shall be enforced.

PDF-AQ-2 **Architectural Coating.** The applicant or its designee shall use low or no-volatile organic compound (VOC) architectural coatings.

4.4.8.2 Biological Resources

PDF-BIO-1 **Habitat Restoration.** The project also proposes habitat restoration efforts (soil salvage, seed transplant) within appropriate on-site areas proposed, to be added to the City 100% Preserve. To this end, considerable clay soil exists within the current project development areas and could be used to develop suitable habitat to support Otay tarplant within an enhanced portion of the on-site Preserve. This effort would further benefit the Otay tarplant population and native grassland conservation on site and could also support the goals of the City's Subarea Plan and the Conservation Recommendations of the 1995 Biological Opinion (BO).

[1] Note that the Air Quality and Greenhouse Gas Emissions Technical Report (Appendix C) assumed 720 proposed residential units for a conservative analysis.

4.4.8.3 Noise

PDF-NOI-1 **Exterior-to-Interior Noise Analysis.** An exterior-to-interior noise analysis shall be conducted by the project applicant for the proposed dwelling units facing the adjoining roadways (e.g., Olympic Parkway) prior to issuance of building permits. Installation of mechanical ventilation systems or air conditioning systems and sound-rated windows shall be required if the predicted interior background noise due to traffic noise intrusion through the building envelope assemblies exceeds the state and City 45 dBA CNEL interior standard. The acoustical analysis shall substantiate that the resulting interior background noise levels, with appropriate implementation of interior comfort systems and sound insulation, will be less than this noise standard.

4.4.8.4 Transportation

PDF-TRA-1 **Trip Reduction Strategies.** The strategies outlined below would reduce the number of automobile trips generated by residents of the project and the distance that the residents drive.

- Provide ride share coordination services ~~thru~~ through the project's homeowner's association to match residents interested in carpooling,
- Coordinate with nearby schools and/or the project's homeowner's association to match residents interested in carpooling to/from schools.
- Provide on-site transit opportunities information.
- Encourage bicycling by providing on-site bicycle infrastructure such as bike racks.
- Implement a multimodal wayfinding signage program

PDF-TRA-2 **Adaptive Traffic Signal Control.** The project will also contribute its fair share contribution toward the provision of Adaptive Traffic Signal Control (ATSC) modules to each signalized intersection along the Olympic Parkway corridor between the I-805 Ramps and La Media Road.

4.5 Discretionary Actions/Approvals

A discretionary action is an action taken by an agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project. The following discretionary actions are associated with the proposed project and would be considered by the City:

- Certification of a Final EIR and adoption of a Mitigation Monitoring and Reporting Program pursuant to CEQA
- Approval of amendments to the General Plan
- Approval of amendments to the GDP
- Approval of amendments to the SPA Plan
- Approval of the Tentative Map for Sunbow II, Phase 3
- Chula Vista MSCP Subarea Plan Boundary Adjustment and Minor Amendment
- Rezone
- Approval of the Development Agreement between the applicant and the City[2]

[2] A Development Agreement between the Applicant and the City of Chula Vista is proposed in conjunction with the proposed project. The Development Agreement would address the provisions included in the Community Benefit Agreement approved by the Chula Vista City Council (Resolution No. 2020-003, January 7, 2020). The Development Agreement would also address the project's Community Purpose Facility and affordable housing obligations, along with other terms and conditions acceptable to the City of Chula Vista.

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SOURCE: Bing Maps 2020

FIGURE 4-1

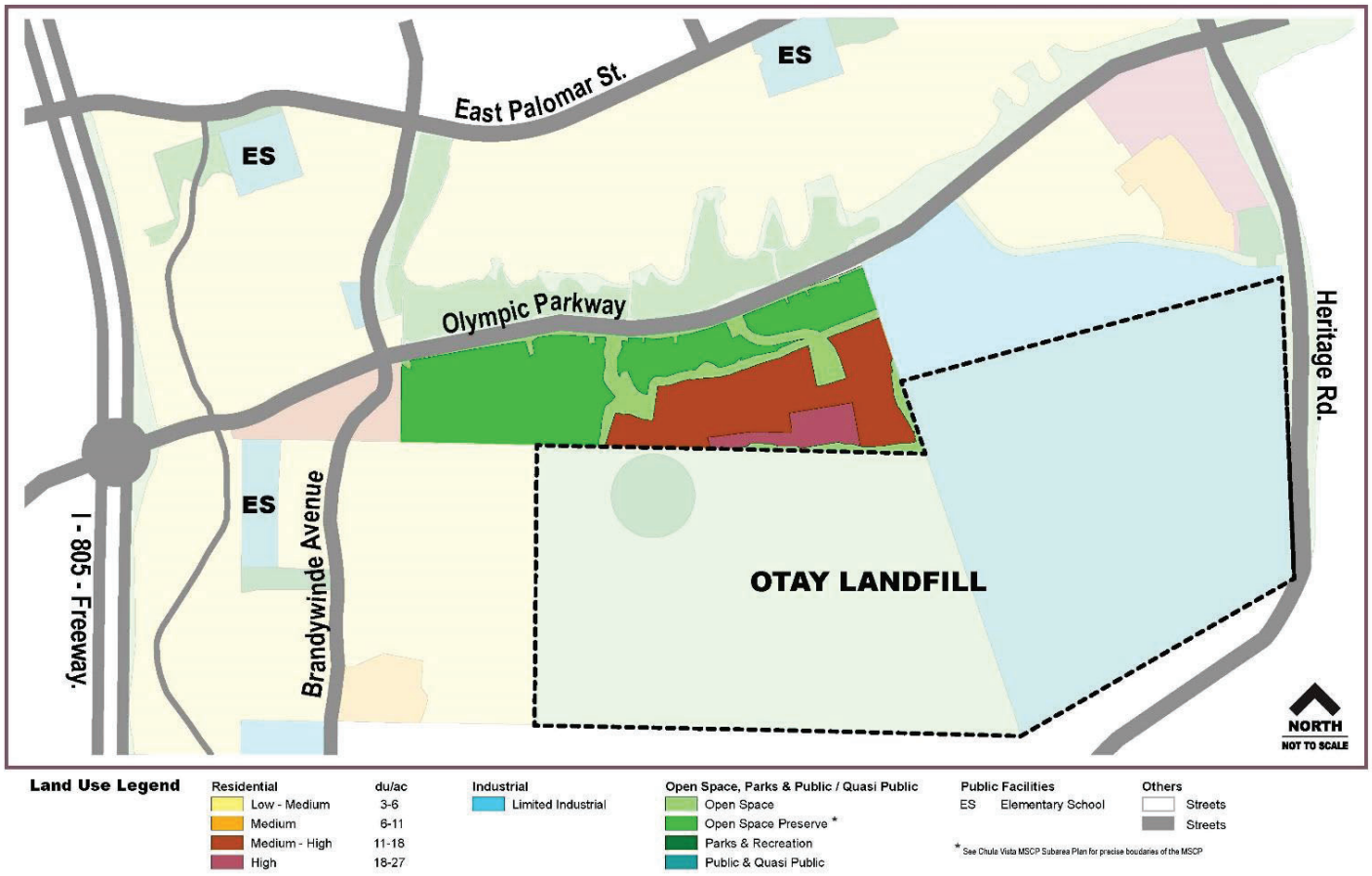
Project Location

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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0 1,000 2,000 Feet

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SOURCE: RH Consulting Group, LLC 2020

FIGURE 4-2

Proposed General Plan Land Use

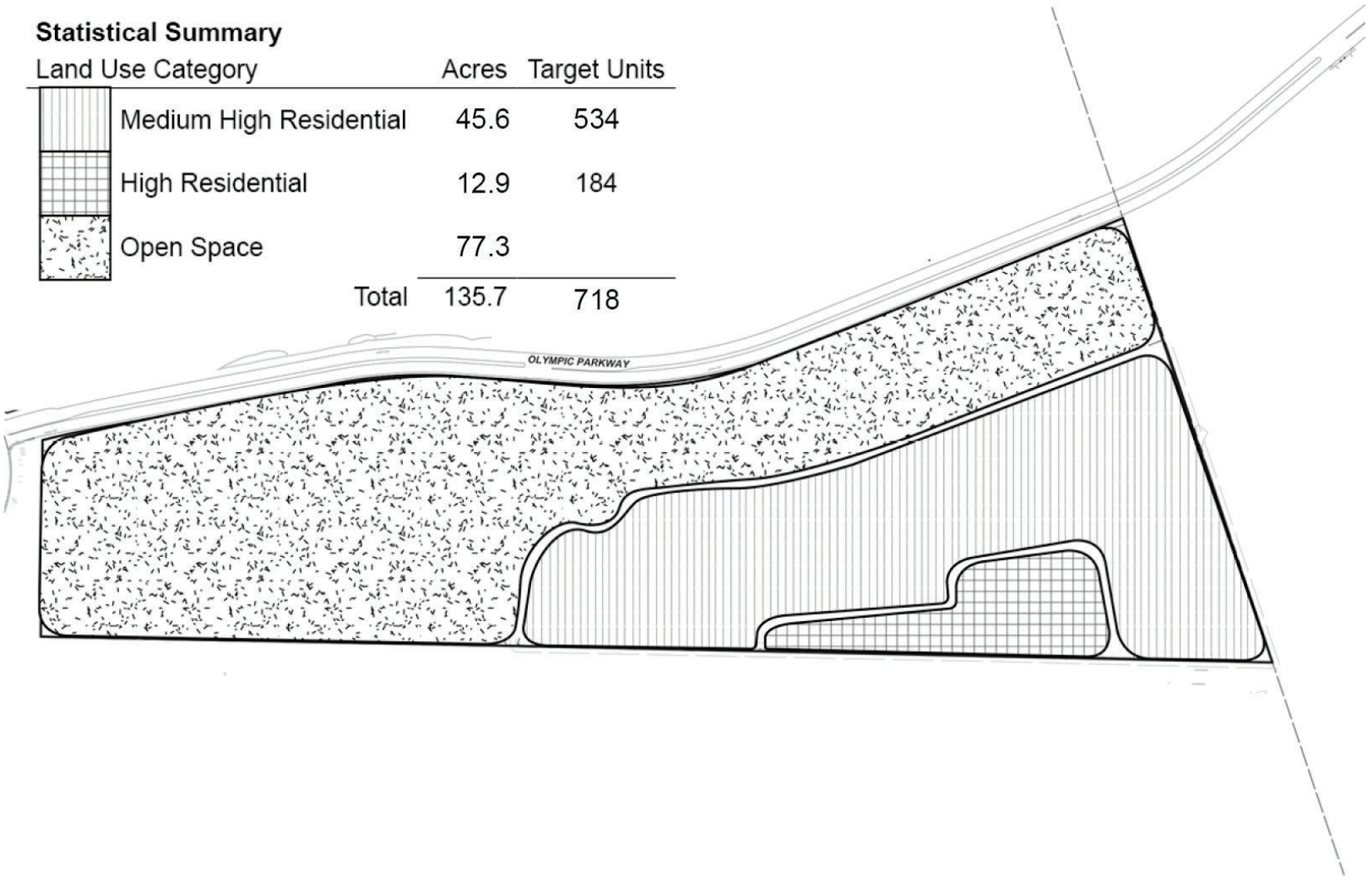
Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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Statistical Summary

Land Use Category	Acres	Target Units
Medium High Residential	45.6	534
High Residential	12.9	184
Open Space	77.3	
Total	135.7	718



SOURCE: RH Consulting Group, LLC 2020

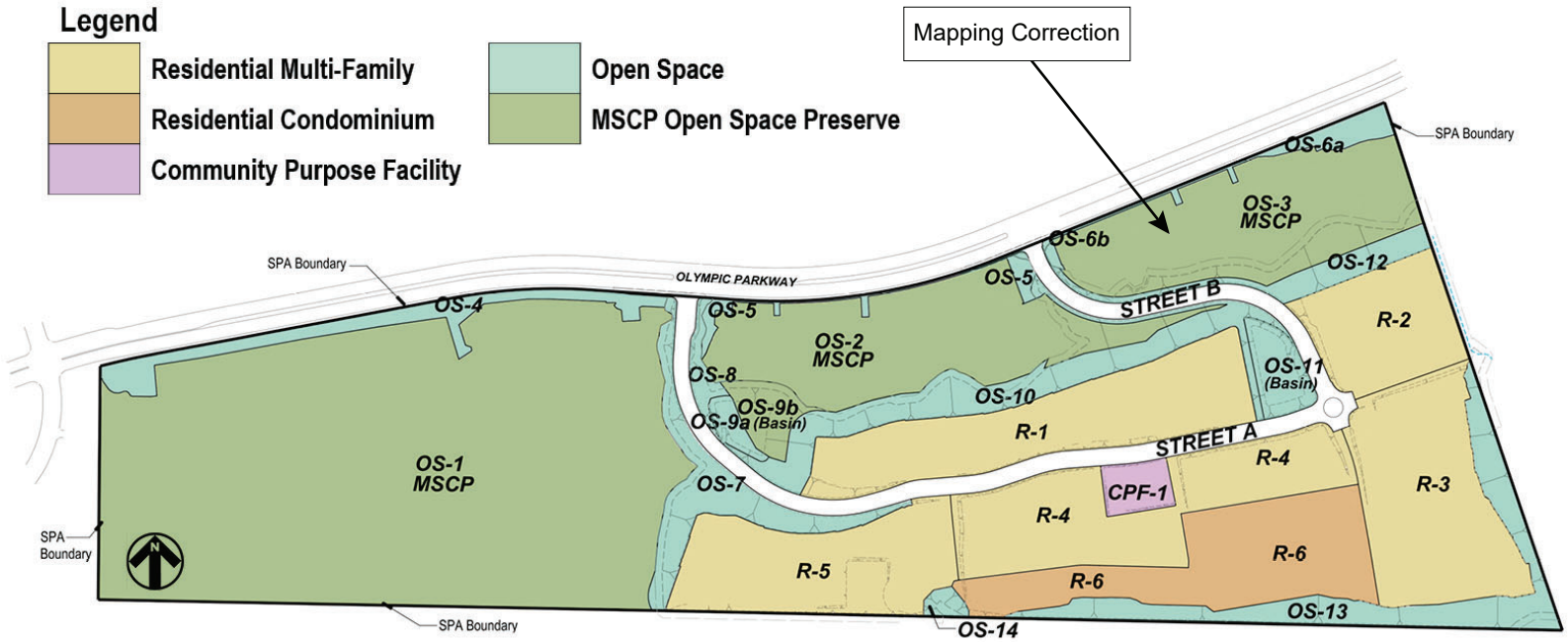
FIGURE 4-3

Proposed General Development Plan Land Use Designation

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, LLC 2020

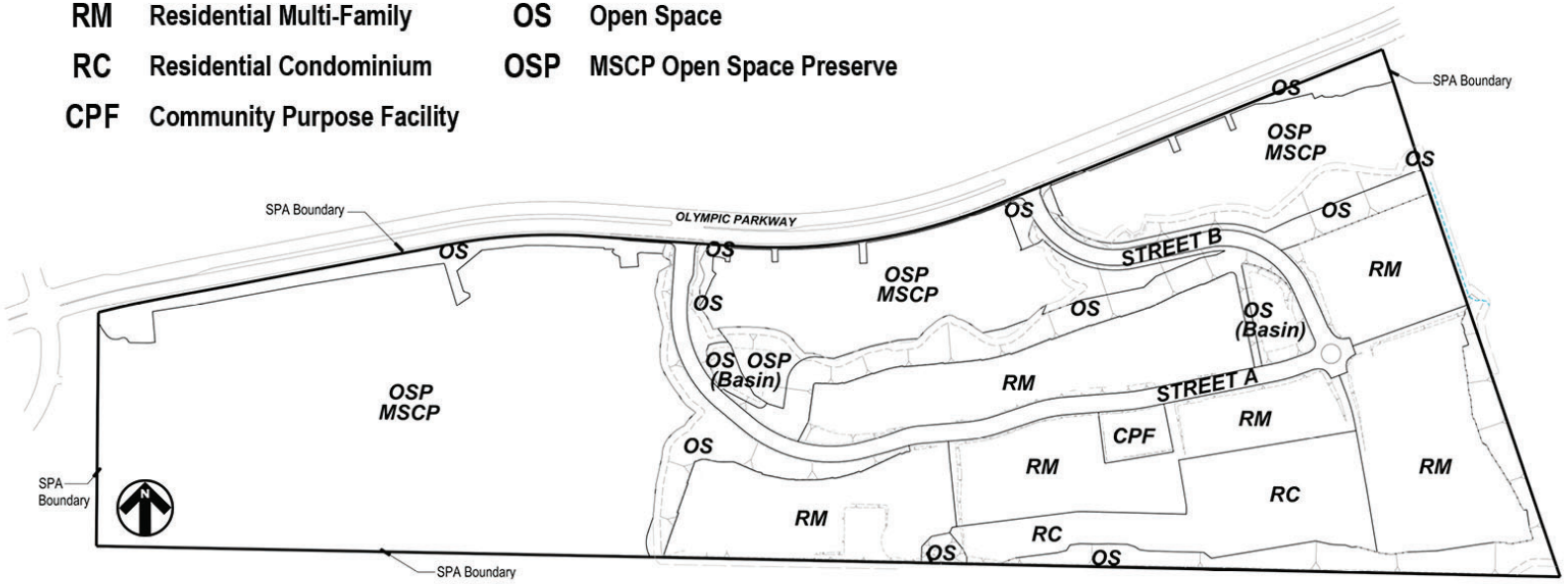
FIGURE 4-4

Proposed SPA Land Use Plan

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, LLC 2020

FIGURE 4-5

Proposed Zoning

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: Schmidt Design Group 2020

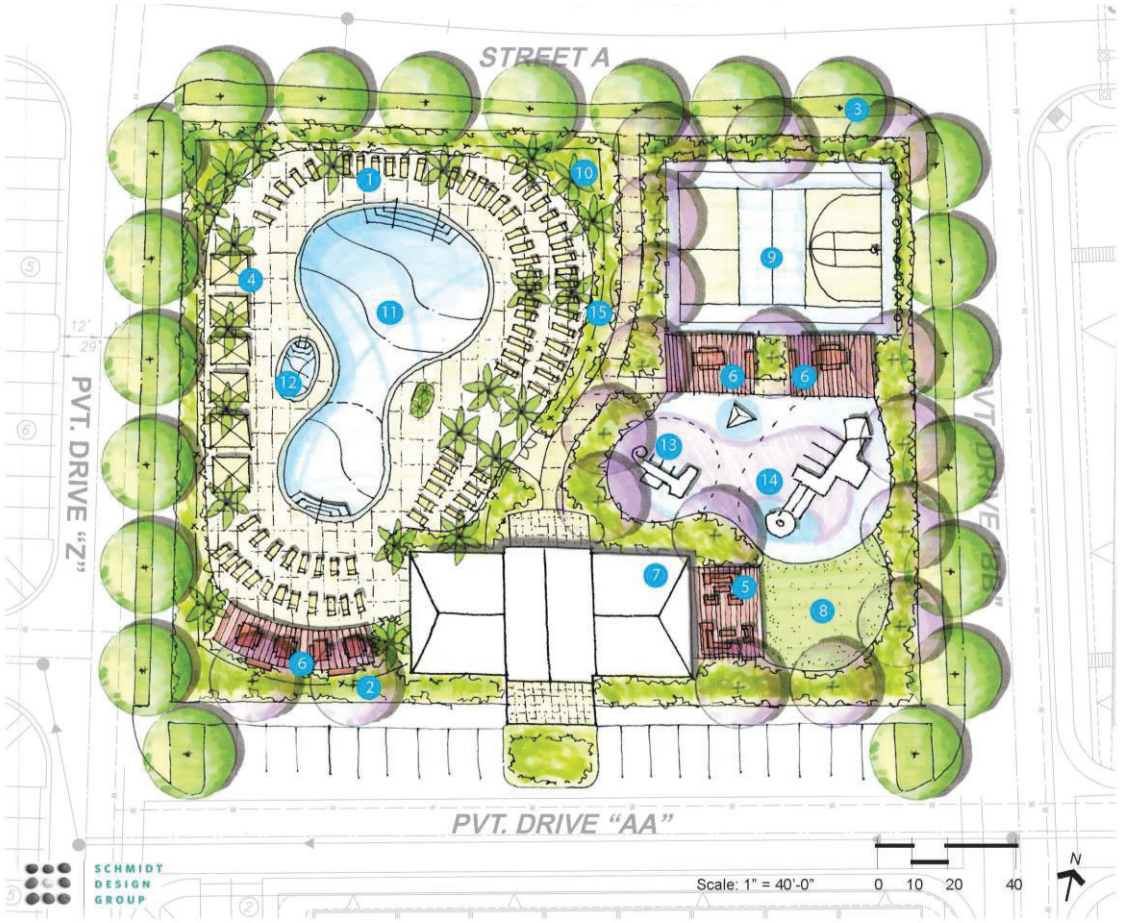
FIGURE 4-6

Illustrative Concept Plan

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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LEGEND

1. CHAISE LOUNGE CHAIRS, TYP.
2. ACCENT TREE, TYP.
3. SHADE TREE, TYP.
4. CABANAS, TYP.
5. SHADED GATHERING AREA WITH FIRE PIT AND LOUNGE SEATING
6. SHADED PICNIC AREA WITH TABLES & BBQ
7. CLUB HOUSE
8. TURF
9. HARDCOURT (1/2 COURT BASKETBALL, VOLLEYBALL, AND PICKLEBALL)
10. PALM TREE, TYP.
11. POOL
12. SPA
13. CHILDREN'S PLAYGROUND (2-5 YRS)
14. CHILDREN'S PLAYGROUND (5-12 YRS)
15. POOL ENCLOSURE

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SOURCE: Schmidt Design Group 2020

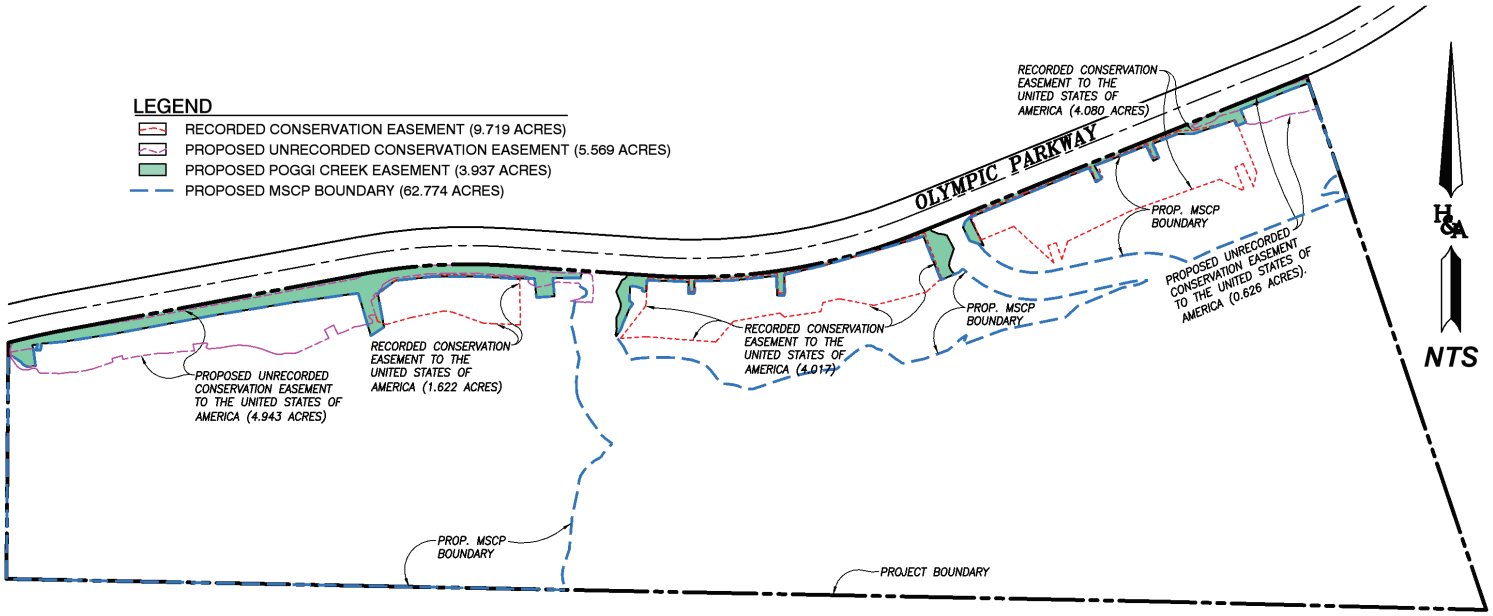
FIGURE 4-7

Community Purpose Facility Conceptual Site Plan

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, LLC, Hunsaker & Associates, Schmidt Design Group 2020

FIGURE 4-8

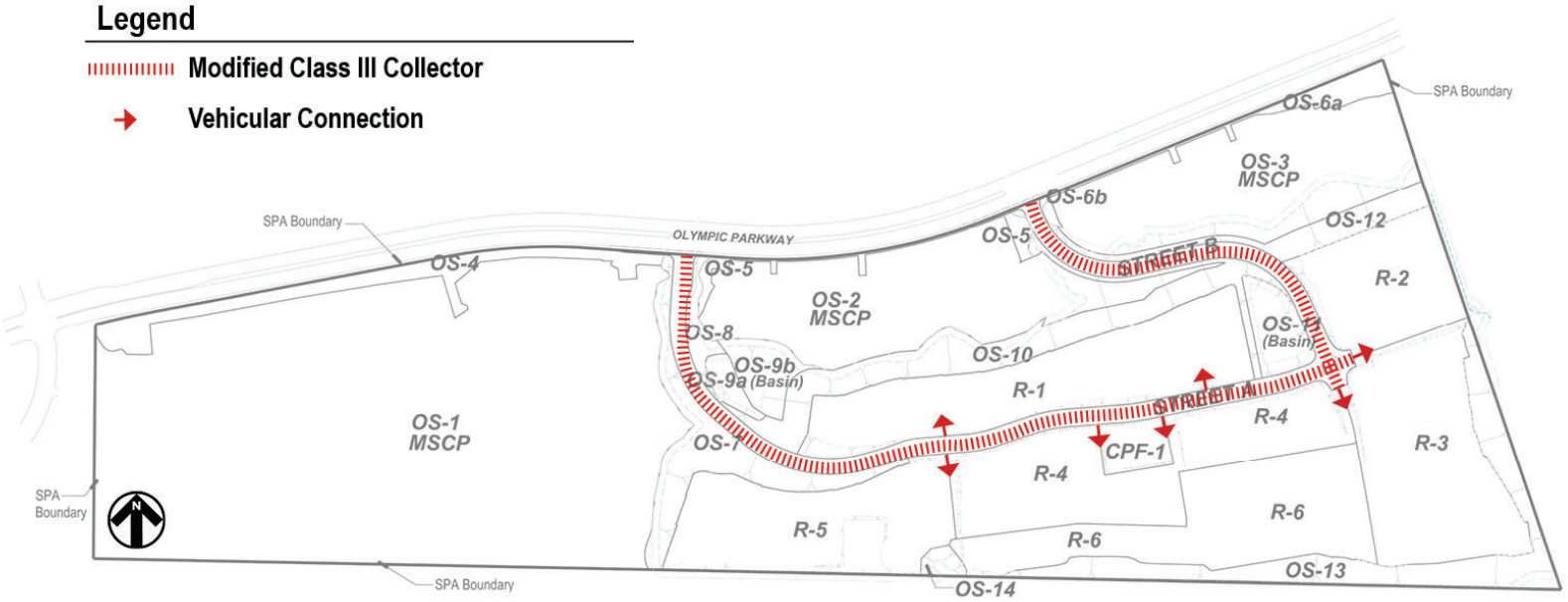
Proposed Poggi Creek Easement and MSCP Boundary

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

FIGURE 4-9

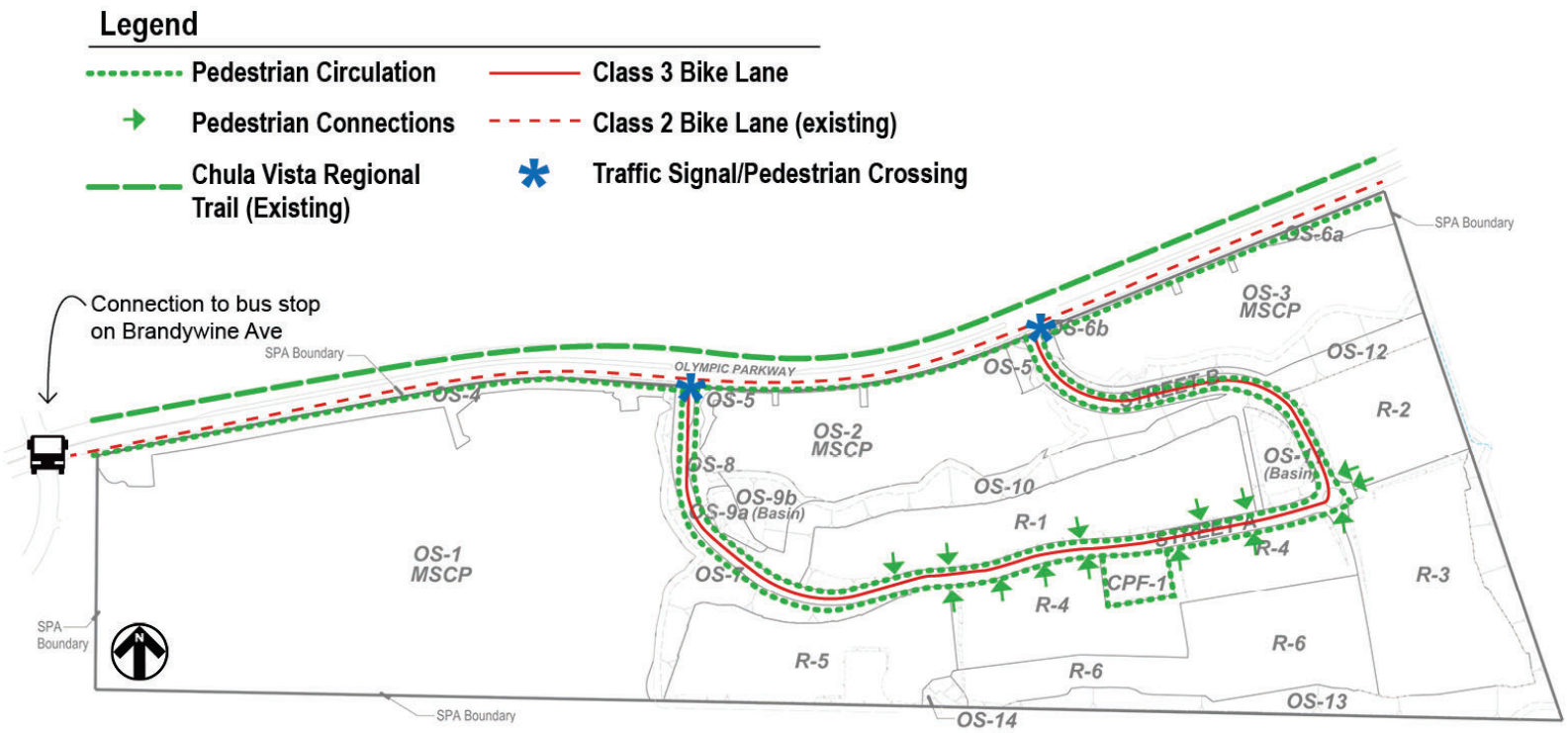
Vehicular Circulation Plan

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

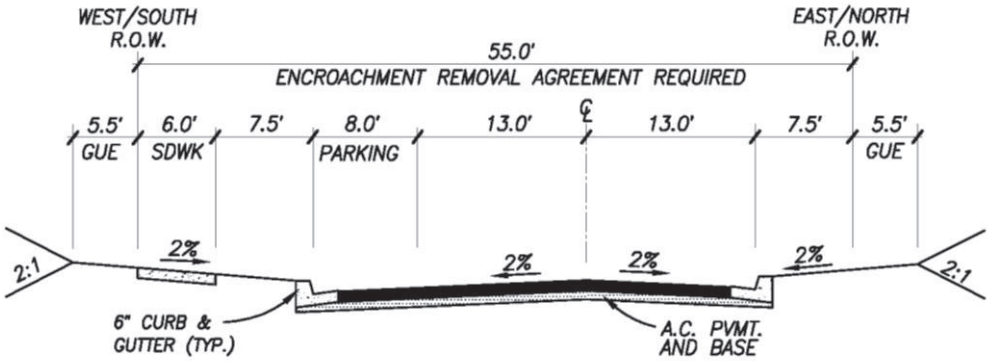
FIGURE 4-10

Bicycle and Pedestrian Circulation Plan

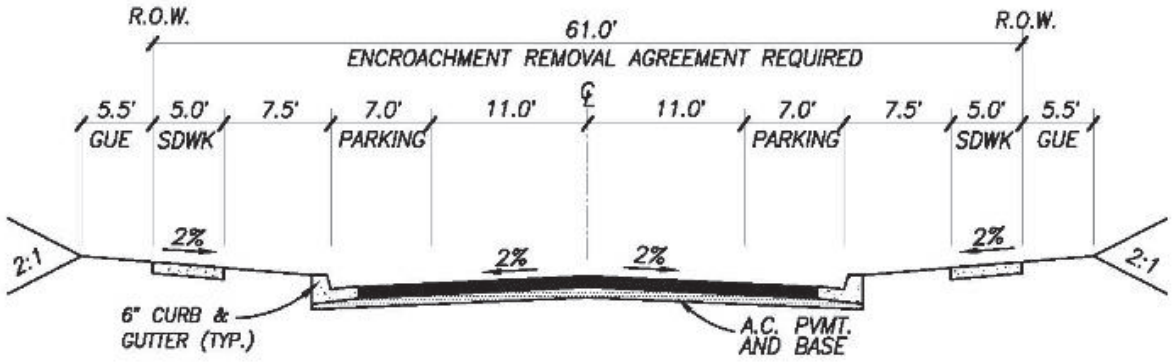
Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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55-foot Right-of-Way (Public)



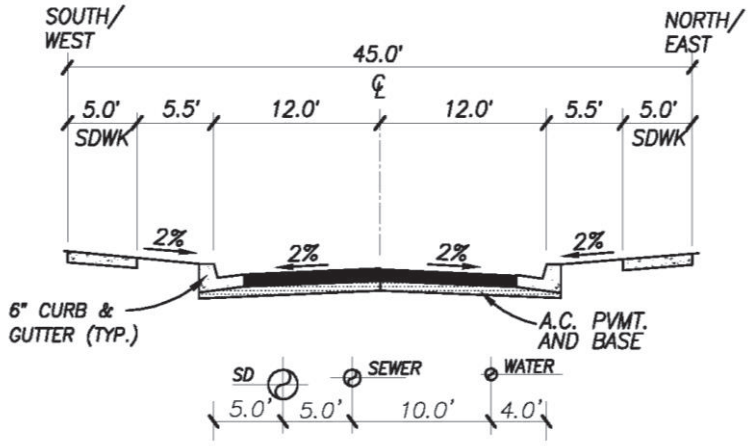
61-foot Right-of-Way (Public)

SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

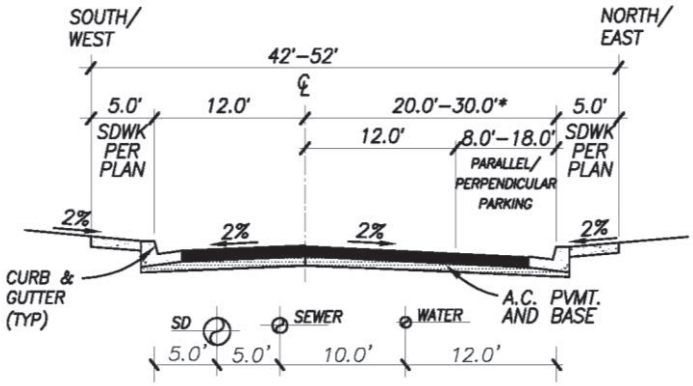
FIGURE 4-11

Streets 'A' and 'B' – Typical Street Sections

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Private Neighborhood Collector



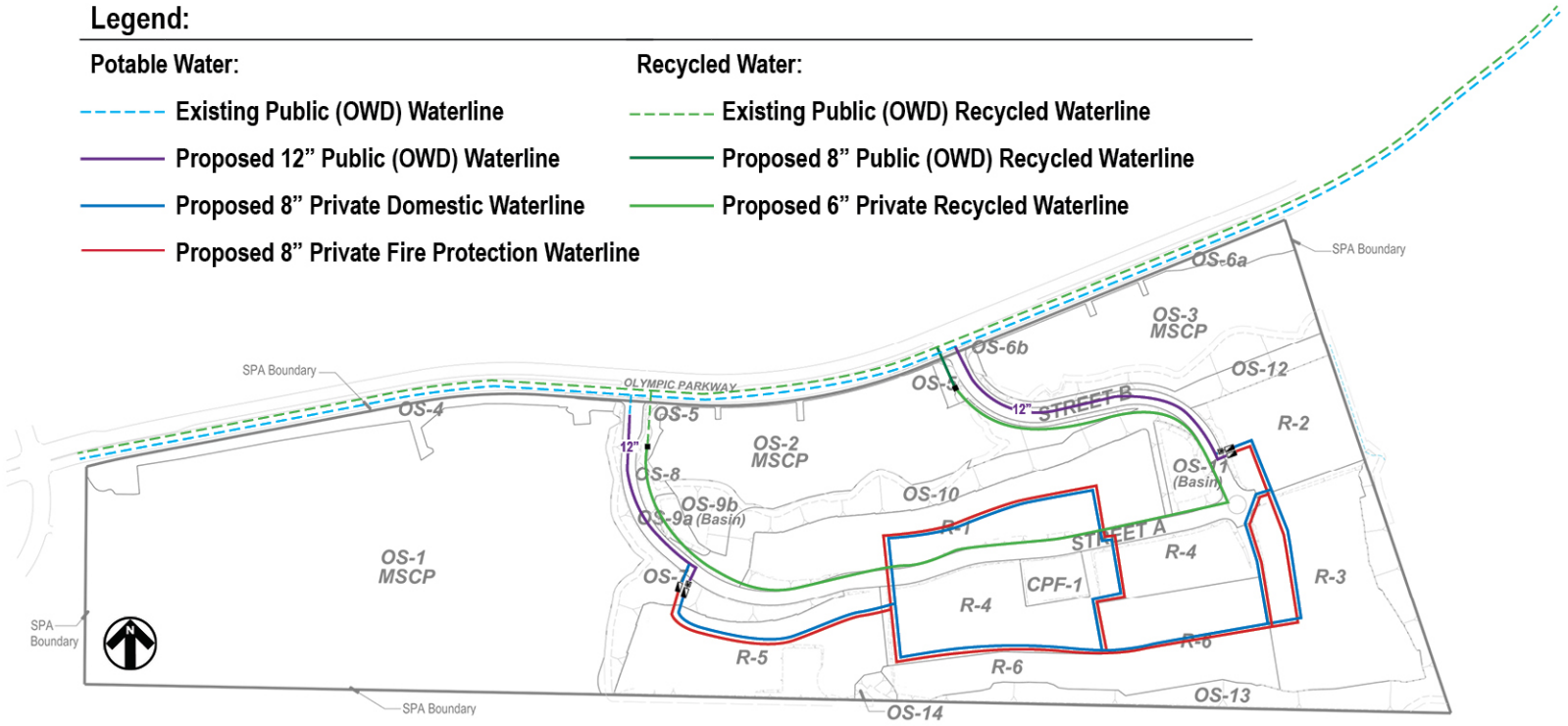
Private Residential Street w/Parking

SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

FIGURE 4-12

Private Residential Streets – Typical Street Sections

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SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

FIGURE 4-13

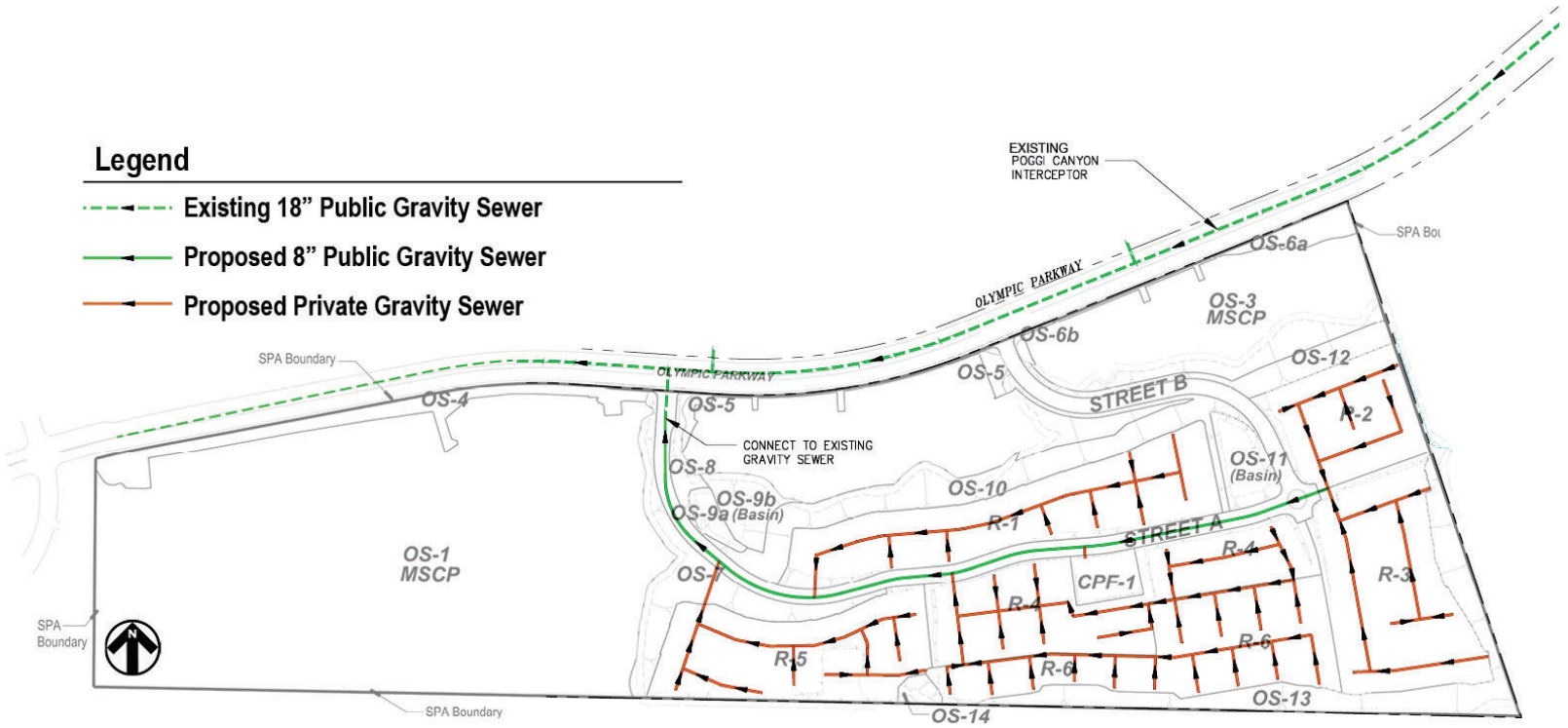
Proposed Water and Recycled Water System

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

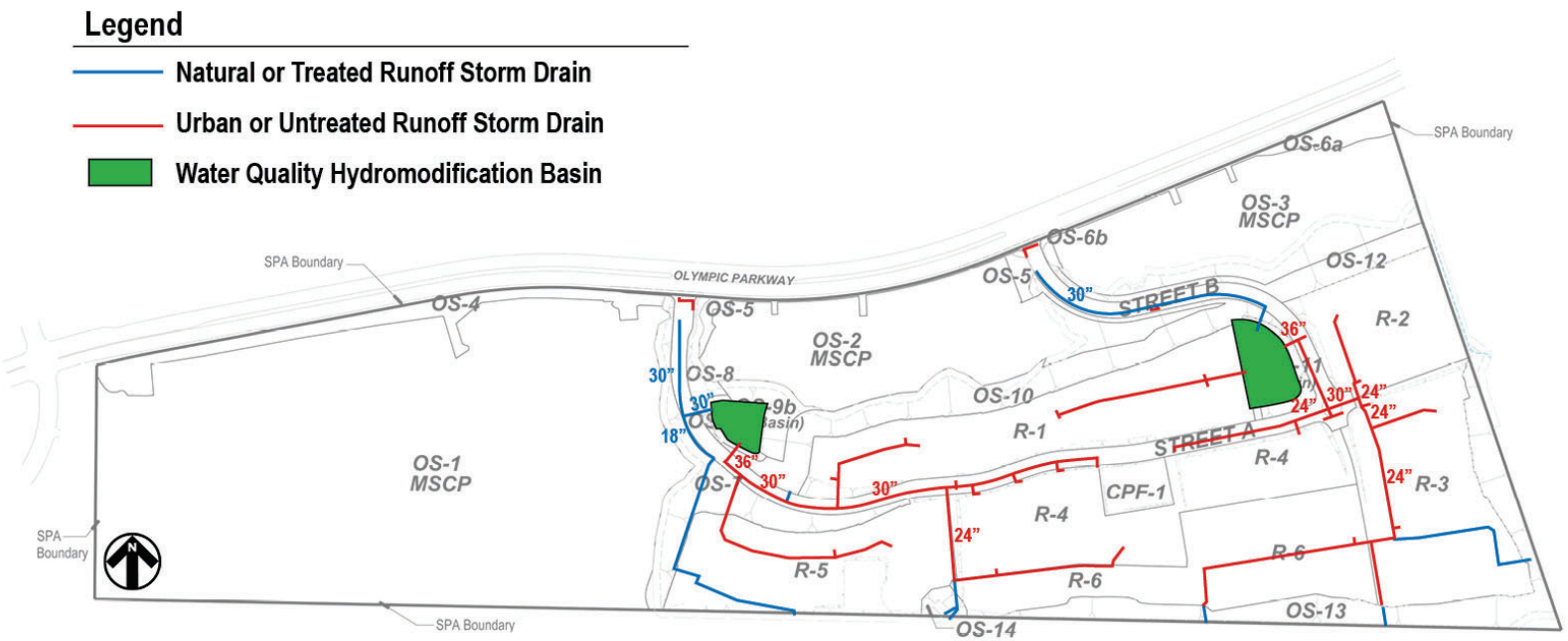
FIGURE 4-14

Proposed Sewer System

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

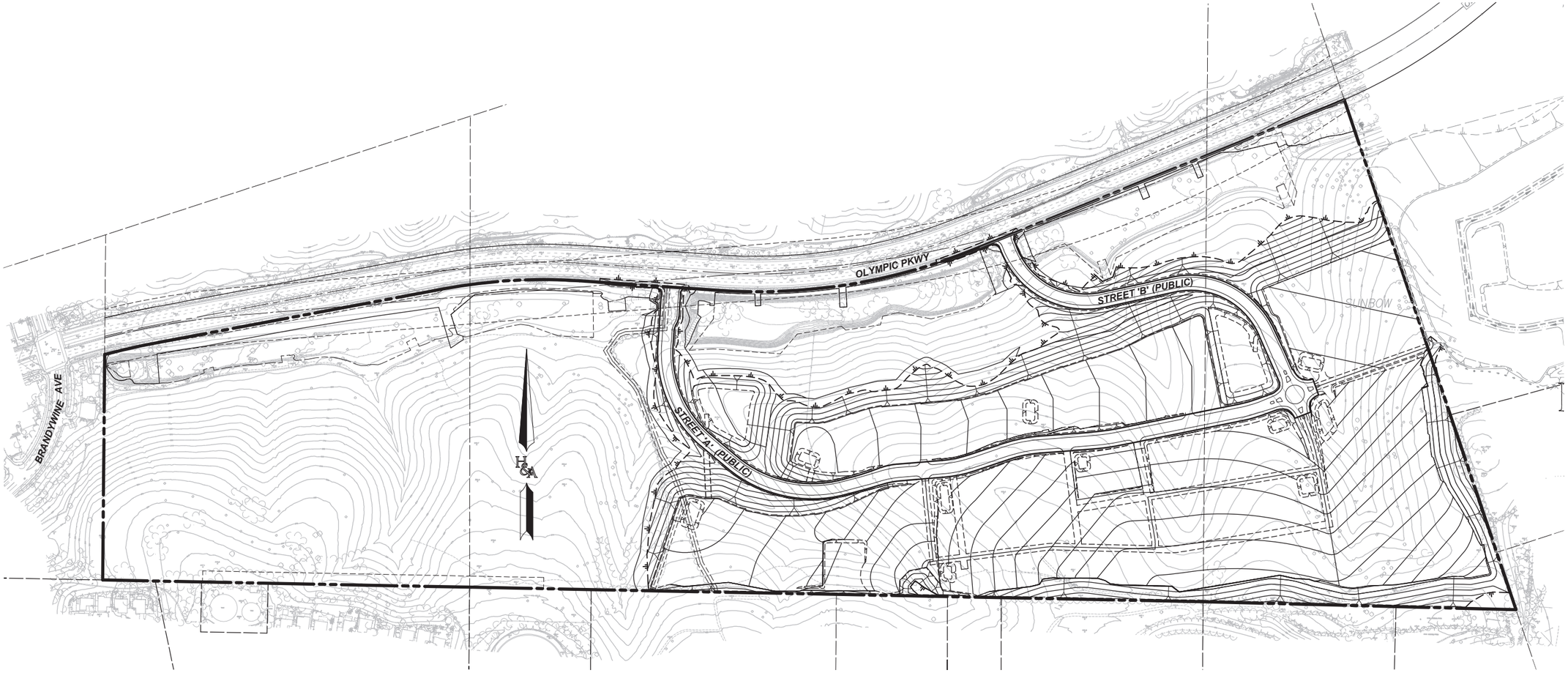
FIGURE 4-15

Proposed Storm Drain System

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: Hunsaker & Associates 2020

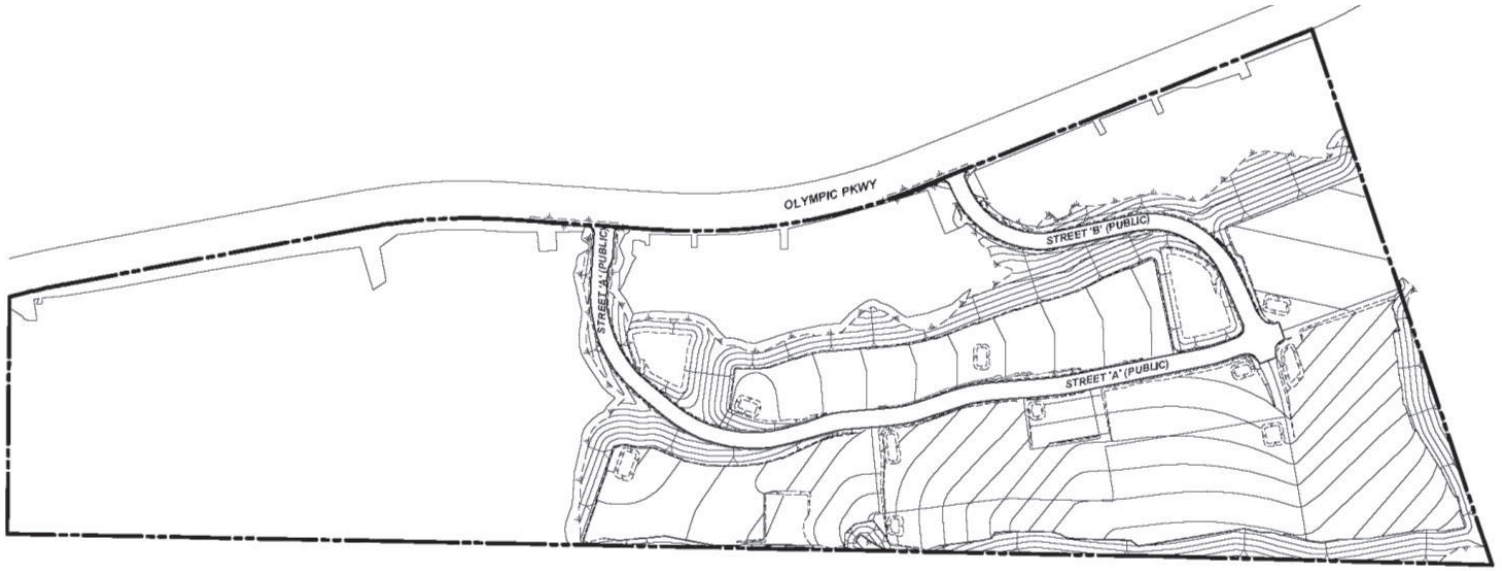
FIGURE 4-16

Tentative Map

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: RH Consulting Group, Hunsaker & Associates, Schmidt Design Group 2020

FIGURE 4-17

Conceptual Grading Plan

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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5 Environmental Impact Analysis

5.1 Aesthetics

This section of the environmental impact report (EIR) describes relevant regulations, policies, and guidelines governing views and aesthetic considerations relevant to the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). As applicable, provisions of view ordinances, design guidelines, and general plan and scenic highway plans are summarized. Views of the site from representative public vantage points such as from scenic roads and regional trails are analyzed. On-site and nearby off-site scenic resources are also identified. The impact analysis determines whether the proposed project would significantly impact a scenic vista or visual feature or preclude the ability of the public to view a significant visual feature. In addition, the analysis addresses the introduction of new sources of lighting into the proposed project site.

5.1.1 Existing Conditions

5.1.1.1 Regulatory Framework

State

California Scenic Highway Program

The California Scenic Highway Program was created in 1963 with the intent "to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment." The state laws that govern the Scenic Highway Program are Sections 260 through 263 of the Streets and Highways Code. A highway may be designated scenic based on the natural landscape visible by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the views of the highway. The Scenic Highway Program includes both officially designated scenic highways and highways that are eligible for designation. It is the responsibility of local jurisdictions to apply for scenic highway approval, which requires the adoption of a Corridor Protection Program (Caltrans 2020). In addition, once a scenic highway is designated, the local jurisdiction is responsible for regulating development within the scenic highway corridor. There is no designated or eligible state Scenic Highway within the project site.

Local

County of San Diego Light Pollution Code

The County of San Diego (County) Code of Regulatory Ordinances Section 59.101 through 59.115 (Light Pollution Code) was adopted for the purposes of minimizing light pollution for the public enjoyment of the dark sky environment and to protect astronomical research at the Palomar and Mount Laguna observatories. The Light Pollution Code contains restrictions regarding the type of outdoor light fixtures that may operate on private property and designates all lands into one of two zones (Zone A or Zone B). Zone A has more stringent lighting regulations than Zone B and includes all areas within a 15-mile radius of the Palomar or Mount Laguna observatory. Zone B includes all other lands located outside of the 15-mile radius. The proposed project is located within Zone B (County of San Diego 2009).

City of Chula Vista Design Manual

The City of Chula Vista's Design Manual (City of Chula Vista 2011) provides a set of guidelines in conjunction with development standards to assist the City of Chula Vista (City) in achieving a high quality of aesthetic and functional design. The City's Design Manual includes guidelines for multi-family residential developments, which would apply to the proposed project. These guidelines focus on site planning, architecture, and landscaping. With regard to aesthetics, guidelines for building bulk, scale, materials, colors, and lighting are provided. Consistent with the City's Design Manual, the proposed Sunbow II, Phase 3 SPA Amendment for the proposed project also includes development regulations and design guidelines. Specifically, the Sunbow II Phase 3 SPA Amendment includes guidelines for architecture, site planning and building plotting, pedestrian connectivity, and landscaping.

City of Chula Vista General Plan

The City of Chula Vista General Plan contains objectives and policies to preserve and enhance aesthetic resources. Specifically, the Land Use and Transportation Element includes policies that strive to continue to protect the open space network and design policies for features such as view, entryways, gateways, streetscapes, buildings, parks, and plazas. The General Plan identifies valued scenic vistas and open space throughout the City as discussed under the Scenic Resources and Scenic Vistas subheading in this section (City of Chula Vista 2005). Olympic Parkway is designated a scenic roadway in the General Plan.

Land Use and Transportation Element

The General Plan includes the following objectives and policies relevant to the proposed project with regard to aesthetics:

- **Objective LUT 7.** Appropriate transitions should be provided between land uses.
- **Policy LUT 7.4.** Require landscape and/or open space buffers to maintain a naturalized or softer edge for proposed private development directly adjacent to natural and public open space areas.
- **Objective LUT 13.** Preserve scenic resources in Chula Vista, maintain the City's open space network, and promote beautification of the City.
- **Policy LUT 13.1.** Identify and protect important public viewpoints and viewsheds throughout the Planning Area, including features within and outside the planning area, such as: mountain; native habitat areas; San Diego Bay; and historic resources.
- **Policy LUT 13.4** Any discretionary projects proposed adjacent to scenic routes, with the exception of individual single-family dwellings, shall be subject to design review to ensure that the design of the development proposal will enhance the scenic quality of the route. Review should include site design, architectural design, height, landscaping, signage, and utilities. Development adjacent to designated scenic routes should be designed to:
    - Create substantial open areas adjacent to scenic routes through clustering development;
    - Create a pleasing streetscape through landscaping and varied building setbacks; and
    - Coordinate signage, graphics and/or signage requirements, and standards.

Scenic Resources and Scenic Vistas

The General Plan identifies significant scenic resources and open space that help to define various area's visual and community character within the City. Scenic vistas and open space identified in the General Plan include the Otay River and Sweetwater River Valleys; Upper and Lower Otay Lakes; Sweetwater Reservoir; San Miguel/Mother

Miguel Mountains; and the San Diego Bay. These open space areas make up the majority of the Chula Vista Greenbelt, the backbone of the City's open space and park system, which consists of a 28-mile open space system encircling the City. The Greenbelt includes Multiple Species Conservation Program (MSCP) Preserve lands, general open space, and existing and future trails, and connects several of the City's existing and future public parks. Additional natural open space areas within the City are identified in General Plan Figure 5-5, Open Space Network. The closest identified scenic vista and open space area to the project site is the Otay River Valley located approximately 1 mile south of the project site. The project site is also identified as part of the City's open space network but is not part of the City's Greenbelt (City of Chula Vista 2005).

Gateways

The General Plan identifies entryways and gateways that offer opportunities to improve the City's appearance and establish a community image through special design treatments such as signage, landscape, and architectural design enhancements. The City designates both Primary and Secondary Gateways. Primary Gateways are from freeways and should appear visually inviting, provide adequate direction to places of interest, and have high quality design features. Primary Gateways near the project site include Olympic Parkway from Interstate (I) 805 to Brandywine Avenue. There are no Secondary Gateways on or near the project site (City of Chula Vista 2005).

City-Designated Scenic Roadways

The City has designated several Scenic Roadways for their views of natural features and roadway characteristics, including enhanced landscaping, adjoining natural slopes, or special design features (City of Chula Vista 2005). Existing City-designated Scenic Roadways in the project area include Olympic Parkway adjacent to the northern boundary of the project site.

Sunbow General Development Plan

The Sunbow General Development Plan (GDP), which originally included 604.8 acres in eastern Chula Vista, was adopted on December 5, 1989, with the primary objective to create an efficient, self-contained village with a mix of residential, commercial, community recreation, industrial park, and open space/trails land uses. The purpose of the GDP was to develop an efficient self-contained village that would set the framework for a socially, economically, and environmentally sound urban community. The GDP also contains landscape and design guidelines for the various land uses (City of Chula Vista 1989).

The GDP is implemented through the adoption of a subsequent, more detailed Sunbow Sectional Planning Area (SPA) Plan, tentative tract maps, and potential annexation and development agreements. The GDP is designed to function as a policy bridge between the City of Chula Vista General Plan (General Plan) and the SPA Plan, which provides more detailed plans for development of the Sunbow Master Planned Community. Specifically, the GDP includes general standards for building height and bulk, architectural design review, landscaping, and development conformance with locally designated scenic routes. More specific provisions for each planning area are identified in the SPA Plan (City of Chula Vista 1990).

Sunbow Sectional Planning Area Plan

The SPA Plan was approved by the City Council on February 20, 1990. According to the City, GDPs are implemented through the adoption of SPA Plans, which are more detailed in its zoning, design regulations, and development parameters. The purpose of the SPA Plan is to assure high quality development, create an economically viable plan,

provide a plan for long-range development, facilitate provisions for community facilities, preserve open space, and establish a planning and development framework. Regulations within the SPA Plan supersede other regulations where there is potential conflict between the GDP and the General Plan. The SPA Plan also contains more specific landscaping, design, lighting, and aesthetics standards for the various land uses established in the GDP (City of Chula Vista 1990).

City of Chula Vista Municipal Code

Title 19 of the City of Chula Vista Municipal Code (CVMC) is the City's Zoning Code, which is intended to implement the General Plan. The Eastern Planning Area, which includes the project site, is designated as, a Planned Community (P-C) Zone (City of Chula Vista 2020). As defined in Chapter 19.48 of the CVMC, the purposes of the P-C zone are as follows:

- Provide for the orderly preplanning and long-term development of large tracts of land. These tracts may contain a variety of land uses, but are under unified ownership or development control, so that the entire tract will provide an environment of stable and desirable character.
- Give the developer reasonable assurance that sectional development plans in accordance with the approved general development plan will be acceptable to the City. Sectional development plans may include subdivision plans and/or planned unit development plans as provided in this title.
- Enable the City to adopt measures for the development of the surrounding area compatible with the planned community zone.

According to Section 19.48.020 of the Zoning Code, P-C zoning may be established on lands that are suitable and of sufficient size for planning and development in a manner consistent with the purpose of the zone. P-C zoning does not include any area of less than 50 acres of contiguous land. Section 19.48.025 establishes a requirement for Community-Purpose Facility (CPF) sites to be provided within the P-C zone at the rate of 1.39 acres per 1,000 persons. Section 19.48.090 establishes requirements for sectional planning areas.

The City also regulates signage through the CVMC, Chapter 19.60, Signs. Among other things, the purpose of the Sign Ordinance is "to balance the public interests in community aesthetics against the signage needs of establishments and persons who wish to express information or a message by displaying a sign" (CVMC, Chapter 19.60). In addition, the Sign Ordinance is intended to improve the visual environment for residents and visitors of the City and protect prominent viewsheds. There are specific standards for "sensitive" zones, such as agricultural, residential estates, and other residential zones (CVMC, Chapter 19.60).

Light and glare are regulated by Chapter 17.28 and Section 19.66.100 of the CVMC, respectively. Chapter 17.28, Unnecessary Lights, is intended to prevent lighting from creating a nuisance by regulating the use of lighting in and around residential areas. Although lighting can be used to improve the aesthetics of a residential property, this chapter ensures that such lighting is properly controlled and doesn't create a nuisance. The ordinance recognizes that lighting is widely used in commercial or industrial zones for the purpose of advertising and security and that such lighting is essential to the conduct of many commercial or industrial enterprises. The ordinance requires light shielding on commercial and industrial lighting near residences; prohibits residential lighting that spills over to adjacent properties during nighttime hours; and requires multi-family residential, commercial, and industrial developments to submit lighting plans to the City. Lighting from any use that is unshielded or so directed as to focus the beams directly upon adjacent residential property is prohibited at all times.

Section 19.66.100, Glare, prohibits direct or sky-reflected glare from floodlights and high-temperature processes that produce glare that is visible at the points of measurement as specified in Section 19.66.060, Locations where determinations are to be made. In any district except the Industrial zone, the point of measurement is at the lot line

of the establishment or use. Within the Industrial zone it is 500 feet from the establishment or use or at any point within an adjacent zone other than an Industrial zone.

5.1.1.2 Visual Resources Components

The characterization of existing visual resources and available scenic vistas on the project site and the surrounding areas form the basis of this aesthetics and views analysis. Aesthetics refers to visual qualities within a given field of view and may include such considerations as size, shape, color, texture, and general composition, as well as the relationships between these elements.

Aesthetic features often consist of unique or prominent natural or man-made attributes or several small features that, when viewed together, create a whole that is visually interesting or appealing. Views refer to visual access to aesthetic features. Viewsheds, or the extent of a given view, are typically defined by landscape elements and building locations. Existing views may be partially obstructed or entirely blocked by modification of the environment. Conversely, modifications to the natural or man-made landscape of an area may create or enhance view opportunities.

Light impacts are typically associated with the use of artificial light during the evening and nighttime hours. Artificial light may be generated from point sources and from indirect sources of reflected light. Uses such as residences, hospitals, and hotels are considered light sensitive since they are typically occupied by persons who have expectations for privacy during evening hours and who are subject to disturbance by bright light sources. Wildlife habitat areas may also be considered light sensitive if the introduction of light sources would compromise the quality and function of a habitat area.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Daytime glare generation is common in urban areas and is typically associated with mid- to high-rise buildings with exterior façades largely or entirely composed of highly reflective glass or mirror-like material from which the sun can reflect at a low angle in the periods following sunrise and prior to sunset. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses generally include residences and transportation corridors.

5.1.1.3 Existing Aesthetic Character

On-Site Conditions

Currently, the project site consists of vacant and undeveloped land with various dirt roads traversing the site. Land uses within the project site are designated in both the General Plan and the GDP. Within the General Plan, the project site is designated as Limited Industrial and Open Space (City of Chula Vista 2005). Within the GDP, the project site is designated as Industrial Park and Open Space (City of Chula Vista 1989). The entire project site is composed of approximately 135.7 acres. The GDP designates the approximately 54.7 acres within the southeastern portion of the project site as Industrial Park area, which was slated in the SPA to include research/development and light industrial uses, with approximately 700,000 square feet of leasable area generating approximately 2,800 employment opportunities (City of Chula Vista 1990). The aesthetic character of the project site is currently defined by the undeveloped, rolling landscape and natively vegetated hillsides adjacent to Olympic Parkway. The rising topography of the project site prevents expansive southward views of the site from Olympic Parkway. Thus, the aesthetic character of the project site is primarily defined by the natural hillsides immediately adjacent to Olympic Parkway.

Surrounding Land Uses

The project site is surrounded by existing development, including residential land uses, to the north, west, and southwest. Open space hillsides are present approximately 300–500 feet north of the project site, between Olympic Parkway and the existing residential land uses. South of the project site is the Otay Landfill and directly east of the project site is vacant and undeveloped land which is approved for industrial and residential development as part of Otay Ranch Village Two. The existing undeveloped state of the land to the east within Otay Ranch Village Two is similar in aesthetic character to the existing project site and open space north of Olympic Parkway.

The greater Eastern Planning Area is topographically similar to the project site, with small hillsides and canyons. However, much of the Eastern Planning Area has already been developed or is proposed for development as part of the Sunbow GDP and Otay Ranch GDP. Most undeveloped land similar in aesthetic character to the existing project site is concentrated in the southern and eastern portions of the Otay Ranch area as part of the City's Greenbelt. The project site is not located within or adjacent to the City's Greenbelt System (City of Chula Vista 2003).

Light and Glare

Two astronomical observatories are located within 50 miles of the project site: Mount Laguna Observatory, located approximately 38 miles northeast of the project site, and Palomar Mountain Observatory, located approximately 52 miles north of the project site. Both of these observatories use large telescopes and conduct astronomical and related research. These observatories are located in the unincorporated County of San Diego. Light pollution within a 15-mile radius of these observatories is strictly controlled through implementation of the County of San Diego's Light Pollution Code (Title 5, Division 9), which includes less restrictive measures for areas outside the 15-mile radius. The project site is outside the jurisdiction of the County; however, the project site is located within Zone B of the County's Light Pollution Code, which includes all other lands located outside the 15-mile radius (County of San Diego 2009). In addition, the City's Unnecessary Lights Ordinance outlines restrictions and limitations on the use of lighting in or near the residential zones to prevent lighting from creating a nuisance to residents. These lighting restrictions also benefit the observatories (CVMC, Chapter 17.28, Unnecessary Lights).

Currently, the project site is undeveloped and not lit at night. Additionally, the project site does not contain expanses of material that would result in glare. The City, including the Sunbow area, is urbanized and currently generates substantial night lighting. The buildings in the surrounding area include windows and other glass or metal expanses that can result in localized glare. Surrounding residential land uses contain lighting typical of an urban setting, including but not limited to street lighting and security lighting.

Viewers

Viewer exposure varies depending on several factors including the angle of view (i.e., normal, inferior, or superior viewing angles); view distance (foreground, middle ground, and background); relationship to sun angle (backlighting versus front or side lighting); the extent of visibility (i.e., whether views are panoramic or limited by vegetation, topography, or other land uses); and viewer screening conditions (e.g., whether the project facilities will be skylined on ridgelines, backscreened by topography and/or vegetation, or screened by structures or vegetation in the foreground). Viewer exposure also considers the duration of view based on viewer activity (e.g., travel route, residential, recreation) and often relates to speed of travel (pedestrian, vehicular, or stationary).

The project site is located south of Olympic Parkway and north of the Otay Landfill. The project site abruptly slopes southward from Olympic Parkway toward the Otay Landfill, providing limited view opportunities for motorists passing the project site along Olympic Parkway. Due to the hilly nature of the project site and steep slopes within the northern portion of the site, views along Olympic Parkway mostly consist of foreground views of the hills immediately adjacent to Olympic Parkway. The rising topography of the project site also prevents expansive southward views into the site from Olympic Parkway. The project site is not immediately visible from any public vantage points to the south, east, or west. East of the City are existing mountainous open space areas which contain public trails that provide board views of the City. These higher elevation areas (such as the Otay Ranch Mountain Wilderness) are located approximately 6 miles east of the project site. Therefore, views of the project site would be limited, and not immediately discernable, due to the distance and highly urbanized character of the surrounding area.

5.1.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to Aesthetics is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Have a substantial adverse effect on a scenic vista.

B. Substantially damage scenic resources, including, but not limited to, tress, rock outcroppings, and historic buildings within a state scenic highway.

C. In non-urbanized areas, substantially degrade the existing visual character or quality of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, a significant impact would occur if the project conflicts with applicable zoning and other regulations governing scenic quality.

D. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

5.1.3 Impacts

A. Have a substantial adverse effect on a scenic vista.

As discussed in Section 5.1.1.1, Regulatory Framework, the General Plan identifies the following scenic vistas: Otay River and Sweetwater River Valleys; Upper and Lower Otay Lakes; Sweetwater Reservoir; San Miguel/Mother Miguel Mountains; and the San Diego Bay. The closest identified scenic vista to the project site is the Otay River Valley, located approximately 1 mile to the south. Additionally, the General Plan identifies the City's open space network, which includes both the previously mentioned scenic vistas and more general open space areas considered to be scenic resources, including the project site. The proposed project would also include 63.6 acres of MSCP Preserve, which, as part of the City's open space network, is considered a scenic resource.

Olympic Parkway, which is adjacent to the northern boundary of the project site, currently provides scenic views of the project site's existing and proposed open space areas for motorists, bicyclists, and pedestrians. However, view opportunities of the proposed project's development area are limited due to the steep slopes within the northern portion of the site. The project site abruptly slopes from north to south from Olympic Parkway towards the Otay Landfill. As such, views of the project site experienced by viewers traveling east and west along Olympic Parkway, located within the northern boundary of the project site, mostly consist of foreground views of the hills immediately

adjacent to Olympic Parkway, due to the site topography. Under the proposed project, MSCP Preserve lands would exist between the development area and Olympic Parkway, and in the western portion of the project site, which would provide a visual buffer for viewers traveling along Olympic Parkway (see Figure 4-4, Proposed SPA Land Use Plan). Therefore, fleeting glimpses of the proposed project's development area may be afforded along limited portions of Olympic Parkway. However, viewers would be oriented in an east–west direction and with the proposed open space buffer of approximately 500 feet, the proposed project would not have a substantial effect on views of the City's open space network.

Viewers traveling along Olympic Parkway would also be afforded views of the access points of proposed Streets 'A' and 'B' (Streets A and B). However, the proposed project would incorporate landscaping along proposed Streets A and B as shown in Figure 4-6, Illustrative Concept Plan, to soften views of these driveways for viewers passing by the project site along Olympic Parkway. Landscaping would exist along both sides of proposed Streets A and B as well as beyond the MSCP Preserve lands abutting the closest proposed residences. All landscaping will be provided in accordance with the Sunbow II Phase 3 Landscape Master Plan, prepared for the project, and the City's Landscape Manual. Therefore, the access points of proposed Streets A and B would not have a substantial effect on views of the City's open space network.

As described above, the closest identified scenic vista to the project site is the Otay River Valley, located 1 mile south. Due to the existing development between the Otay River Valley and the project site, as well as the distance from the project site and intervening topography, implementation of the proposed project would not result in adverse effects on this scenic vista. The open space areas, located approximately 6 miles east of the project site, also contains General Plan identified scenic vistas including the Lower and Upper Otay Lakes. Additionally, the Otay Mountain Wilderness contains many trails at higher elevations than the majority of the City, which provide scenic views for recreationists. Views of the project site from this distance are obscured and not immediately discernable due to distance and the highly urbanized character of the City.

Development of the proposed project would be substantially similar to the existing surrounding development and greater Eastern Planning Area within the City. Further, the proposed project would blend with the existing surroundings, when viewed at a distance. As discussed, the proposed project would not result in adverse effects on identified scenic vistas including the Otay River Valley or Otay Mountain Wilderness. Additionally, due to proposed landscaping, the MSCP Preserve open space areas between Olympic Parkway and the development area, and existing topography of the site and its surroundings, the proposed project would also not result in a substantial adverse effect on views of the on-site open space, which is identified as a scenic resource as part of the City's open space network, but not a scenic vista. Therefore, impacts related to substantial adverse effects on a scenic vista would be **less than significant**.

B. Substantially damage scenic resources, including, but not limited to, tress, rock outcroppings, and historic buildings within a state scenic highway.

According to the Caltrans Scenic Highway Mapping System for San Diego County (Caltrans 2020), there are no officially designated scenic highways that pass by the project site. The following are the closest designated scenic highways:

- A 2-mile portion of the SR-125 from SR-94 to SR-8 near La Mesa, located approximately 10 miles north of the project site.
- SR-75, Silver Strand Highway, between Imperial Beach and Coronado, located approximately 6.5 miles west of the project site.

The following is the closest eligible scenic highway:

- I-5 from the international border at Tijuana to SR-75, located approximately 4 miles southwest of the project site.

The project site is not located within the vicinity of an officially designated or eligible state scenic highway. Therefore, implementation of the proposed project would not substantially damage scenic resources within a state scenic highway. **No impact** would occur.

For informational purposes, a discussion of locally designated scenic roadways and gateways within the City is included below.

As outlined in Section 5.1.1.1, the City has designated several Scenic Roadways for their views of natural features and roadway characteristics, including enhanced landscaping, adjoining natural slopes, or special design features (City of Chula Vista 2005). Existing City-designated Scenic Roadways in the project area include Olympic Parkway, located adjacent the northern boundary of the project site. As discussed under Threshold A, views of the proposed project's development area from Olympic Parkway would be limited due to the site topography and the proposed MSCP Preserve which would act as a visual buffer between Olympic Parkway and the closest proposed residential units. The proposed project would comply with City regulations regarding development along a scenic roadway. The General Plan identifies primary and secondary gateways which are meant to be visually inviting entryways into the City. Olympic Parkway from Interstate 805 (I-805) to Brandywine Avenue is a primary gateway identified in the General Plan. This gateway ends approximately 300 feet west of the project site. Therefore, the special design treatments used for development along gateways do not apply to the proposed project.

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

CEQA Section 21071 defines an "urbanized area" as "(a) an incorporated city that meets either of the following criteria: (1) has a population of at least 100,000 persons, or (2) has a population of less than 100,000 persons if the population of that City and not more than two contiguous incorporated cities combined equals at least 100,000 persons." As of July 1, 2019, the US Census Bureau estimated the population of the City to be 274,492 persons, which is well over the 100,000 persons threshold (US Census Bureau 2019). Thus, the City would be considered an urbanized area per CEQA and the first portion of Aesthetics Threshold C related to changes in the visual character or quality of public views of the site and its surroundings would not apply to the proposed project aesthetics analysis. As such, this analysis focuses on the second portion of CEQA Guidelines Aesthetics Threshold C, regarding whether the project would conflict with applicable zoning and other regulations governing scenic quality, for projects in urbanized areas.

Zoning, GDP, and SPA Plan

The project site is designated as a SPA, which is a designation under the Planned Community (P-C) Zone (CVMC, Chapter 19.60), with specific land use districts designated by the SPA Plan. As discussed in Chapter 4, Project Description, the proposed project would amend the General Plan to allow for the change in land use from Research & Limited Industrial to Residential Medium-High and Residential High. Additionally, amendments to the GDP and SPA Plan as well as a Rezone would be considered by the City in the approval process to allow for project implementation. The project site would remain designated as a SPA under the existing P-C zoning. However, the specific zoning districts identified within the GDP and SPA Plan for the Sunbow II, Phase 3 area would be amended

to allow for the proposed residential, community purpose facility, and open space project components. If approved, the proposed project would not conflict with the applicable zoning, the GDP, or the SPA Plan, as the GDP and SPA Plan amendments and Rezone would be approved concurrently with the proposed project.

General Plan

As discussed in Section 5.1.1.1, the General Plan aims to preserve scenic resources and maintain the City's open space network. The following policies of the General Plan govern scenic quality throughout the City and would apply to the proposed project:

- **Policy LUT 7.4.** Require landscape and/or open space buffers to maintain a naturalized or softer edge for proposed private development directly adjacent to natural and public open space areas.
- **Policy LUT 13.1.** Identify and protect important public viewpoints and viewsheds throughout the Planning Area, including features within and outside the planning area, such as: mountain; native habitat areas; San Diego Bay; and historic resources.
- **Policy LUT 13.4.** Any discretionary projects proposed adjacent to scenic routes, with the exception of individual single-family dwellings, shall be subject to design review to ensure that the design of the development proposal will enhance the scenic quality of the route. Review should include site design, architectural design, height, landscaping, signage, and utilities. Development adjacent to designated scenic routes should be designed to:
    - Create substantial open areas adjacent to scenic routes through clustering development;
    - Create a pleasing streetscape through landscaping and varied building setbacks; and
    - Coordinate signage, graphics and/or signage requirements, and standards.

While the project site does not contain any identified important public viewpoints, there is currently native habitat that provides scenic views for viewers traveling along Olympic Parkway. Further, this native habitat is identified in the General Plan as part of the City's open space network, which is a scenic resource. Implementation of the proposed project would preserve 63.6 acres of the project site as MSCP Preserve, 3.9 acres as Poggi Creek Conservation Easement, and 18.8 acres as Manufactured Slopes/Basin.

As discussed under Threshold A and consistent with General Plan Policy LUT 13.1, implementation of the proposed project would not result in substantial adverse effects on a scenic vista, including the existing and proposed open space lands within the project site which are identified as a scenic resource within the General Plan. Additionally, in compliance with General Plan Policy LUT 7.4, the proposed project would include landscape and open space buffers between the proposed project's development area and MCSP Preserve lands, as shown in Figure 4-2. Finally, due to the steep slopes in the northern portion of the project site and the proposed open space setback of approximately 500 feet between Olympic Parkway and the closest proposed residences, views of the proposed project's development area would be limited. However, the proposed project would still undergo design review in compliance with General Plan Policy LUT 13.4 because the project site is adjacent to Olympic Parkway, which is a locally designated scenic roadway. Therefore, the proposed project would not conflict with General Plan policies related to scenic quality.

City Design Manual

The SPA Plan amendment for the proposed project includes residential design guidelines for site planning, architectural design, height, landscaping, in compliance with the City's Design Manual, and approved Design Guidelines and P-C District Regulations for the Sunbow community. The proposed project would be required to comply with these residential

design guidelines, which are intended to assist the City in achieving a high quality of aesthetic and functional design. For example, the landscape would transition to a naturalized palette at the project perimeter to blend with the existing native character of the existing slopes and MSCP Preserve area located along the northern edge of the site and to the west. Additionally, building heights would be limited to a maximum of 35 feet and the plotting of residential buildings would focus on creating a cohesive community with green spaces and strong pedestrian connectivity. Finally, the proposed project would undergo design review in compliance with General Plan Policy LUT 13.4, as previously described. Therefore, the proposed project would not conflict with the City's Design Manual.

Conclusion

In summary, the proposed project would not conflict with General Plan policies governing scenic quality or the City's Design Manual. Additionally, if approved, the proposed project would not conflict with the applicable zoning as the GDP and SPA Plan amendments and Rezone would be approved concurrently with the proposed project to allow for the changes in land use and zoning. Therefore, impacts would be **less than significant**.

D. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

The project site is currently undeveloped and there are no existing sources of on-site lighting. Additionally, the project site does not contain expanses of material that would result in glare. Therefore, development of the proposed project would introduce new sources of lighting and glare on the project site. Lighting within the project site would be typical of a residential land use, including street lighting along proposed Streets A and B, as well as exterior lighting on residences. New sources of glare within the project site would include windows on residences.

As discussed in Section 5.1.1.1, light and glare are regulated by Chapter 17.28 and Section 19.66.100 of the CVMC, respectively. The proposed project would comply with Chapter 17.28, Unnecessary Lights, of the CVMC, which prohibits residential lighting that spills over to adjacent properties during nighttime hours and requires multi-family residential, commercial, and industrial developments to submit lighting plans to the City. The County of San Diego Light Pollution Code also regulates lighting within the County and the proposed project would be required to comply with all Zone B lighting standards. Additionally, the proposed project would comply with Section 19.66.100, Glare, which prohibits direct or sky-reflected glare from floodlights and high-temperature processes that produce glare that is visible at the points of measurement as specified in the CVMC.

The City, including the GDP area, is urbanized and currently generates substantial night lighting. The buildings in the surrounding area include windows and other glass or metal expanses that can result in localized glare. Surrounding residential land uses contain lighting typical of an urban setting, including but not limited to, street lighting and security lighting. While the proposed project would result in new sources of light and glare, these would be similar to the surrounding land uses. Furthermore, with compliance with the CVMC and County Light Pollution Ordinance, these new sources of light and glare would not result in adverse day or nighttime views in the area. Impacts would be **less than significant**.

5.1.4 Level of Significance Prior to Mitigation

Impacts related to aesthetics would be **less than significant.**

5.1.5 Mitigation Measures

No mitigation measures would be required.

5.1.6 Level of Significance After Mitigation

No mitigation measures would be required. Impacts related to aesthetics would be **less than significant.**

5.2 Air Quality

This section of the environmental impact report (EIR) addresses potential impacts to air quality resulting from the Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). The discussion in this section is based on the Air Quality and Greenhouse Gas Emissions Technical Report prepared for the project by Dudek. The complete report is contained in Appendix C of this EIR.

5.2.1 Existing Conditions

5.2.1.1 Regulatory Framework

Federal

Criteria Air Pollutants

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA, including the setting of the National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant (HAP) standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone (O_3) protection, and enforcement provisions.

Under the CAA, NAAQS are established for the following criteria pollutants: O_3, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (coarse particulate matter, or PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (fine particulate matter, or $PM_{2.5}$), and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The 1977, federal CAA amendments required EPA to identify national emission standards for hazardous air pollutants (HAPs) to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

Criteria Air Pollutants

The federal CAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to the California Air Resources Board (CARB), with subsidiary responsibilities assigned to air quality management districts and air

pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California CAA of 1988, responding to the CAA and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 5.2-1.

Table 5.2-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
O_3	1 hour	0.09 ppm (180 µg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	Same as Primary Standard
	Annual arithmetic mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m³)
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 µg/m³	150 µg/m³	Same as Primary Standard
	Annual arithmetic mean	20 µg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 µg/m³	Same as Primary Standard
	Annual arithmetic mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j,k]	30-day average	1.5 µg/m³	—	—
	Calendar quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-month average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m³)	—	—

Table 5.2-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
Sulfates	24 hours	25 µg/m^3	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: Appendix C.

Notes: O_3 = ozone; ppm = parts per million by volume; µg/m^3 = micrograms per cubic meter; — = no data available; NO_2 = nitrogen dioxide; CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; PST = Pacific Standard Time.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C (77°F) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

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

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

[f] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Toxic Air Contaminants

A toxic air contaminant (TAC) is defined by California law as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Federal laws use the HAPs to refer to the same types of compounds that are referred to as TACs under state law. California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588).

AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. Pursuant to AB 2588, existing facilities that emit air pollutants above specified levels were required to (1) prepare a TAC emission inventory plan and report, (2) prepare a risk assessment if TAC emissions were significant, (3) notify the public of significant risk levels, and (4) if health impacts were above specified levels, prepare and implement risk reduction measures.

The following regulatory measures pertain to the reduction of diesel particulate matter (DPM) and criteria pollutant emissions from off-road equipment and diesel-fueled vehicles:

Idling of Commercial Heavy-Duty Trucks (13 CCR 2485)

In July 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to control emissions from idling trucks. The ATCM prohibits idling for more than 5 minutes for all commercial trucks with a gross vehicle weight rating over 10,000 pounds. The ATCM contains an exception that allows trucks to idle while queuing or involved in operational activities.

In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.)

In July 2007, CARB adopted an ATCM for in-use off-road diesel vehicles. This regulation requires that specific fleet average requirements be met for NO_x emissions and for particulate matter emissions. Where average requirements cannot be met, Best Available Control Technology requirements apply. The regulation also includes several recordkeeping and reporting requirements.

In response to AB 8 2X, the regulations were revised in July 2009 (effective December 3, 2009) to allow a partial postponement of the compliance schedule in 2011 and 2012 for existing fleets. On December 17, 2010, CARB adopted additional revisions to further delay the deadlines, reflecting reductions in diesel emissions due to the poor economy and overestimates of diesel emissions in California. The revisions delayed the first compliance date until no earlier than January 1, 2014, for large fleets, with final compliance by January 1, 2023. The compliance dates for medium fleets were delayed until an initial date of January 1, 2017, and a final compliance date of January 1, 2023. The compliance dates for small fleets were delayed until an initial date of January 1, 2019, and a final compliance date of January 1, 2028. Correspondingly, the fleet average targets were made more stringent in future compliance years. The revisions also accelerated the phaseout of equipment with older equipment added to existing large and medium fleets over time, requiring the addition of Tier 2 or higher engines starting on March 1, 2011, with some exceptions: Tier 2 or higher engines on January 1, 2013, without exception; and Tier 3 or higher engines on January 1, 2018 (January 1, 2023, for small fleets).

On October 28, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulation. The amendments included revisions to the applicability section and additions and revisions to the definitions. The initial date for requiring the addition of Tier 2 or higher engines for large and medium fleets, with

some exceptions, was revised to January 1, 2012. New provisions also allow for the removal of emission control devices for safety or visibility purposes. The regulation also was amended to combine the particulate matter and NO_x fleet average targets under one, instead of two, sections. The amended fleet average targets are based on the fleet's NO_x average, and the previous section regarding particulate matter performance requirements was deleted completely. The Best Available Control Technology requirements, if a fleet cannot comply with the fleet average requirements, were restructured and clarified. Other amendments to the regulations included minor administrative changes to the regulatory text.

In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025)

On December 12, 2008, CARB adopted an ATCM to reduce NO_x and particulate matter emissions from most in-use on-road diesel trucks and buses with a gross vehicle weight rating greater than 14,000 pounds. The original ATCM regulation required fleets of on-road trucks to limit their NO_x and particulate matter emissions through a combination of exhaust retrofit equipment and new vehicles. The regulation limited particulate matter emissions for most fleets by 2011, and limited NO_x emissions for most fleets by 2013. The regulation did not require any vehicle to be replaced before 2012 and never required that all vehicles in a fleet be replaced.

In December 2009, the CARB Governing Board directed staff to evaluate amendments that would provide additional flexibility for fleets adversely affected by the poor California economy. On December 17, 2010, CARB revised this ATCM to delay its implementation along with limited relaxation of its requirements. Starting on January 1, 2015, lighter trucks with a gross vehicle weight rating of 14,001 to 26,000 pounds with 20-year-old or older engines need to be replaced with newer trucks (2010 model year emissions equivalent, as defined in the regulation). Trucks with a gross vehicle weight rating greater than 26,000 pounds with 1995 model year or older engines needed to be replaced as of January 1, 2015. Trucks with 1996–2006 model year engines must install a Level 3 (85% control) diesel particulate filter starting on January 1, 2012, to January 1, 2014, depending on the model year, and then must be replaced after 8 years. Trucks with 2007–2009 model year engines have no requirements until 2023, at which time they must be replaced with 2010 model year emissions equivalent engines, as defined in the regulation. Trucks with 2010 model year engines would meet the final compliance requirements. The ATCM provides a phase- in option under which a fleet operator would equip a percentage of trucks in the fleet with diesel particulate filters, starting at 30% as of January 1, 2012, with 100% by January 1, 2016. Under each option, delayed compliance is granted to fleet operators who have complied or will comply with requirements before the required deadlines.

On September 19, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulations, including revisions to the compliance schedule for vehicles with a gross vehicle weight rating of 26,000 pounds or less to clarify that *all* vehicles must be equipped with 2010 model year emissions equivalent engines by 2023. The amendments included revised and additional credits for fleets that have downsized; implemented early particulate matter retrofits; incorporated hybrid vehicles, alternative-fueled vehicles, and vehicles with heavy-duty pilot ignition engines; and implemented early addition of newer vehicles. The amendments included provisions for additional flexibility, such as for low-usage construction trucks, and revisions to previous exemptions, delays, and extensions. Other amendments to the regulations included minor administrative changes to the regulatory text, including recordkeeping and reporting requirements related to other revisions.

California Health and Safety Code Section 41700

Section 41700 of the California Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that 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. This section also applies to sources of objectionable odors.

Building Energy Efficiency Standards (Title 24, Part 6; Title 24, Part 11)

As required by the 2019 Standards of Part 6 and Part 11 of the Title 24 of the California Code of Regulations, multi-family residential units are required to install high-efficiency return air filters on all heating, ventilation, and air conditioning (HVAC) systems. The air filtration system shall reduce at least 90% of particulate matter emissions, such as can be achieved with a Minimum Efficiency Reporting Value 13 (MERV 13) air filtration system installed on return vents in residential units.

Local

San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The project site is located within the San Diego Air Basin (SDAB) and is subject to the guidelines and regulations of the San Diego Air Pollution Control District (SDAPCD).

In the County, O_3 and particulate matter are the pollutants of main concern, since exceedances of the CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 standards. The SDAB is also a federal O_3 attainment (maintenance) area for the 1997 8-hour O_3 standard, an O_3 nonattainment area for the 2008 8-hour O_3 standard, and a CO maintenance area (western and central part of the SDAB only, including the project site).

Federal Attainment Plans

In December 2016, SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O_3 NAAQS). The Final 2008 Eight-Hour Ozone Attainment Plan for San Diego County (2016 8-Hour O_3 Attainment Plan; SDAPCD 2016a) indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O_3 standard (1997 O_3 NAAQS) by 2018. In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

Currently, the County is designated as moderate nonattainment for the 2008 NAAQS and maintenance for the 1997 NAAQS. As documented in the 2016 8-Hour O_3 Attainment Plan, the County has a likely chance of obtaining attainment due to the transition to low-emission cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego International Airport. The County will also continue emission control measures, including ongoing implementation of existing regulations in O_3 precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and the adoption of laws requiring Best Available Retrofit Control Technology for control of emissions (SDAPCD 2016a).

State Attainment Plans

SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the SDAB. The RAQS for the SDAB was initially adopted in 1991 and is updated on a triennial basis, most recently in 2016 (SDAPCD 2016b). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans (SANDAG 2017a, 2017b).

In December 2016, SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region reduced daily VOC emissions and NO_x emissions by 3.9% and 7.0%, respectively; SDAPCD expects to continue reductions through 2035 (SDAPCD 2016b). These reductions were achieved through implementation of six VOC control measures and three NO_x control measures adopted in SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, the SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOC and 1.2 daily tons of NO_x, provided they are found to be feasible regionwide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal.

In regard to particulate matter emissions reduction efforts, in December 2005, SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

SDAPCD Rules and Regulations

As stated previously, SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The rules and regulations provided in the following paragraphs apply to all sources in the jurisdiction of SDAPCD and would apply to the project.

SDAPCD Regulation II: Permits; Rule 20.2: New Source Review Non-Major Stationary Sources. Requires new or modified stationary source units (that are not major stationary sources) with the potential to emit 10 pounds per day or more of VOC, NO_x, SO_x, or PM_{10} to be equipped with Best Available Control Technology. For those units with a potential to emit above Air Quality Impact Assessments Trigger Levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 2016b).

SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions. Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes, which is darker in shade than that designated as Number 1 on the Ringelmann Chart,

as published by the U.S. Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).

SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1969).

SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust Control. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project area (SDAPCD 2009b).

SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015). Construction and operation of the project would include application of architectural coatings (e.g., paint and other finishes), which are subject to SDAPCD Rule 67.0.1.

SDAPCD Regulation XII: Toxic Air Contaminants; Rule 1200: Toxic Air Contaminants – New Source Review. Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, or demonstrate that toxics Best Available Control Technology will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million (SDAPCD 2017a).

SDAPCD Regulation XII: Toxic Air Contaminants; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction. Requires each stationary source required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in 1 million, cancer burden equal to or greater than 1.0, total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0 (SDAPCD 2017b).

San Diego Association of Governments

SANDAG is the regional planning agency for the County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for the County. With respect to air quality planning and other regional issues, SANDAG has prepared *San Diego Forward: The Regional Plan* (Regional Plan) for the San Diego region (SANDAG 2015). The Regional Plan combines the big-picture vision for how the region will grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050. The 2019 Federal Regional Transportation Plan builds on the 2015 Regional Plan and provides updated project costs and revenues and a new regional growth forecast (SANDAG 2020a). Preparation of the 2021 Regional Plan is currently underway. In fall 2020, key policies and programs to be considered as part of

the vision will be presented to SANDAG policymakers. The draft 2021 Regional Plan and its draft Environmental Impact Report are expected to be released for public and policymaker review in spring 2021 (SANDAG 2020b).

In regard to air quality, the Regional Plan sets the policy context in which SANDAG participates in and responds to SDAPCD's air quality plans and builds off SDAPCD's air quality plan processes that are designed to meet health-based criteria pollutant standards in several ways (SANDAG 2015). First, it complements air quality plans by providing guidance and incentives for public agencies to consider best practices that support the technology-based control measures in air quality plans. Second, the Regional Plan emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution.

On September 23, 2016, SANDAG's Board of Directors adopted the final 2016 Regional Transportation Improvement Program. The 2016 Regional Transportation Improvement Program is a multi-billion-dollar, multi-year program of proposed projects for major transportation projects in the San Diego region. Transportation projects funded with federal, state, and TransNet (the San Diego transportation sales tax program) must be included in an approved regional transportation improvement program. The programming of locally funded projects also may be programmed at the discretion of the agency. The 2016 Regional Transportation Improvement Program covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016).

City of Chula Vista

Chula Vista General Plan

In Chapter 3.1.6, Promoting Clean Air, of the Environmental Element of the Chula Vista General Plan, the City outlines in the background of air quality in the region and the following objectives and policies related to air quality (City of Chula Vista 2005):

- E6: Improve local air quality and reduce greenhouse gas emissions by minimizing the release of air pollutants and toxic air contaminants and limiting the exposure of people to such pollutants.
- E6A: Explore opportunities for improving indoor air quality.
- E6B: Prioritize greening efforts to keep air, water, and land clean.

The following policies related to air quality are found in Section 3.1.6 of the Environmental Element in the Chula Vista General Plan:

- E6.1: Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.
- E6.2: Promote and facilitate transit system improvements in order to increase transit use and reduce dependency on the automobile.
- E6.3: Facilitate the use of alternative fuel and low- and zero-emission vehicles and equipment in the community.
- E6.4: Do not site new or re-powered fossil-fueled baseload or peaking-type Electric Generating Facilities and other major toxic emitters within 1,000 feet of sensitive receptors, or site sensitive receptors within 1,000 feet of such facilities.

E6.5: Ensure Electrical Generating Facilities incorporate cleaner fuel sources and least polluting technologies in order to help transition the City to a less fossil fuel dependent future, while meeting Chula Vista's energy demand.

E6.6: Explore incentives to promote voluntary air pollutant reductions, including incentives for developers who go above and beyond applicable requirements and for facilities and operations that are not otherwise regulated.

E6.7: Encourage innovative energy conservation practices and air quality improvements in new development and redevelopment projects consistent with the City's Air Quality Improvement Plan Guidelines or its equivalent, pursuant to the City's Growth Management Program.

E6.9: Discourage the use of landscaping equipment powered by two-stroke gasoline engines within the City and promote less-polluting alternatives to their use.

E6.10: The siting of new sensitive receivers within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of a health risk assessment as part of the CEQA review of the project. Attendant health risks identified in the HRA shall be feasibly mitigated to the maximum extent practicable, in accordance with CEQA, in order to help ensure that applicable federal and state standards are not exceeded.

E6.11: Develop strategies to minimize CO hot spots that address all modes of transportation.

E6.12: Promote clean fuel sources that help reduce the exposure of sensitive uses to pollutants.

E6.13: Encourage programs and infrastructure to increase the availability and usage of energy-efficient vehicles, such as hybrid electric vehicles, electric vehicles, or those that run on alternative fuels.

E6.14: Transition the City fleet to 100% "clean" vehicles by integrating hybrid and alternative fuel vehicles as current municipal fleet vehicles are replaced

E6.15: Site industries and other stationary emitters in a way that minimizes the potential impacts of poor air quality on homes, schools, hospitals, and other land uses where people congregate, and disadvantaged populations.

E6.16: Encourage the use of bicycles through support of bike share opportunities, community bike programs, and the provision of bicycle parking opportunities such as bike racks and bike lockers.

E6.A.1: Continue to limit exposure to secondhand smoke by encouraging the creation of smoke free spaces and facilities in public spaces, and at all workplaces and multi-unit housing.

Sunbow Sectional Planning Area Plan

The SPA Plan provides general performance standards, intended to describe the overall minimum design standards for the Industrial Park area, where the proposed project would be located. The following general performance standard (City of Chula Vista 1990) pertains to air quality:

K. Air Pollution: There shall be no emission on any site, for more than one minute in any hour, of air contaminants which, at the emission point or within a reasonable distance of the emission point, which is as dark or darker in shade as that designated as No. 1 on the Ringelman Chart as published in the United States Bureau of Mines Information Circular 7718.

5.2.1.2 Climate and Topography

The project site is located within the SDAB, which is one of 15 air basins that geographically divide California. The SDAB lies in the southwest portion of California, comprises the entire San Diego region, covers approximately 4,260 square miles, and is an area of high air pollution potential. The SDAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. Another type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O_3, commonly known as smog.

Light daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and oxides of nitrogen (NO_x) emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. NO_2 levels are also generally higher during fall and winter days when O_3 concentrations are lower.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County (County). This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within the County. The transport of air pollutants from the Los Angeles region to San Diego County has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

The local climate in the southern part of the County is characterized as semi-arid with consistently mild, warmer temperatures throughout the year. The average summertime high temperature in the region is approximately 81°F, with highs approaching 80°F in August on average, and record highs approaching 104°F in August. The average wintertime low temperature is approximately 43.8°F, although record lows have approached 32°F in January. Average precipitation in the local area is approximately 9.7 inches per year, with the bulk of precipitation falling between December and March (WRCC 2017).

5.2.1.3 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, elderly people, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as “sensitive receptors.” Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). SDAPCD identifies sensitive receptors as those who are especially susceptible to adverse health effects from exposure to TACs, such as children, elderly people, and ill people. Sensitive receptors include schools (grades Kindergarten through 12), daycare centers, nursing homes, retirement homes, health clinics,

and hospitals within 2 kilometers (1.2 miles) of the facility (SDAPCD 2019a). The closest sensitive receptors to the proposed project are existing residences located 1,040 feet north of the project site. The project would also introduce new on-site sensitive receptors to the area. The new sensitive receptors would be located approximately 100 feet from the existing Otay Landfill. However, a 50-foot existing slope is currently present between the proposed homes and the existing Otay Landfill.

5.2.1.4 Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Criteria Air Pollutants

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_x and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone)[1]. The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good" O_3, occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as sick people, elderly people, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources, such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016).

[1] The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue, as well as reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. PM_{10} consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the thickness of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and elderly people may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fuel power plants are major sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry-cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Sulfates. Sulfates are the fully oxidized forms of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere. Sulfates can result in respiratory impairment and reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in the air can cause nervous system effects such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair) and, thus, is a subset of PM2.5 (CARB 2016a). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including more than 40 known cancer-causing organic substances.

Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016a). The CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines, including on-road diesel engines (trucks, buses, and cars) and off-road diesel engines (locomotives, marine vessels, and heavy-duty construction equipment, among others). Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016b). Those most vulnerable to non-cancer health effects are children, whose lungs are still developing, and elderly people, who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., a coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue,

a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as "valley fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earthmoving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

Valley fever is not considered highly endemic to San Diego. Per the County Health and Human Services Agency, the 10-year average (2009–2018) for coccidioidomycosis cases in the County of San Diego is 5.5 cases per 100,000 people per year. The project site is wholly contained within the 91911 zip code. For the 91911 zip code, there were 113 cases of coccidioidomycosis between 2009 and 2018, which is equivalent to a rate of 13.5 cases per 100,000 people (Nelson 2019). Statewide incidences in 2018 were 18.8 per 100,000 people (CDPH 2019).

Even if *Coccidioides immitis* is present at a site, earthmoving activities may not result in increased incidence of valley fever. Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earthmoving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing valley fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000).

5.2.1.5 Local Air Quality

San Diego Air Basin Attainment Designation

Pursuant to the 1990 federal CAA amendments, EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California CAA, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on the CAAQS rather than the NAAQS. Table 5.2-2 depicts the current attainment status of the project site with respect to the NAAQS and CAAQS. The attainment classifications for the criteria pollutants are outlined in Table 5.2-2.

Table 5.2-2. San Diego Air Basin Attainment Classification

Pollutant	Designation/Classification	
	National Standards	*State Standards*
Ozone (O_3) – 1 hour	Attainment[a]	Nonattainment
O_3 (8-hour – 1997) O_3 (8-hour – 2008)	Attainment (maintenance) Nonattainment (moderate)	Nonattainment
Nitrogen Dioxide (NO_2)	Unclassifiable/attainment	Attainment
Carbon Monoxide (CO)	Attainment (maintenance)	Attainment
Sulfur Dioxide (SO_2)[a]	Attainment[b]	Attainment
Coarse Particulate Matter (PM_{10})	Unclassifiable/attainment	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Unclassifiable/attainment	Nonattainment
Lead (Pb)	Unclassifiable/attainment	Attainment
Hydrogen Sulfide	No national standard	Attainment
Sulfates	No national standard	Unclassified
Visibility-Reducing Particles	No national standard	Unclassified
Vinyl Chloride	No national standard	No designation

Source: Appendix C.
Notes: Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.
If nonattainment for federal standards, a clarifying classification will be provided indicating the severity of the nonattainment status.
[a] The federal 1-hour standard of 0.12 parts per million was in effect from 1979 through June 15, 2005. The revoked standard is referenced here, because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.
[b] EPA retaining current federal standard for SO_2 (84 FR 9866–9907).

In summary, the SDAB is designated as an attainment area for the 1997 8-hour O_3 NAAQS and as a nonattainment area for the 2008 8-hour O_3 NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The portion of the SDAB where the project site is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. Local ambient air quality is monitored by SDAPCD. SDAPCD operates a network of ambient air monitoring stations throughout the County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest SDAPCD-operated monitoring station is the Chula Vista monitoring station, which is located approximately 2.5 miles northwest of the project site. This monitoring station was used to show the background ambient air quality for O_3, PM_{10}, $PM_{2.5}$, and NO_2. The closest monitoring site that measures CO and SO_2 is the First Street monitoring station in El Cajon, which is about 6.8 miles northeast of the project site. The most recent background ambient air quality data and numbers of days exceeding the ambient air quality standards from 2016 to 2018 are presented in Table 5.2-3.

Table 5.2-3. Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2016	*2017*	*2018*	*2016*	*2017*	*2018*
Ozone (O_3) – Chula Vista									
Maximum 1-hour concentration	ppm	State	0.09	0.088	0.073	0.085	0	0	0
Maximum 8-hour concentration	ppm	State	0.070	0.066	0.068	0.074	0	0	1
		Federal	0.070	0.066	0.068	0.074	0	0	1
Nitrogen Dioxide (NO_2) – Chula Vista									
Maximum 1-hour concentration	ppm	State	0.18	0.049	0.054	0.057	0	0	0
		Federal	0.100	0.049	0.054	0.057	0	0	0
Annual concentration	ppm	State	0.030	0.010	0.009	0.009	—	—	—
		Federal	0.053	0.010	0.009	0.009	—	—	—
Carbon Monoxide (CO) – El Cajon									
Maximum 1-hour concentration	ppm	State	20	—	1.6	1.5	—	0	0
		Federal	35	—	1.6	1.5	—	0	0
Maximum 8-hour concentration	ppm	State	9.0	—	1.3	1.4	—	0	0
		Federal	9	—	1.3	1.4	—	0	0
Sulfur Dioxide (SO_2) – El Cajon									
Maximum 1-hour concentration	ppm	Federal	0.075	0.0012	0.0006	0.0010	0	0	0
Maximum 24-hour concentration	ppm	Federal	0.14	0.0004	0.0002	0.0004	0	0	0
Annual Concentration	ppm	Federal	0.030	0.0001	0.0008	0.0001	0	0	0
Coarse Particulate Matter (PM_{10})[a] – Chula Vista									
Maximum 24-hour concentration	µg/m^3	State	50	39.0	45.0	48.0	0.0 (0)	0.0 (0)	0.0 (0)
		Federal	150	38.0	46.0	48.0	0.0 (0)	0.0 (0)	0.0 (0)
Annual Concentration	µg/m^3	State	20	23.4	19.8	21.8	0.0 (0)	0.0 (0)	0.0 (0)
Fine Particulate Matter ($PM_{2.5}$)[a] – Chula Vista									
Maximum 24-hour concentration	µg/m^3	Federal	35	33.5	23.9	42.7	0	0	1
Annual concentration	µg/m^3	State	12	8.4	8.7	9.3	0	0	0
		Federal	12	8.4	8.7	9.3	0	0	0

Sources: Appendix C.
Notes: ppm = parts per million; — = no data available; µg/m^3 = micrograms per cubic meter.

Data taken from CARB's iADAM (http://www.arb.ca.gov/adam) and EPA's AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.
Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.
Chula Vista monitoring station is at 80 East J Street, Chula Vista, California.
El Cajon monitoring station is at Lexington Elementary School, at 533 First Street, El Cajon, California.
[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

5.2.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to air quality is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Conflict with or obstruct implementation of the applicable air quality plan.
B. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
C. Expose sensitive receptors to substantial pollutant concentrations.
D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Criteria Pollutants

Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to determine whether a project would have a significant impact on air quality.

The City evaluates project emissions based on the quantitative emission thresholds established by the South Coast Air Quality Management District (SCAQMD). SCAQMD sets forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality. It should be noted that the use of these significance thresholds is conservative, as SCAQMD's significance thresholds were originally based on the South Coast Air Basin's extreme O_3 nonattainment status for the 1-hour NAAQS, whereas the SDAB was designated as an attainment area for the 1-hour NAAQS. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 5.2-4 are exceeded.

Table 5.2-4. City of Chula Vista Air Quality Significance Thresholds

Pollutant	Construction	Operation
Criteria Pollutants Mass Daily Thresholds		
VOC	75 lb/day	55 lb/day
NO_x	100 lb/day	55 lb/day
CO	550 lb/day	550 lb/day
SO_x	150 lb/day	150 lb/day
PM_{10}	150 lb/day	150 lb/day
$PM_{2.5}$	55 lb/day	55 lb/day
Lead[a]	3 lb/day	3 lb/day

Source: Appendix C.

Notes: VOC = volatile organic compound; lb/day = pounds per day; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
GHG emissions thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not included in this table, as they will be addressed within the GHG emissions analysis and not the air quality study.

[a] The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

The thresholds listed in Table 5.2-4 represent screening-level thresholds that can be used to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 5.2-4, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

With respect to odors, SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

5.2.3 Impacts

A. Conflict with or obstruct implementation of the applicable air quality plan.

As mentioned in Section 5.2.1.1, Regulatory Framework—Local, SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin— specifically, the SIP and the RAQS.[2] The federal O_3 maintenance plan, which is part of the SIP, was adopted in 2012. The most recent O_3 attainment plan was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and the RAQS and may contribute to a potentially significant cumulative impact on air quality. The General Plan Land Use Element designates the project site as Limited Industrial (LI), which is intended for light manufacturing, warehousing, certain public utilities, auto repair, auto salvage yards, and flexible-use projects that combine these uses with associated office space (City of Chula Vista 2005). Furthermore, the project proposes to redesignate the site from Industrial Park in the Sunbow General Development Plan (City of Chula Vista 1989) and Sunbow Sectional Planning Area (SPA) Plan (City of Chula Vista 1990) to 718 multi-family residential units[3] phased over approximately 7 years. The criteria air pollutant emissions associated with operation of an Industrial Park land use would be greater than those for multi-family residential

[2] For the purpose of this discussion, the relevant federal air quality plan is the 2016 8-Hour O_3 Attainment Plan (SDAPCD 2016a). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

[3] Note that the Air Quality and Greenhouse Gas Emissions Technical Report (Appendix C) assumed 720 proposed residential units for a conservative analysis.

units, particularly since Industrial Park land use generates more truck trips than residential land use. Thus, the proposed Project would not result in emissions that are not accounted for in the RAQs.

The proposed project would involve development of 718 multi-family residential units but would be developed in phases: 330 multi-family residential units would be operational in 2024, 165 units would be operational in 2025, 127 units would be operational in 2026, 75 units would be operational in 2027, and 23 units would be operational in 2028. Based on SANDAG's Series 13 forecast, the interpolated persons per household ratio in 2028 is 3.224. Thus, the project would result in 2,315 persons. SANDAG Series 13 estimates the population in the City would grow from 287,173 in 2020 to 326,625 in 2035. Furthermore, SANDAG Series 13 estimates that housing would increase from 89,176 units in 2020 to 101,188 units in 2035. Thus, the addition of 330 multi-family residential units in 2024, 165 units in 2025, 127 units in 2026, 75 units in 2027, and 23 units in 2028 would provide balanced and diverse housing to the City and would provide housing to accommodate the City's future growth projections. Therefore, the proposed project would not stimulate population growth or a population concentration or housing above what is assumed in local and regional land use plans, or projections made by regional planning authorities. Thus, impacts would be considered **less than significant.**

B. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

The SDAB is a nonattainment area for O_3 under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O_3) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. However, a project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the SDAB to ensure that the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents on which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As discussed previously, the project would not exceed significance thresholds during construction or operation. As such, the project would result in **less-than-significant** impacts to air quality relative to emissions.

Construction Emissions

Emissions from the construction phase of the project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017). For the purposes of modeling, it was assumed that construction of the project would commence in May 2021 and would last approximately 7 years, ending in May 2028. The analysis contained herein is based on the assumptions outlined in Section 4.4.7, Construction and Phasing (duration of phases is approximate), as well as well as other assumptions made for the purposes of modeling, is included in Appendix C.

For this analysis, it was assumed that heavy construction equipment would operate 5 days a week during project construction. Construction-worker and vendor estimates by construction phase were generated by CalEEMod. As specified by the applicant, the project would require 1.2 million cubic yards of balanced cut and fill. Additional project-specific assumptions regarding vehicle trips and construction schedules and phasing—including information regarding subphases and equipment used during each subphase—are included in Appendix C. In addition, the following project design features (PDFs) (see Section 4.4.8, Project Design Features, for the full text of the PDFs) would be implemented as part of the proposed project:

- PDF-AQ-1 (Fugitive Dust Control)
- PDF-AQ-2 (Architectural Coating)

Implementation of the project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The project is subject to SDAPCD Rule 55, Fugitive Dust Control (SDAPCD 2009b). This rule requires that the project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction of particulate matter (SCAQMD 2007).

The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions; however, the contractor is required to utilize architectural coatings in compliance with the requirements of SDAPCD Rule 67.0.1, Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories 50 grams per liter (g/L) for interior coating, 100 g/L for exterior architectural coating, and exterior architectural coatings and 250 g/L for parking coating (SDAPCD 2015). Implementation of **PDF-AQ-2,** outlined in Section 4.4.8, would ensure that the project would use no-VOC paints; therefore, 5 grams per liter VOC content was assumed for interior and exterior architectural coating, which would be lower than the VOC content requirements of SDAPCD Rule 67.0.1.

Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. The application of asphalt pavement and architectural coatings would also produce VOC emissions.

Table 5.2-5 shows the estimated maximum daily construction emissions associated with construction of the project without mitigation. Complete details of the emissions calculations are provided in Appendix C.

Table 5.2-5. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2021	11.72	90.76	84.02	0.24	16.53	9.77
2022	10.68	79.77	79.63	0.24	16.01	6.77
2023	6.48	34.76	47.64	0.16	11.17	3.57
2024	6.17	33.31	45.80	0.16	11.07	3.48
2025	5.88	31.86	44.11	0.16	10.97	3.39
2026	5.73	31.50	42.77	0.15	10.97	3.39
2027	5.59	31.16	41.58	0.15	10.97	3.38
2028	5.43	30.87	40.57	0.15	10.96	3.38
Maximum daily emissions	**11.72**	**90.76**	**84.02**	**0.24**	**16.53**	**9.77**
Chula Vista threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Appendix C.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix C for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. Although not considered mitigation, these emissions reflect CalEEMod "mitigated" output, which accounts for the required compliance with SDAPCD Rule 55 (Fugitive Dust Control) and use of no-VOC architectural coatings.

As shown in Table 5.2-5, daily construction emissions would not exceed the City's significance thresholds. Therefore, impacts during construction would be **less than significant**.

Operational Emissions

Operation of the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products and landscape maintenance equipment; and energy sources. Pollutant emissions associated with long-term operations were quantified using CalEEMod. Project-generated mobile source emissions were estimated in CalEEMod based on project-specific trip rates and trip distances. CalEEMod default values were used to estimate emissions from the project site and energy sources.

Table 5.2-6 presents the maximum daily area, energy, and mobile source emissions associated with operation (Year 2028) of the project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix C.

Table 5.2-6. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	18.81	0.68	59.39	<0.01	0.33	0.33
Energy	0.29	2.48	1.06	0.02	0.20	0.20
Mobile	5.93	22.66	57.76	0.22	22.37	6.08
Total	**25.03**	**25.83**	**118.20**	**0.24**	**22.90**	**6.61**
Chula Vista threshold	*55*	*55*	*550*	*150*	*150*	*55*

Table 5.2-6. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Threshold exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Appendix C.

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix C for complete results.
Columns may not total precisely due to rounding.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with Rule 67.0.1 (Architectural Coatings).

As shown in Table 5.2-6, the combined daily area, energy, and mobile source emissions would not exceed the City's operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the project would site is designated as Industrial Park in the Sunbow General Development Plan (City of Chula Vista 1989) and Sunbow SPA Plan (City of Chula Vista 1990). However, the criteria air pollutant emissions associated with operation of an Industrial Park land use would be greater than those for multi-family residential units, particularly since Industrial Park land use generates more truck trips than residential land use. Furthermore, the 718 multi-family residential uses would provide balanced and diverse housing to the City and would provide housing to accommodate the City's future growth projections. As a result, the project would not result in a cumulatively considerable contribution to regional O_3 concentrations or other criteria pollutant emissions. Impacts associated with project -generated operational criteria air pollutant emissions would be **less than significant**.

C. Expose sensitive receptors to substantial pollutant concentrations.

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts on those persons termed sensitive receptors are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, elderly people, athletes, and people with cardiovascular and chronic respiratory diseases. As such, sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest sensitive receptors to the project site are existing residences adjacent to the western and northern property boundaries. The project would also introduce new on-site sensitive receptors to the area.

Health Impacts of Toxic Air Contaminants

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 would contract cancer based on the use of standard OEHHA risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy- duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB ATCMs to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on typical residency period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 7 years) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs. Furthermore, the closest sensitive receptors to the proposed project site are existing residences located 1,040 feet north of the project site. The heavy-duty construction equipment is subject to a CARB ATCM for in-use diesel construction equipment to reduce diesel particulate emissions, and diesel trucks are subject to a CARB ATCM that limits idling of equipment and trucks during loading and unloading to 5 minutes and requires that electric auxiliary power units be used whenever possible. Also, construction equipment are subject to CARB In-Use Off-Road Diesel Regulation that requires specific fleet average requirements be met for particulate matter emissions, and apply Best Available Control Technology requirements. The future sensitive receptors of the project would be exposed to the proposed construction activities from each phase of the project. The duration of construction for each phase of the project would be approximately 7 years and would therefore constitute only a small percentage of the total long-term exposure period and would not result in exposure of future sensitive receptors of the project.

As required by Policy E 6.10 in the General Plan Environmental Element (City of Chula Vista 2005), the siting of new sensitive receivers within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of an HRA as part of the CEQA review of the project. The project residences would be located approximately 4,600 feet from Interstate 805 (I-805); therefore, the project is not subject to this requirement. Impacts to sensitive receptors attributed to TACs would be **less than significant.**

Landfill Health Risk

For informational purposes only, an HRA was performed to estimate the Maximum Individual Cancer Risk, the Chronic Hazard Index, and the Acute Hazard Index for the residential receptors as a result of emissions impacts from the Otay Landfill operation on future sensitive receptors of the project.

The Landfill operation TAC emission sources include a diesel grinder generator, landfill gas (LFG) flares, LFG fugitive emissions, off-road equipment, haul truck travel and idling emissions, and fugitive dust from landfill operations. This HRA was prepared using information from the *Air Toxics Health Risk Assessment for Otay Ranch Village 3 North* (CalRecycle 2020) and the *AB 2588 Health Risk Assessment for Otay Landfill* (SCS 2016). Additional Landfill information was obtained per the public records request to SDAPCD, including the Landfill permit applications, engineering evaluations, emissions calculations, and past and current permits (Gould 2020a). The Landfill's LFG-derived TAC emissions were estimated using SDAPCD's default emission factors, the U.S. Environmental Protection Agency (EPA) AP-42 emission factors, CARB's EMFAC2017 emission factors, and the EPA Landfill Gas Emissions Model (LandGEM), which projected future LFG generation.

Emission sources associated with operation of the Landfill, including haul vehicles, equipment, and the grinder generator, are not expected to operate after the landfill reaches capacity, which is expected to occur on February 28, 2030 (CalRecycle 2020). LFG-derived sources, however, are expected to continue operating over the full exposure duration.

For risk assessment purposes, coarse particulate matter (PM_{10}; particulate matter with an aerodynamic diameter equal to or less than 10 microns) in diesel exhaust is considered DPM, which is assumed to be originating mainly from diesel haul trucks traveling on site, truck idling, off-road equipment and the diesel-fueled grinder generator. Haul truck travel and idling emission rates were obtained from EMFAC2017. The LFG-derived fugitive and flare TAC emissions were identified from EPA's AP-42 (EPA 1995). The speciated suspended dust TAC emissions from haul truck travel on paved and unpaved roads on site were from the soil samples collected for the site (SCS 2013a, 2016). The grinder generator TAC emissions were calculated using the Landfill's Title V permit (Title V Permit to Operate Number 971227). The off-road diesel equipment is subject to the Regulation for In-Use Off-Road Diesel-Fueled Fleets, and the equipment tier standards were updated from the 2013 SCS analysis (SCS 2013a) and assumed to be in compliance with the Medium Fleet Average Best Available Control Technology (BACT) Requirements (CARB 2018).

As required by the 2019 Title 24 Building Code and the 2019 California Green Building Standards Code (CALGreen) standards, the project would install MERV 13-rated air filtration on all HVAC systems able to achieve a 90% reduction in particulate matter.[4] EPA conducted the National Human Activity Pattern Survey (NHAPS) to study where people spend their time. The results of the NHAPS showed that on average, people spend 87% of their time in enclosed buildings and 6% of their time in enclosed vehicles (Kleipeis et al. 2001). This assessment of risk includes accounting for time spent indoors (87% of the time) as identified in the NHAPS and time spent away from home as recommended by OEHHA (OEHHA 2015). Accounting for the actual time spent indoors and exposure related to the residents of the project provides a more realistic exposure scenario from TAC emissions from the Otay Landfill operation. Detailed HRA methodology, emissions data, and results are provided in Appendix C.

A dispersion modeling analysis of the Landfill operations on the Project site was conducted for this HRA. The air dispersion modeling methodology was based on the generally accepted modeling practices of SDAPCD (SDAPCD 2019a) and OEHHA (OEHHA 2015). The dispersion modeling was performed using AERMOD, which is the model that EPA approved for atmospheric dispersion of emissions (EPA 2015). AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain. Principal parameters of AERMOD for the Landfill modeling included the following:

- **Dispersion Model:** The air dispersion model used was AERMOD Version 19191, with the Lakes Environmental Software implementation/user interface, AERMOD View Version 9.8.3 (Lakes Environmental 2019). A unit emission rate of 1.0 grams per second (g/s) was applied to each source (i.e., truck idling, grinder generator, flares). Unit emission rate of 1 g/s was divided by the area of the area source to calculate the emission rate in units of grams per second per square meter. Furthermore, a unit emission rate was normalized over the line of adjacent volume sources (i.e., truck travel and equipment operation) for the AERMOD run to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength, and is used as a way to simplify the representation of emissions from many sources. The maximum concentrations were determined for the 1-hour and period averaging periods.
- **Meteorological Data:** AERMOD-specific meteorological data for the Chula Vista air monitoring station (CVA) used for the dispersion modeling was provided by SDAPCD as the most recent, available, and representative meteorological data available for the site (Gould 2020b). A 3-year meteorological data set from 2010 through 2012 was provided by SDAPCD in a preprocessed format suitable for use in AERMOD.
- **Urban and Rural Options:** Based on the land use procedure, at least 50% of the land use within the 3-kilometer (1.9-mile) radius from the Landfill site is I1 (Heavy Industrial), I2 (Light-Moderate Industrial), C1

[4] EPA reported that the MERV 13 filters remove 90% of particles ranging from 1 to 10 microns (EPA 2019a).

(Commercial), R1 (Common Residential), and R2 (Compact Residential). Therefore, the Urban dispersion option was selected.

- **Terrain Characteristics:** Digital elevation data were imported into AERMOD and elevations were assigned to receptors and emission sources, as necessary. Digital elevation data were obtained through the AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a resolution of 1/3 degree (approximately 10 meters [33 feet]), consistent with the SDAPCD guidance (SDAPCD 2019a). The elevation of the site is 350 feet (107 meters) above sea level.
- **Sensitive Receptors:** A 25-meter (82-foot) Cartesian receptor grid was applied across the proposed Project site to establish the impact area and evaluate locations of maximum health risk impact.
- **Source Release Scenario:** Consistent with the 2013 and 2016 SCS Engineers analysis (SCS 2013a, 2016) and the SDAPCD Engineering Evaluation Letter (SDAPCD 2017), the following sources were modeled:
    - Flares 1 and 2 were modeled as point sources with 50-foot and 30-foot release height, respectively; 13-foot and 6-foot inside stack diameter, respectively; 1,601°F exit gas temperature; and 2.899-meter per second (m/s) (or 9.511 feet per second [f/s]) exit gas velocity.
    - On-site truck travel was modeled as a line of adjacent volume sources with a plume height and width of 3 meters (9.8 feet) and release height of 1.5 meters (4.9 feet).
    - Unpaved and paved dust from truck travel was modeled as a line of adjacent volume sources with a plume height of 5.58 meters (18.31 feet), plume width of 8.51 meters (27.92 feet), and release height of 2.55 meters (8.37 feet).
    - Truck idling emissions were modeled as point sources with a release height of 4 meters (13.1 feet); inside stack diameter of 0.33 feet; 442°F exit gas temperature; and 49.0 m/s (160.8 f/s) exit gas velocity.
    - The grinder generator was modeled as a point source with a release height from the ground at 0 meters; inside stack diameter of 0.33 feet; 1,100°F exit gas temperature; and 0.001 m/s (0.003 f/s) exit gas velocity.
    - Off-road equipment was modeled as a line of adjacent volume sources with a plume height and width of 2.33 meters (7.64 feet) and release height of 5 meters (16 feet).
    - Landfill gas fugitive emissions were modeled as an area polygon source with a release height of 0 meters and initial vertical dimension of 0 meters.
    - The grinder generator was modeled as a building (50 feet in length, 12 feet in width, and 13.5 feet in height) to account for the grinder generator point source being affected by building downwash.

As shown in Table 5.2-7, the landfill operation would result in a Residential Maximum Individual Cancer Risk of 7.70 in 1 million, which would be less than the significance threshold of 10 in 1 million. Landfill operation would result in a Residential Chronic Hazard Index and Acute Hazard Index of 0.244 and 0.080, respectively, which are below the 1.0 significance threshold. These impact levels would be less than the SDAPCD significance threshold.

Furthermore, following closure of the Otay Landfill in 2030, the cancer risk impact from LFG fugitive and flare emissions would be reduced to 6.61 in 1 million. In addition, chronic health risk and acute health risk would be further reduced.

Table 5.2-7. Landfill Health Risk Assessment Results – Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Maximum Individual Cancer Risk – Residential	Per million	7.70	10	Less than significant
Chronic Hazard Index – Residential	Index value	0.244	1.0	Less than significant
Acute Hazard Index – Residential	Index value	0.080	1.0	Less than significant

Source: SDAPCD 2019a.
Notes: CEQA = California Environmental Quality Act.
See Appendix C.

On April 26, 2020, the Otay Landfill submitted an application (proposed Otay Landfill Compostable Materials Handling Facility, Permit #37-AA-0984) for the addition of up to 200 tons per day of agricultural and food waste at the organics composting operation within the existing footprint of the Otay Landfill, which represents a 2.5% increase in volume allowed to be processed onsite. Based upon the applicant's environmental analysis (CEQA Addendum #2, dated September 12, 2019, PDS2019-MUP-76-046W2M3; ER76-18-026B; and CEQA document, dated October 29, 2020 SCH#96091009-6) there is a decrease in TAC emissions, specifically ammonia emissions, and no change in vehicular emissions; therefore, the proposed composting operation would most likely reduce health risk impacts as compared to the existing operation. Furthermore, the composting technology would implement a Covered Aeriated Static Pile composting system with a GORETM Cover. The composting technology would reduce volatile organic compound and ammonia emissions by 80% or more and divert methane-forming organics away from landfill disposal. In addition, the composting operation would divert up to 100 tons per day of oxidation of organic matter away from landfill disposal, resulting in lower TAC emissions and odors generated onsite as compared to the existing operation.

Health Impacts of Carbon Monoxide

Mobile-source impacts occur on two basic scales of motion. Regionally, project -related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles cold-started and operating at pollution-inefficient speeds, and operates on roadways already crowded with non- project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. As the City does not have CO hotspot guidelines, the County of San Diego's Guidelines (County of San Diego 2007) CO hotspot screening guidance was followed to determine whether the project would require a site-specific hotspot analysis. The County recommends that a quantitative analysis of CO hotspots be performed for intersections that are operating at or below an LOS of E and that have peak-hour trips exceeding 3,000 trips. The methodology of the CO hotspot analysis is presented in Appendix C.

The Traffic Impact Analysis prepared for the project (see Section 5.15, Transportation, of this EIR) analyzed Existing and Existing Plus Cumulative Projects Plus Project Near Term (2024) for nine existing intersections near the project site. The results of the LOS assessment show that under Existing Plus Project conditions, two of the nine study intersections are forecast to operate at unacceptable LOS (LOS E or worse) during the peak hours, with a

volume more than 3,000 trips. As shown in Appendix C of Appendix C, CO Hotspot Analysis, the two key study intersections according to the criteria above are (1) Olympic Parkway and I-805 Southbound Ramps (LOS F in PM peak hours) and (2) Olympic Parkway and I-805 Northbound Ramps (LOS F in AM peak hours). The remaining key intersections are projected to operate at acceptable LOS conditions in the Existing Plus Project scenario.

Based on the CO hotspot screening evaluation (Appendix C of Appendix C), both failing intersections have 10 links and are signal- controlled intersections. The potential impact of the project on local CO levels was assessed at these intersections with the Caltrans CL4 interface based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

The emissions factor represents the weighted average emissions rate of the local County vehicle fleet expressed in grams per mile per vehicle. Consistent with the traffic scenario, emissions factors for 2024, which is more conservative than the operational year 2028, were used. Emissions factors were predicted by EMFAC2017 based on a 5-mile-per-hour average speed for all of the intersections for approach and departure segments. The hourly traffic volume anticipated to travel on each link, in units of vehicles per hour, was based on information provided by the traffic consultant (see Section 5.15) and modeling assumptions are outlined in Appendix C of Appendix C.

Four receptor locations were modeled at each intersection to determine CO ambient concentrations. A receptor was assumed on the sidewalk at each corner of the modeled intersections, to represent the future possibility of extended outdoor exposure. CO concentrations were modeled at these locations to assess the maximum potential CO exposure that could occur in 2024. A receptor height of 5.9 feet (1.8 meters) was used in accordance with Caltrans recommendations for all receptor locations (Caltrans 1998b).

The highest 1-hour measurement in the last 3 years was used as the projected future 1-hour CO background concentration for the analysis. A CO concentration of 1.6 parts per million by volume (ppm) was recorded in 2017 for the El Cajon monitoring station in San Diego and was assumed in CALINE4 for 2024 (EPA 2019b). To estimate an 8-hour average CO concentration, a persistence factor of 0.70 was applied to the output values of predicted concentrations in ppm at each of the receptor locations. Model input and output data are available in Appendix C of Appendix C.

The maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 1.7 ppm, which is below the 1-hour CO CAAQS of 20 ppm (CARB 2014). The maximum predicted 8-hour CO concentration of 1.37 ppm at the studied intersections would be below the 8-hour CO CAAQS of 9.0 ppm (CARB 2016b). Neither the 1-hour nor the 8-hour CAAQS would be equaled or exceeded at any of the intersections studied. Accordingly, the project would not cause or contribute to violations of the CAAQS and would not result in exposure of sensitive receptors to localized high concentrations of CO. CO tends to be a localized impact associated with congested intersections. Therefore, the project's CO emissions would not contribute to significant health effects associated with this pollutant. As such, project operation would result in a **less-than-significant** impact to air quality with regard to potential CO hotspots.

Health Impacts of Other Criteria Air Pollutants

Construction and operation of the project would not result in emissions that exceed the City's emission thresholds for any criteria air pollutants.

Some VOCs are associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of SDAPCD's thresholds.

Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications. Furthermore, with implementation of **PDF-AQ-2**, outlined in Section 4.4.8, the project would use no-VOC paints.

In addition, VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by EPA as an attainment area for the 1-hour O_3 NAAQS and the 1997 8-hour NAAQS). The health effects associated with O_3, as discussed in Section 5.2.1.4, Pollutants and Effects, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur, because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with project construction and operations could minimally contribute to regional O_3 concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts of other criteria air pollutants would be considered **less than significant**.

Regarding NO_2, according to the construction emissions analysis, construction of the proposed project would not contribute to exceedances of the NAAQS and CAAQS for NO_2. As described in Section 5.2.1.4, NO_2 and NO_x health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these construction activities would be relatively short term. Additionally, off-road construction equipment would operate at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the proposed project would not require any stationary emission sources that would create substantial localized NO_x impacts.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O_3 concentrations and its associated health effects. In addition to O_3, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in Table 5.2-3, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected that the project's operational NO_x emissions would result in exceedances of the NO_2 standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO hotspots were discussed previously as a less-than- significant impact. Thus, the proposed project's CO emissions would not contribute to significant health effects associated with this pollutant. PM_{10} and $PM_{2.5}$ emissions from the proposed project would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter, would not obstruct the SDAB from coming into attainment for these pollutants, and would not contribute to significant health effects associated with particulates.

Based on the preceding considerations, health impacts associated with criteria air pollutants would be considered **less than significant.**

Valley Fever Exposure

As discussed in Section 5.2.1.4, valley fever is not highly endemic to San Diego, and within the County, the incidence rate in the project area is below the County average and the statewide average. Construction of the project would incorporate **PDF-AQ-1** (see Section 4.4.8) and comply with SDAPCD Rule 55, which limits the amount

of fugitive dust generated during construction. Strategies the project would implement to comply with SDAPCD Rule 55 and control dust include watering three times per day, using magnesium chloride for dust suppression on unpaved roads, and limiting speed on unpaved roads to 15 mph.

Based on the low incidence rate of coccidioidomycosis in the County and the project's implementation of dust control strategies, it is not anticipated that earthmoving activities during project construction would result in exposure of nearby sensitive receptors to valley fever. Therefore, the project would have a **less-than-significant impact** with respect to valley fever exposure for sensitive receptors.

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

The State of California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700 and SDAPCD Rule 51, commonly referred to as public nuisance law, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Projects required to obtain permits from SDAPCD are evaluated by SDAPCD staff for potential odor nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

Section 19.66.090, Odors, of the Chula Vista Municipal Code (CVMC) requires that no emission shall be permitted of odorous gases or other odorous matter in such quantities as to be readily detectable at the points of measurement specified in CVMC Section 19.66.060(A). Any process that may involve the creation or emission of any odors shall be provided with an adequate secondary safeguard system of control, so that control will be maintained if the primary safeguard system should fail (City of Chula Vista 1969). SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors. Odor issues are very subjective by the nature of odors themselves and due to the fact that their measurements are difficult to quantify. As a result, this guideline is qualitative and will focus on the existing and potential surrounding uses and the location of sensitive receptors.

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache) (US Army Corps of Engineers 2006). The ability to detect odors varies considerably among the population and overall is subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., a coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Characterization of odor emissions and quantitative determination of off-site impacts is a complex problem due to the often variable nature of emissions, changing source conditions and characteristics, and the subjective nature of perceived impacts (US Army Corps of Engineers 2006). Odors can exist at one concentration and not be offensive, but offensive odors are usually noticed even at minute concentrations. It is these odor events that heighten the public's awareness of an odor and hence the sensitivity, resulting in complaints.

Most odorous chemicals generated by biogenic processes are ammonia based or contain sulfur. Historically, odor panels have been used to determine the "strength" of an odor by a dilution to sensory threshold method (i.e. how many parts of odor per unit of air could be detected). This gives some information about the severity of an odor, but does not identify the individual chemical species responsible for the odor.

Construction

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the project site and generally would occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be **less than significant**.

Operation

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities (SCAQMD 1993). The project does not include any of the land uses typically associated with odor complaints. Therefore, project operations would result in an odor impact that would be **less than significant.**

Odors Associated with Existing Landfill

A nuisance analysis was prepared for the project to evaluate the potential impacts of odors and fugitive dust emitted from the Otay Landfill on future residents of the project.

LFG-derived odorous chemicals emitted from the Landfill were identified using EPA's Compilation of Air Pollutant Emission Factors (AP-42) (EPA 1995) and include TACs identified in the Village 3 North HRA and Nuisance Study conducted by SCS Engineers (SCS) in October 2013 (SCS 2013a, 2013b). Every TAC listed for landfills in AP-42 was included in the assessment. Landfill surface emissions were calculated using the estimated LFG generation rate and the concentration of each chemical in the LFG. No recent LFG analysis was available to provide site-specific TAC concentrations. The first choice for the concentration for each TAC was the Waste Industry Air Coalition (WIAC) Comparison of Recent Landfill Gas Analyses with Historic AP-42 Defaults. If the chemical was not included in the WIAC comparison, the AP-42 default concentration was used. All generated LFG not destroyed in the flare and engines were assumed to be emitted through the landfill surface and were included in this odor analysis. This odor analysis does not include DPM, metals found in soils at the Landfill, and crystalline silica, which are not odorous chemicals and/or do not produce odors characteristic of landfills.

The potential odor for each LFG-derived chemical was determined by comparing the concentration of the chemical emitted from the Landfill to the published odor threshold. The odor threshold concentration represents the odor concentration that is detected by 50% of population. Nuisance levels typically occur at concentrations that are several multiples higher than the ODT (Kern County 2017). Thus, using the ODT as a threshold for nuisance should be overly conservative and is the approach taken in evaluating the model results. Individuals may be more or less sensitive to specific chemicals than the odor threshold. The odor threshold was typically obtained from Safety Data Sheets. Details of the odor thresholds and LFG concentrations can be found in the complete nuisance analysis is provided in Appendix D of Appendix C.

Dust emissions were estimated from both combustion sources and fugitive sources at the Landfill. The combustion sources include vehicles and heavy-duty equipment. Fugitive sources include vehicle travel on paved and unpaved roads. Emission calculations were based on activity data from the 2013 HRA and nuisance analysis prepared by SCS (SCS 2013a, 2013b), permitting information for the Landfill (SDAPCD 2019b), and updated emission factors from the SDAPCD, CARB, and EPA. Detailed emission calculations and summary of dust sources are found in Appendix D of Appendix C.

A dispersion modeling analysis was conducted for odorous TACs and dust emissions from the Landfill. Two separate model runs were conducted, one for each analysis (odor and dust). The dispersion modeling was performed using AERMOD, which is the model that EPA approved and SDAPCD recommends for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain. Principal parameters of AERMOD for the project operations included the following:

- **Dispersion Model:** The air dispersion model used was AERMOD, Version 19191, with the Lakes Environmental Software implementation/user interface, AERMOD View, Version 9.8.3. The emission rate for the odor analysis was determined in accordance with the D/T for each odor source. Similarly, the emission rate for the dust analysis utilized source-specific fugitive dust emission rates. The maximum concentrations were determined for the 1-hour, 8-hour, and period-averaging periods. Detailed source parameters for modeling emissions with AERMOD can be found within Appendix B. Source parameters were based on information contained within the SCS analysis (SCS 2013a), the 2016 AB2588 HRA for the Landfill (SCS 2016), and current permits for the Landfill (SDAPCD 2019b).
- **Meteorological Data:** AERMOD-specific meteorological data for CVA was used for the dispersion modeling which was provided by SDAPCD as the most recent, available, and representative meteorological data available for the site. A 3-year meteorological data set from 2010 through 2012 was provided by the SDAPCD in a preprocessed format suitable for use in AERMOD.
- **Urban and Rural Options:** Typically, urban areas have more surface roughness and structures and low-albedo surfaces that absorb more sunlight, and thus, more heat, relative to rural areas. Based on the land use procedure, at least 50% of the land use within the 3-kilometer radius from the Landfill site is I1 (Heavy Industrial), I2 (Light-Moderate Industrial), C1 (Commercial), R1 (Common Residential), and R2 (Compact Residential). The urban dispersion option was selected based on the application of the land use procedure.
- **Terrain Characteristics:** Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate. The National Elevation Dataset (NED) dataset with resolution of 1/3 arc-second was used.
- **Sensitive Receptors:** A uniform Cartesian grid 25-meter spacing was created to cover the entire Project site. The grid was then converted into discrete Cartesian receptors.
- **Source Release Scenario:** Based on the Landfill operation schedule of 8 hours per day, 6 days per week, the variable emission factor of 4.5 was applied to off-road equipment and the grinder generator. Based on the haul truck schedule of 11 hours per day, 6 days per week, the variable emission factor of 3.27 was applied to haul trucks exhaust, dust from roads, and idling.
- **Buildings:** The grinder was also modeled as a building to account for downwash from that source. No other buildings were included.

The results of the odor analysis are shown in Table 5.2-8. The maximally exposed receptor would be the southeastern corner of the project site. The normalized results in Table 5.2-8 represent the concentration at the maximally exposed receptor compared to the mixture ODT. Odor indices greater than one (1.0) indicate a greater than 50% likelihood that odor would be detected and indices less than one (1.0) indicates less than 50% likelihood that odor would be detected. Values that are lower than 1.0 are less than the ODT, and values greater than 1.0 exceed the ODT and are thus more likely to be detected as odor.

Table 5.2-8. Summary of Odor Analysis

Receptor Type	UTME (m)	UTMN (m)	Odor Index
MEIR	498962.5	3607637.5	0.068

Notes: m = meters; MEIR = maximally exposed individual resident; UTME = Universal Transverse Mercator East; UTMN = Universal Transverse Mercator North.
See Appendix D of Appendix C.

As shown in Table 4, the odor index for the Project site at the maximally exposed resident was less than 1.0. Therefore, odors are not likely to be detected by future residents at the Project site.

The results of the dust analysis are presented in Table 5.2-9. The threshold is based on the time-waited value for the PEL for PMOC established by the Cal-OSHA. As such, emissions over the 8-hour averaging time are appropriate to compare to the PEL. However, for information purposes the 1-hour averaging time results are also shown.

Table 5.2-9. Dust Analysis

Averaging Period	Concentration (ppm)	Threshold (ppm)
8-hour	0.05	10
1-hour	0.18	NA

Notes: ppm = parts per million; NA = not applicable.
See Appendix D of Appendix C.

As shown in Table 5.2-9, the results of the dust analysis would not exceed the 8-hour threshold established by the Cal-OSHA. Therefore, the Landfill is not expected to cause a nuisance at the project site residential receptors based on the dust emitted during operations.

As discussed above, on April 26, 2020, the Otay Landfill submitted an application (proposed Otay Landfill Compostable Materials Handling Facility, Permit #37-AA-0984) for the addition of up to 200 tons per day of agricultural and food waste at the organics composting operation within the existing footprint of the Otay Landfill, which represents a 2.5% increase in volume allowed to be processed onsite. Based upon the applicant's environmental analysis (CEQA Addendum #2, dated September 12, 2019, PDS2019-MUP-76-046W2M3; ER76-18-026B; and CEQA document, dated October 29, 2020 SCH#96091009-6) there is a decrease in TAC emissions, specifically ammonia emissions, and no change in vehicular emissions; therefore, the proposed composting operation would most likely reduce odor levels as compared to the existing operation. Furthermore, the composting technology would implement a Covered Aeriated Static Pile composting system with a GORE™ Cover. The composting technology would reduce volatile organic compound and ammonia emissions by 80% or more, reduce odor units by 56%-80%, and divert methane-forming organics away from landfill disposal. In addition, the composting operation would divert up to 100 tons per day of oxidation of organic matter away from landfill disposal, resulting in lower ammonia emissions and odors generated onsite as compared to the existing operation. Furthermore, the Otay Landfill would implement an Odor Impact Minimization Plan that identifies the sources of odor and management techniques to minimize odors.

It should be noted that the Landfill is anticipated to cease operations in 2030 according to its current permit. At that time, emissions of equipment, trucks, and working face fugitive emissions would cease. As such, emissions of odorous compounds and dust emissions would be significantly be reduced upon closure of the landfill. As such, impacts from odor and dust to future residents from landfill operations would be **less than significant.**

5.2.4 Level of Significance Prior to Mitigation

The proposed project would have a **less-than-significant impact** on air quality.

5.2.5 Mitigation Measures

No mitigation measures would be required.

5.2.6 Level of Significance After Mitigation

No mitigation measures would be required. Impacts to air quality would be **less than significant**.

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5.3 Biological Resources

This section of the environmental impact report (EIR) describes the existing biological resources within the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project) site, analyzes the potential environmental effects of the proposed project, and recommends mitigation measures to reduce or avoid significant effects. Findings are based on the Biological Impact Analysis Report for the Sunbow II Phase 3 Plan Amendment, City of Chula Vista, California (Biological Impact Analysis Report), prepared by Merkel & Associates, and the Functional Equivalency Analysis for a Multiple Species Conservation Program (MSCP) Boundary Line Adjustment and Facilities Siting Criteria Report for the proposed project, prepared by Merkel & Associates (Functional Equivalency Analysis Report). Both of the reports are included in Appendix D of this EIR.

5.3.1 Existing Conditions

5.3.1.1 Regulatory Framework

Federal

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (ESA), as amended (16 USC 1531 et seq.), provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed animal species. The ESA also prohibits all persons subject to U.S. jurisdiction from "taking" endangered species, which includes any harm or harassment. Section 7 of the ESA requires that federal agencies, prior to project approval, consult the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) to ensure adequate protection of listed species that may be affected by the project.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The list of bird species covered by the MBTA is extensive and is detailed in 50 CFR 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species, including any part, egg, or nest of such a bird (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the ESA. The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11). It is important to note that "take" as defined under the federal MBTA is not synonymous with "take" as defined under the federal ESA. The MBTA definition of "take" lacks a "harm and harassment" clause comparable to "take" under the ESA, thus, the MBTA authority does not extend to activities beyond the nests, eggs, feathers, or specific bird parts. Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 (Clean Water Act; 33 USC 1251 et seq.), as amended by the Water Quality Act of 1987 (PL 1000-4), is the major federal legislation governing water quality. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States are regulated under Section 404. Waters of the United States include (1) all navigable waters (including all waters subject to the ebb and flow of tides); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. In California, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the Clean Water Act. Important applicable sections of the Clean Water Act are discussed below:

- **Section 303** requires states to develop water quality standards for inland surface and ocean waters and submit to the EPA for approval. Under Section 303(d), the state is required to list waters that do not meet water quality standards and to develop action plans, called total maximum daily loads, to improve water quality.
- **Section 304** provides for water quality standards, criteria, and guidelines.
- **Section 401** requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge would comply with other provisions of the Clean Water Act. Certification is provided by the respective RWQCB.
- **Section 402** establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. The NPDES program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401.
- **Section 404** provides for issuance of dredge/fill permits by the U.S. Army Corps of Engineers (ACOE). Permits typically include conditions to minimize impacts on water quality. Common conditions include (1) ACOE review and approval of sediment quality analysis before dredging, (2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, and (3) required compensation for loss of waters of the United States.

U.S. Army Corps of Engineers

The ACOE has primary federal responsibility for administering regulations that concern waters and wetlands in the project site. In this regard, ACOE acts under two statutory authorities, the Rivers and Harbors Act (33 USC, Sections 9 and 10), which governs specified activities in navigable waters, and the Clean Water Act (Section 404), which governs specified activities in waters of the United States, including wetlands and special aquatic sites. Wetlands and non-wetland waters, e.g., rivers, streams, and natural ponds, are a subset of waters of the United States and receive protection under Section 404 of the Clean Water Act. The ACOE has primary federal responsibility for administering regulations that concern waters and wetlands in the project area under statutory authority of the Clean Water Act (Section 404). In addition, the regulations and policies of various federal agencies mandate that the filling of wetlands be avoided to the extent feasible. The ACOE requires obtaining a permit if a project proposes placing structures within navigable waters and/or alteration of waters of the United States.

State

California Endangered Species Act

Similar to the federal ESA, the California ESA of 1970 provides protection to species considered threatened or endangered by the State of California (California Fish and Game Code, Section 2050 et seq.). The California ESA recognizes the importance of threatened and endangered fish, wildlife, and plant species and their habitats, and prohibits the taking of any endangered, threatened, or rare plant and/or animal species unless specifically permitted for education or management purposes.

California Fish and Game Code

The California Fish and Game Code regulates the handling and management of the state's fish and wildlife. Most of the code is administered or enforced by the California Department of Fish and Wildlife (CDFW). One section of the code generally applies to public infrastructure projects such as the proposed project. as noted in the following paragraph.

Section 1602 regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources.

Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit the "take, possession, or destruction of bird nests or eggs." Section 3503 states: "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." Section 3513 states: "It is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act."

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act of 1969, updated in 2012 (California Water Code, Section 13000 et seq.), provides for statewide coordination of water quality regulations. The act established the California SWRCB as the statewide authority, and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis.

Local

City of Chula Vista Multiple Species Conservation Program Subarea Plan

The MSCP Subarea Plan is implemented through individual Subarea Plans adopted by each jurisdiction receiving Take authorization for Covered Species. The Chula Vista MSCP Subarea Plan was approved by the City of Chula Vista (City) in May 2003 and received take authorization in January 2005. The Subarea Plan provides for conservation of upland habitats and species through Preserve design, regulation of impacts and uses, and management of the Preserve. The MSCP Subregional Plan, dated August 1998, under the Natural Community Conservation Planning Act of 1991, was prepared for 12 local San Diego jurisdictions including the City of Chula Vista, and is to be implemented through MSCP Subarea Plans. Subarea Plans approved under the Natural

Community Conservation Planning Act would allow "take" of various sensitive species through specific conditions of coverage pursuant to Section 4(d) of the federal Endangered Species Act. The City has an adopted MSCP Subarea Plan (City of Chula Vista 2003) and the Habitat Loss and Incidental Take (HLIT) Ordinance (City of Chula Vista 2005, updated 2019) regulates the implementation of the Subarea Plan.

The western half of the proposed project site and much of the northern edges along Poggi Creek are designated within the Chula Vista MSCP Subarea Plan as 100% Conservation Area- Habitat Preserve (referred to as "Preserve"), while the eastern half of the site is designated Development Area outside of Covered Projects (Figure 5.3-1, Local Environmental Setting Map).

The terms and conditions from the 1995 Biological Opinion (BO) for the project, as well as conservation recommendations as outlined below, would be applied to the proposed project where applicable (i.e., Diegan coastal sage scrub). However, the MSCP Subarea Plan and HLIT requirements would be applied to the remainder of the project elements.

A BO is a USFWS document that states the opinion of the USFWS as to whether the federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

The proposed project is part of the larger Sunbow Development (710 acres), which consists of the 108-acre Sunbow I residential development approved in a 1987 EIR (ERC Environmental and Energy Services Co.) and the 602-acre Sunbow II development consisting of Phases 1 and 2 (residential, commercial, open space) and a portion of Phase 3 (business park, open space) that was approved in a 1989 EIR/1990 Addendum to EIR (ERC Environmental and Energy Services Co). The full Sunbow II development project was issued local, state, and federal approvals and development was completed within Phase 1 and 2 sites (located north of Olympic Parkway), but only access crossing improvements, permitted wetland impacts, and 7 acres of wetland mitigation within Poggi Canyon were completed on the Phase 3 site located south of Olympic Parkway. The 1995 BO for the Sunbow II phases included terms and conditions relevant to habitat in the proposed project, as follows:

- #2: No clearing of sage scrub habitat shall occur during the gnatcatcher nesting season (15 February through 31 July) unless it is first demonstrated to be un-occupied by California gnatcatchers or other nesting avian species.
- #5: To mitigate for direct impacts to gnatcatchers and coastal sage scrub, a combination of on-site and off-site measures shall be employed in accordance with Table 1 of the 1995 BO. The on-site restoration mitigation shall be conducted concurrent or preceding the phase for which mitigation is required. Off-site mitigation must be acquired and under long-term management prior to initiation of impacts for the project phase for which mitigation is required.
- #9: Off-site mitigation shall be conducted at the O'Neill Canyon mitigation area in southern San Diego County. An alternative site may be proposed and utilized at the discretion of the USFWS in consultation with the Department of Fish and Game. Any alternative site proposed shall have a demonstrable value to the California gnatcatcher and long-term strategic planning value for multi-species and habitat protection in San Diego.

The BO further included one Conservation Recommendation relevant to the proposed project.

- #1: The open space habitats proposed for Sunbow site are considered to be important for numerous species which are candidates or future candidates for federal listing. Many of these species currently carry state listing status and are a focus of multi-species planning efforts intended to reduce the need for future listings. Among the most important resources within the open space are coastal cactus wrens and Otay

tarplant. Potential exists for the compatible enhancement of these resources along with the restoration of San Diego thornmint to some of the open space clay lenses. The USFWS would look favorably on such multi-species enhancement efforts should the ACOE or the applicant incorporate consideration of these species into the on-site restoration and maintenance program.

Narrow Endemic Species Protection

The following specific provisions are applicable to the project site.

Development Areas outside of Covered Projects. Development projects within Development Areas outside of Covered Projects and regulated by the HLIT will avoid impacts to covered Narrow Endemic Species to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts within these Development Areas will be limited to 20% of the total Narrow Endemic Species population within the project site. Findings of equivalency, as defined in Section 5.2.3.6 of the Subarea Plan, will be made by the City for such Take Authorization of the covered Narrow Endemic Species.

If, after comprehensive consideration of avoidance and minimization measures, impacts exceed 20% of the covered Narrow Endemic Species population within the project site, the City must make a determination of biologically superior preservation consistent with the MSCP. The City will forward its written determination of biologically superior preservation to the USFWS and CDFW (the Wildlife Agencies) for review. Within 30 days of receipt of mailed notice of findings from the City, the Wildlife Agencies may submit to the City a written finding of non-concurrence on the facts of the City's findings. If such finding of non-concurrence is made within 30 days, the City will confer with the Wildlife Agencies to resolve Narrow Endemic Species issues associated with the proposed development. If the Wildlife Agencies do not respond within 30 days after receipt of mailed notice, the City shall deem the written findings accepted (City of Chula Vista 2003).

100% Conservation Areas outside of Covered Projects. Projects within 100% Conservation Areas outside of Covered Projects and regulated by the HLIT Ordinance will be limited to uses described in Sections 6.1, 6.2 and 6.3 of the Subarea Plan. In 100% Conservation Areas, planned and future facilities must avoid impacts to covered Narrow Endemic Species to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts within the 100% Conservation Areas will be limited to 5% of the total Narrow Endemic Species population within the Project Area. Findings of equivalency will be made by the City for take of the covered Narrow Endemic Species, pursuant to Section 5.2.3.6 of the Subarea Plan. The City will forward its written findings of equivalency to the Wildlife Agencies. The Wildlife Agencies may submit to the City, within 30 days of receipt of mailed notice of findings from the City, a written finding of non-concurrence on the facts of the City's findings. If such finding of non-concurrence is made within 30 days, the City will confer with the Wildlife Agencies to develop agreement upon an appropriate location for the planned or future facility in question. If the Wildlife Agencies do not respond within 30 days after receipt of mailed notice, the City shall deem the written findings accepted.

If impacts exceed 5% of the covered Narrow Endemic Species population within the project site after comprehensive consideration of avoidance and minimization measures, the City must make a determination of biologically superior preservation, consistent with Section 5.2.3.7 of the Subarea Plan. The City will forward its written determination of biologically superior preservation to the Wildlife Agencies for review. The Wildlife Agencies may submit to the City, within 30 days of receipt of mailed notice of findings from the City, a written finding of non-concurrence on the facts of the City's findings. If such finding of non-concurrence is made within 30 days, the City will confer with the Wildlife Agencies to develop agreement upon an appropriate location for the facility in question. If the Wildlife Agencies do not respond within 30 days after receipt of mailed notice, the City shall deem the written findings accepted (City of Chula Vista 2003).

Wetlands Protection

As part of the CEQA review, development projects that contain wetlands would be required to demonstrate that impacts to wetlands have been avoided to the greatest extent practicable and, where impacts are nonetheless proposed, that such impacts have been minimized. For unavoidable impacts to wetlands within the Development Area, the mitigation ratio would be in accordance with the wetlands mitigation ratios identified in the Subarea Plan. The wetlands mitigation ratios provide a standard for each habitat type but may be adjusted depending on the functions and values of both the impacted wetlands, as well as the wetlands mitigation proposed by the project. The City may also consider the wetland habitat type(s) being impacted and used for mitigation in establishing whether these standards have been met (City of Chula Vista 2003).

5.3.1.2 Existing Biological Resources

The proposed project encompasses approximately 135.7 acres (project area), which includes a 67.5-acre development area composed of 44.2 acres of residential, a 0.9-acre Community Purpose Facility site, 5.9 acres of public streets, and 16.5 acres of manufactured slopes/basins/wetland resources and associated buffer area. Approximately 4.3 acres of proposed Poggi Canyon Conservation Easement area, a 0.3-acre wetland avoidance area, and 63.6 acres of adjacent proposed MSCP Preserve area are also within the project site. The proposed MSCP Preserve area within the project site can be seen in Figure 5.3-1.

Vegetation Communities

Several vegetation types were identified within the proposed project study area during the biological field surveys (Figure 5.3-2, Biological Resources Map; Table 5.3-1). The project study area includes the proposed project site and a 50-foot off-site mapping buffer (Figure 5.3-2). These identified vegetation types consist of upland habitats including Diegan coastal sage scrub, native grassland, non-native grassland, and non-native vegetation as well as wetland habitats including southern willow scrub, mule fat scrub and coastal and valley freshwater marsh. Acreages of these vegetation types are summarized in Table 5.3-1, and each is discussed in more detail following the table. A list of floral species observed or detected on site is included in the BTR (Appendix D).

Table 5.3-1. Habitats/Vegetation Communities within Project Site

Vegetation Type	MSCP Tier Habitat Type	Holland/ Oberbauer Code	Total Area (Acres)	Inside Preserve (Acres)	Outside Preserve (Acres)
Southern willow scrub (including seep)	Wetland	63320	2.06	1.14	0.92 (0.01 seep)
Mule fat scrub	Wetland	63310	0.03	0.03	0.00
Coastal and valley freshwater marsh	Wetland	63300	7.66	6.31	1.35
Native grassland	I	42100	24.09	19.38	4.71
Diegan coastal sage scrub	II	32500	37.08	24.46	12.62
Non-native grassland	III	42200	64.19	10.31	53.88
Non-native vegetation	IV	11000	0.53	0.44	0.09

Table 5.3-1. Habitats/Vegetation Communities within Project Site

Vegetation Type	MSCP Tier Habitat Type	Holland/ Oberbauer Code	Total Area (Acres)	Inside Preserve (Acres)	Outside Preserve (Acres)
Urban/developed	N/A	N/A	0.06	0.00	0.06
		Total	**135.70**	**62.07**	**73.63**

Source: Appendix D.
Notes: MSCP = Multiple Species Conservation Program; N/A = not applicable.

Habitat/Vegetation Community Types

Diegan Coastal Sage Scrub

Diegan coastal sage scrub vegetation is primarily found in the western half of the project site. It is also found in the eastern half of the project site to a lesser extent where it is predominantly associated with the planted slopes of Poggi Creek channel that serve as a buffer to the wetland habitats created with the Sunbow II, Phase I development. The 108-acre Sunbow I residential development was approved in a 1987 EIR. However, only access crossing improvements, permitted wetland impacts, and 7 acres of wetland mitigation within Poggi Canyon were completed on the project site as part of the Sunbow I residential development. In the western half of the project site, Diegan coastal sage scrub is characterized by large stands of lemonadeberry (*Rhus integrifolia*) as well as areas that support a mix of lower-growing shrubs such as coastal sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), California encelia (*Encelia californica*), and bladderpod (*Peritoma arborea*). A patch of habitat occurring near the western portion of the proposed development area is characterized by San Diego viguiera (*Bahiopsis laciniata*) mixed with purple needlegrass (*Stipa pulchra*). The San Diego viguiera is a sensitive species. One San Diego Needlegrass (*Stipa diegoensis*), a sensitive species, was also found on this slope. Restoration areas along the slopes of Poggi Creek channel include a diverse mix of planted sage scrub shrubs and cacti including coastal sagebrush, flat-top buckwheat, white sage (*Salvia apiana*), coast cholla (*Cylindropuntia prolifera*), and coast prickly pear (*Opuntia littoralis*). Giant wild rye (*Leymus condensatus*) is common in some areas. Several sensitive species including San Diego bursage (*Ambrosia chenopodiifolia*), Palmer's sagewort (*Artemisia palmeri*), coast barrel cactus (*Ferocactus viridescens*), and Orcutt's bird's-beak (*Dicranostegia orcuttiana*) were also planted and are present on these slopes.

Native Grassland

Native grassland is found throughout most of the western half of the project site in mostly open areas adjacent to Diegan coastal sage scrub vegetation. It is also found in patches along the bottom of the north-facing slope in the eastern half of the project site where it gives way to non-native grassland to the south in more disturbed soils conditions. Native grassland is also found to the east on the adjacent Otay Ranch Village Two property near the northeast corner of the project site. It should be noted that current mapping of this area exhibits a decline of approximately 0.31 acres of native grassland from Dudek's 2006 mapping effort (Dudek 2006). This decline may be a result of the several drought years experienced in the local area during the past fifteen years. Clay soils accommodate fields of purple needlegrass as well as numerous geophytes including common goldenstar (*Bloomeria crocea*), blue dicks (*Dichelostemma capitatum* ssp. *capitatum*), and sharp-toothed sanicle (*Sanicula arguta*). The taller rayless gumplant (*Grindelia camporum*) and locally endemic Otay tarplant (*Deinandra conjugens*) are also associated with these grasslands. Two populations of the sensitive small-flower bindweed (*Convolvulus simulans*) were also detected in this habitat.

Non-native Eurasian grasses including ripgut grass (*Bromus diandrus*) and soft chess (*Bromus hordeaceus*) are common, but typically comprise less than 60% of the overall cover. In some areas, clumps of the non-native sweet fennel (*Foeniculum vulgare*) are also found.

Non-Native Grassland

Much of the eastern half of the project site is comprised of non-native grassland. A dense cover of non-native, annual grass species including ripgut grass, purple-falsebrome (*Brachypodium distachyon*), soft chess, wild oat (*Avena barbata*), and red brome (*Bromus madritensis* ssp. *rubens*) dominate these areas. The perennial darnel (*Festuca temulenta*) grass is also common in some areas of mesic soils. Numerous perennial and annual non-native forbs including short-pod mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), Russian thistle (*Salsola tragus*), Crete hedypnois (*Hedypnois cretica*), smooth cat's ears (Hypochaeris glabra), sweet fennel (*Foeniculum vulgare*), crown daisy (*Glebionis coronaria*), and wild radish (*Raphanus sativus*) are found throughout this habitat amongst the grasses. Some native annual forbs including silver puffs (*Uropappus lindleyi*), California cottonrose (*Logfia filaginoides*), everlasting bedstraw (*Stylocline gnaphaloides*) and tread lightly (*Cardionema ramosissima*) occur occasionally in this habitat. Although Otay tarplant is more common in native grassland, it is also found in the non-native grassland on site. Individual and small groupings of lemonadeberry surrounded by thatched non- native grasses are found in some locations of the non-native grassland on site; however, the lemonadeberry shrubs within the non-native grassland consist of no more than 5% absolute cover (AECOM et al. 2011).

Non-Native Vegetation

Non-native vegetation is mapped for areas supporting individual or clusters of non-native tree and shrub species such as tamarisk (*Tamarix parviflora*), eucalyptus (*Eucalyptus* spp.), and cyclops acacia (*Acacia cyclops*). Typical ornamental landscape plants which are less invasive such as pine (*Pinus* spp.) and mission olive (*Olea europaea*) are also included in this category and can be found near the southwest border of the site immediately adjacent to existing residential urban development (Figure 5.3-2).

Southern Willow Scrub

Southern willow scrub vegetation was planted within the created Poggi Creek channel as part of installation of Poggi Canyon wetland mitigation for the Sunbow II, Phase 1, development project, which was originally approved in a 1987 EIR. Mature arroyo willow (*Salix lasiolepis*) and black willow (*Salix gooddingii*) occur in patches along the channel and shade an understory of mostly freshwater marsh vegetation. In drier areas, tall, hydrophytic shrubs such as mule fat (*Baccharis salicifolia*) and narrow-leaved willow (*Salix exigua*) occur in the understory. In saturated soils, low growing herbaceous species including watercress (*Nasturtium officinale*), yerba mansa (*Anemopsis californica*), and salt marsh fleabane (*Pluchea odorata*) were noted.

In addition, a presumed seep from the hillside on the City property to the south extends on to the project site along the southern boundary. On-site, saturated soils support a small patch of southern willow scrub consisting of one black willow tree, a few tamarisk shrubs and lower-growing forbs such as willow herb (*Epilobium ciliatum*) and bristly ox-tongue (*Helminthotheca echioides*).

Mule Fat Scrub

A small stand of mulefat occurs at the base of drainage that feeds into Poggi Creek channel, in the western half of the project site.

Coastal and Valley Freshwater Marsh

Perennial water flow along Poggi Creek channel results in permanently saturated soils that support freshwater marsh vegetation. This habitat is dominated by dense stands of southern cattail (*Typha domingensis*) with smaller groupings of southern bulrush (*Schoenoplectus californicus*). Moist soils along the periphery of this habitat accommodate relatively large groupings of two sensitive species, San Diego marsh-elder (*Iva hayesiana*) and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*).

Wildlife Resources

Butterflies

Eighteen butterfly species were observed on site during spring protocol surveys conducted for the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*). Painted Lady (*Vanessa cardui*) was the most commonly encountered butterfly throughout upland vegetation types. Other frequently observed species included funereal dusky wing (*Erynnis funeralis*), anise swallowtail (*Papilio zelicaon*), checkered white (*Pontia protodice*), and pacific sara orange-tip (*Anthocharis sara sara*). Each of these species are considered generalists that typically sip nectar from a wide variety of plant species from the sunflower, carrot, buckwheat, mustard, pea, and mint families. Less commonly encountered species included western tailed blue (*Everes amyntula*), marine blue (*Leptotes marina*), grey hairstreak (*Strymon melinus pudica*), and Behr's metalmark (*Apodemia mormo virgulti*). Except for the Behr's metalmark, the caterpillars of these species typically feed on pea family plants such as coastal deerweed, ocean locoweed (*Astragalus trichopodus* var. *lonchus*) and western false-indigo (*Amorpha fruticosa*), which are all found on site. Behr's metalmark was typically associated with flat-top buckwheat which is the primary caterpillar food source for this species.

Amphibians

Baja California tree frog (*Pseudacris hypochondriaca hypochondriaca*) was commonly detected within Poggi Creek channel, located within the northern portion of the site, and in adjacent coastal sage scrub and grassland habitats during the winter and spring months. Although not detected, western toad (*Anaxyrus boreas*) is also expected to utilize the creek channel and immediately adjacent vegetation communities. Bullfrog (*Lithobates catesbeiana*) may also breed within areas of the creek where water is stagnant. Another common amphibian species, the garden slender salamander (*Batrachoseps major major*), is expected to occur in upland habitats. This species prefers cool, damp soils below leaf litter and debris.

Reptiles

Reptiles observed on-site include several snake species including Southern Pacific rattlesnake (*Crotalus oreganus* ssp. *helleri*), gophersnake (*Pituophis catenifer*), and California striped racer (*Masticophis lateralis lateralis*). The sensitive two-striped gartersnake (*Thamnophis hammondii*) was observed in coastal sage scrub vegetation in preserved habitat just west of the proposed development area. This aquatic species is expected to primarily utilize wetland habitats of Poggi Creek channel but also refuge in immediately adjacent upland mammal burrows during the winter. Other expected snake species include the common kingsnake (*Lampropeltis getula*) and the sensitive red-diamond rattlesnake (*Crotalus ruber*). The red-diamond rattlesnake has been observed within the last year occurring east of the site on the banks of Poggi Creek channel. Lizard species observed on-site include the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and southern alligator lizard (*Elgaria multicarinata*). A motion activated camera placed along the edge of Poggi Creek channel captured an image of the sensitive orange-throated whiptail (*Aspidoscelis hyperythra beldingi*) within a sandy wash area of one of the drainages that connects to Poggi Creek. This species is expected to also utilize adjacent coastal sage scrub and grassland habitats.

Birds

Numerous bird species were observed in Diegan coastal sage scrub habitat. Typical bird species detected in this habitat include California towhee (*Melozone crissalis*), spotted towhee (*Pipilo maculates*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*) Anna's hummingbird (*Calypte anna*), and western scrub-jay (*Aphelocoma californica*). Fall migrant species observed included white-crowned sparrow (*Zonotrichia leucophrys*) and yellow-rumped warbler (*Dendroica coronata*). Other less commonly encountered species included California thrasher (*Toxostoma redivivum*), blue grosbeak (*Passerina caerulea*), lark sparrow (*Chondestes grammacus*), orange-crowned warbler (*Oreothlypis celata*), Pacific slope flycatcher (*Empidonax difficilis*), and ash- throated flycatcher (*Myiarchus cinerascens*).

The coastal California gnatcatcher (*Polioptila californica californica*) was observed within coastal sage scrub habitat during protocol surveys for this species. Two male territories were mapped. This listed species is discussed further in the Sensitive Fauna section below.

Poggi Creek channel supported a variety of riparian bird species. Typical year-long resident bird species including song sparrow (*Melospiza melodia*) and common yellowthroat (*Geothlypis trichas*) were detected. Various migrant species including Wilson's warbler (*Wilsonia pusilla*), black-throated gray warbler (*Dendroica nigrescens*), western tanager (*Piranga ludoviciana*), and warbling vireo (*Vireo gilvus*) were detected during spring surveys. Sensitive migrant bird species including yellow warbler (*Dendroica petechial*), yellow-breasted chat (*Icteria virens*) and the federally listed endangered least Bell's vireo (*Vireo bellii pusillus*) were also detected on-site within Poggi Creek channel. The least Bell's vireo's territory appears to extend from the eastern-most 200 feet of the channel to a willow scrub basin located just upstream of the project site to the east. Least Bell's vireo is discussed further in the Sensitive Fauna section below. Common yellowthroat, red-winged blackbird (*Agelaius phoeniceus*), marsh wren (*Cistothorus palustris*) and Virginia Rail (*Rallus limicola*) forage and nest in freshwater marsh habitat found within the channel.

Grassland habitats (including both native and non-native grassland) provide foraging habitat for a variety of raptor species. Observed species included urban tolerant species such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*) and American kestrel (*Falco sparverius*). During early spring (i.e., March), a red-tailed hawk pair nested in a Eucalyptus tree snag near the southeast corner of the project site. Three eggs were visibly observed in this nest in mid-March, but it later appeared that only one of the young hatched. Surveys in early April did not reveal the nestling, and it was presumed that it was predated upon by one of the many predatory birds (e.g., Cooper's hawk, common raven) observed in the area. It should be noted that the location of this nest was identified during the previous survey of the site and it is possible that it has been routinely used by red-tailed hawks if not other raptors throughout its existence.

Sensitive raptor species such as the northern harrier (*Circus cyaneus*) and white-tailed kite (*Elanus leucurus*) were also observed foraging over grassland habitat. No nests of these species were observed during the site investigations. It should be noted that the northern harrier nests on the ground with the nest concealed within a marsh or other dense vegetation (Appendix D). Grasshopper sparrow (*Ammodramus savannarum*) is a sensitive species that was historically identified to occur on site but was not observed during the recent surveys.

Given the abundance of grassland habitat throughout the site, western burrowing owl (*Athene cunicularia*) was sought during the site investigations. No burrowing owls were observed during the numerous surveys of the site. In addition, no burrows with evidence of sign (i.e., molted feathers, cast pellets, prey remains, eggshell fragments, excrement) were observed during the surveys. Urban adapted bird species such as house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), and hooded oriole (*Icterus cucullatus*) were common within non-native, ornamental plantings that border the southwest project site boundary.

Mammals

Mammal species detected on-site include coyote (*Canis latrans clepticus*), California ground squirrel (*Spermophilus beecheyi nudipes*), Botta's pocket gopher (*Thomomys bottae*), and desert cottontail (*Sylvilagus audubonii sanctidiegi*). Raccoon (*Procyon lotor psora*) tracks were observed along the muddy creek bottom of Poggi Creek channel. Other urban adapted mammals such as the striped skunk (*Mephitis mephitis holzneri*) and Virginia opossum (*Didelphis virginiana*) are also expected to scavenge for food along the channel at night. The dusky-footed woodrat (*Neotoma fuscipes macrotis*) is another mostly nocturnal species that is expected to occur on-site. Although no stick nests were detected, images of what is believed to be this species were captured by a motion activated camera placed along the edge of the channel. Other species expected to occur on-site include, California vole (*Microtus californicus sanctidiegi*), agile kangaroo rat (*Dipodomys agilis*) and various species of mice including western harvest mouse (*Reithrodontomys megalotis longicaudus*) and deer mouse (*Peromyscus maniculatus*). These small mammals provide a food source for the various previously mentioned raptor species.

Other potentially occurring mammal species include bobcat (*Lynx rufus*) and the relatively urban adapted gray fox (*Urocyon cinereoargenteus californicus*).

Watersheds found within the southern part of the County including the Tijuana River Valley, the Otay River Valley and the Sweetwater River Valley support a relatively large diversity of bat species (Appendix D). Relatively common species including the Mexican free-tailed bat (*Tadarida brasiliensis*) and Yuma myotis (*Myotis yumanensis*) are expected to forage for insects over the site, especially along Poggi Creek channel.

Jurisdictional Wetlands and Non-Wetlands Resources

ACOE, RWQCB, CDFW, and/or City of Chula Vista jurisdictional wetlands and non-wetland waters are delineated for the project site as described further below and shown in Figure 5.3-3, Wetland Delineation Map. Jurisdictional wetland habitat types on the site include southern willow scrub, mule fat scrub, and coastal and valley freshwater marsh. Jurisdictional non-wetland waters (NWW), jurisdictional waters as defined by the ACOE that isn't considered a wetland, were also delineated where applicable. Table 5.3-2 summarizes the acreages of jurisdictional resources within the project site and the following text discusses these habitats with regard to hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland determination data forms and photo points that support the delineation are provided in Appendix D.

Table 5.3-2. Summary of Jurisdictional Resources Present within the Project Site

Jurisdictional Resources	On-Site Total (Acres)	Jurisdiction		
		ACOE/RWQCB/ CDFW/City	*RWQCB*	*CDFW/City*
Coastal and Valley Freshwater Marsh	7.66	7.44	0.00	0.22
Southern Willow Scrub	2.06	1.85	0.01	0.20
Mule Fat Scrub	0.03	<0.01	0.00	0.03
Non-wetland Waters of the U.S./ Waters of the State/Streambed	0.17 (2,044 linear feet)	0.17 (2,044 linear feet)	0.00	0.00
Total	**9.92**	**9.46**	**0.01**	**0.45**

Source: Appendix D.
Notes: ACOE = Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; City = City of Chula Vista.

Southern Willow Scrub

Southern willow scrub is primarily found along Poggi Creek channel and includes a tree stratum dominated by various facultative wetland plants (FACW), plants that occur usually in wetlands, but can also occur in non-wetlands, of willow species including arroyo willow, black willow, and Pacific willow (*Salix lasiandra* ssp. *lucida*). Species within the shrub stratum included mule fat (facultative plants; plants with a similar likelihood of occurring in both wetlands and non-wetlands [FAC]), San Diego marsh elder (FACW), and coyote brush. The herb stratum included mostly obligate wetland plants (OBL), plants that occur almost always in wetlands under natural conditions but that may also occur rarely in non-wetland areas, species such as southern cattail, southern bulrush, yerba mansa, and watercress. Several FACW species including Mexican rush (*Juncus mexicanus*) and great-marsh evening primrose (*Oenothera elata*) were noted at higher elevations within this stratum. Areas in which hydrophytic vegetation extends beyond the ordinary high water mark of the creek are mapped as CDFW jurisdiction only.

Soil tests pits revealed a relatively dark matrix with redox depletions within the upper 8 inches of the profile. Highly decomposed organic matter in the surface layer and a sulfidic odor was also characteristic of the soils in these test pits. Primary hydrology indicators included water stained leaves and hydrogen sulfide odor. Secondary hydrology indicators included drainage patterns and drift deposits.

A small patch of willow scrub represented by one black willow (FACW), a few tamarisk (FAC) shrubs and low-growing forbs such as willow herb (FACW) and bristly ox-tongue (FAC) occurs near the southern project site boundary. The hydric plant species in this area are supported by a seep that occurs off site, to the south on City owned property. No hydric soil indicators were observed within the excavated soils pit; however, hydrology was indicated by the presence of surface water and saturated soils. Since this area lacks a defined bed, bank, and ordinary high water mark and has no defined drainage connection to Poggi Creek channel it's not jurisdictional under ACOE or CDFW but rather it is considered Regional Water Quality Control Board Jurisdiction only.

Mule Fat Scrub

A small stand of mulefat (FAC) occurs within a narrow drainage ditch that feeds into Poggi Creek channel. Hydrology was indicated by the presence of secondary indicators including drainage patterns and sediment deposits.

Coastal and Valley Freshwater Marsh

Perennial water flow along Poggi Creek channel results in permanently saturated soils that support freshwater marsh vegetation. Two OBL species, southern cat-tail and southern bulrush characterize this habitat. Other lower-growing species within the herb stratum include water cress (OBL), yerba mansa (OBL), and curly dock (*Rumex crispus*) (FAC).

Soils in these areas exhibited a loamy gleyed matrix with redox features noted within the upper 6 inches. Primary hydrology indicators included inundation and oxidized rhizospheres within living roots. Secondary hydrology indicators included drift deposits and drainage patterns.

Jurisdictional Non-Wetland Waters and Streambeds

Jurisdictional non-wetland waters of the United States/streambeds were mapped for drainages with a defined bed and bank but lacking hydric vegetation and soils.

Functions and Values of Jurisdictional Resources

Poggi Creek runs east–west within the project site along the northern boundary and directly adjacent to Olympic Parkway (Figure 5.3-1). Surface flow is relatively slow throughout the year. This is fostered by upstream manufactured design features associated with wetland mitigation created for the construction of Olympic Parkway. These design features include riprap drop structures with shallow wading pools and rock-ribbed sandbars that force flows to slow and meander down the channel, dropping sediment and allowing for the planted wetland vegetation to effectively treat runoff. As a result, wetland functions such as groundwater recharge, flood flow alteration, and sediment/toxicant retention is considered relatively high. The presence of significant woody (i.e., willow) and herbaceous (i.e., cattail) vegetation contributes to high nutrient transformation and streambed stabilization throughout the channel. The created wetlands within the channel have proven to provide significant wildlife value, especially for birds. A high diversity of resident and migratory bird species use the channel, which is further enhanced by the presence of the native Diegan coastal sage scrub that was planted on the channel banks to buffer the wetlands. Sensitive migrant bird species including the least Bell's vireo, yellow warbler, and yellow-breasted chat breed within the created wetlands during the spring and summer months. The created coastal sage scrub on the channel banks provides potential habitat for the resident coastal California gnatcatcher.

Rare, Threatened, Endangered, Endemic, and/or Sensitive or MSCP Covered Species

Sensitive species are those considered sensitive by the City or any state or federal agency. For purposes of this report, species listed as endangered or threatened under the federal Endangered Species Act (ESA; federally endangered [FE] or federally threatened [FT]) and California Endangered Species Act (state endangered [SE] or state threatened [ST]); species designated as California Species of Special Concern (SSC) or Fully Protected species by the CDFW; and species listed as MSCP Narrow Endemic Species or Covered Species (Covered) by the City of Chula Vista (2003) are considered "sensitive." Species considered rare by the California Native Plant Society as California Rare Plant Rank (CRPR) species (CNPS 2020) or as Special Plants or Special Animals in the California Natural Diversity Database (CNDDB) (CDFW 2020a, 2019), may be considered "sensitive" if they meet the CEQA Guidelines Section 15380 definition for "endangered, rare or threatened species."

Sensitive Flora

Twelve sensitive floral species were identified within the project study area during the general biological surveys: Otay tarplant (FT, SE, MSCP Narrow Endemic Species, MSCP Covered), Orcutt's birds-beak (CRPR 2B.1, Special Plant, MSCP Covered), decumbent goldenbush (Special Plant, CRPR 1B.2), coast barrel cactus (Special Plant, CRPR 2B.1), San Diego bursage (CRPR 2B.1), San Diego marsh elder (Special Plant, CRPR 2B.2), small-flowered bindweed (CRPR 4.2), Palmer's sagewort (Special Plant, CRPR 4.2), San Diego County needlegrass (CRPR 4.2), San Diego viguiera (Special Plant, CRPR 4.3), southwestern spiny rush (Special Plant, CRPR 4.2), and ashy spike-moss (CRPR 4.1) (Table 5.3-3; Figure 5.3-2).

According to the California Native Plant Society's website, the CRPR system ranges from 1A (for plants presumed extirpated in California and either rare or extinct elsewhere) to 4 (plants of limited distribution) (CNPS 2020). The sensitive flora found within the project study area include CRPR 1B, 2B, and 4. CRPR 1B are plants that are rare throughout their range with the majority of them endemic to California, and most of the plants that are ranked 1B have declined significantly over the last century. CRPR 2B is used for plants that are rare, threatened, or endangered in California but more common elsewhere. Plants with a California Rare Plant Rank of 4 are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly.

Ranks at each level also include a threat rank (e.g., CRPR 4.3), and are determined as follows (CNPS 2020):

- 0.1 – Seriously threated in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
- 0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or not current threats known).

Otay tarplant was the only City Narrow Endemic Species identified and expected on site. Surveys were conducted in 2020 during the flowering period (April–July) for this species. In addition, remaining remnants of plants from the 2019 growth season were mapped during the late fall of 2019. The 2020 Otay tarplant mapped locations and plant numbers were combined with the 2019 Otay tarplant survey results taking the largest numbers if the locations overlapped to estimate the on-site Otay tarplant population. It is recognized that the number and locations of individual plants in any Otay tarplant population varies each year, due to a number of factors, including rainfall, temperature, soil conditions, and seed bank (USFWS 2004). Table 5.3-3 identifies sensitive plant species detected on site and their location relative to Preserve boundaries (Figure 5.3-2).

Table 5.3-3. Sensitive Flora Located On Site Inside and Outside Preserve Boundaries

Species	Inside Preserve	Outside Preserve	Total
*Ashy spike-moss (*Selaginella cinerascens*)	0	2	2
Coast barrel cactus (*Ferocactus viridescens*)	1	1	2
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	533	270	803
Orcutt's bird's-beak (*Dicranostegia orcuttiana*)	705	206	911
Otay tarplant (*Deinandra conjugens*)	4,044	1,405	5,449
Palmer's sagewort (*Artemisia palmeri*)	16	28	44
San Diego bursage (*Ambrosia chenopodiifolia*)	7	17	24
San Diego County needlegrass (*Stipa diegoense*)	9	1	10
San Diego County viguiera (*Bahiopsis laciniata*)	2,745	4,902	7,647
San Diego marsh elder (*Iva hayesiana*)	641	175	816
Small-flowered bindweed (*Convolvulus simulans*)	91	0	91
Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)	489	261	750

Source: Appendix D.
Note:
* Prostrate ground cover herb quantified by number of patches.

Otay tarplant is a federal and state listed species and MSCP Narrow Endemic and Covered Species. Otay tarplant occurs throughout the project site based on biological field surveys conducted by Merkel & Associates (M&A) on site in 2019 and 2020. In 2019, as provided in the Functional Equivalency Analysis Report (Appendix D) biological surveys were conducted in November and December of 2019 which is outside of the Otay tarplant flowering season (April–July) to get a preliminary assessment of the Otay tarplant population in preparation of the Functional Equivalency Analysis Report. Remnants of Otay tarplant from the 2019 season were still highly detectable during the November and December 2019 surveys and were counted and mapped. In 2020, focused Otay tarplant surveys were conducted on site between late June and July 2020 during the flowering season when this annual species is most detectable. The 2020 Otay tarplant mapped locations and plant numbers were combined with the 2019 Otay

tarplant survey results taking the largest numbers if the locations overlapped to estimate the on-site Otay tarplant population. Based on the 2019–2020 Otay tarplant field surveys, the on-site population is estimated to be 5,449 plants predominantly located in the western half of the project site within the existing Preserve (4,044 plants within the Preserve and 1,405 plants outside the Preserve). It is recognized that the number and locations of individual plants in an Otay tarplant population varies each year, due to a number of factors, including rainfall, temperature, soil conditions, and seed bank (USFWS 2004).

Orcutt's bird's-beak is a CNDDB Special Plant and MSCP Covered Species with a CRPR 2B.1 ranking. This species has a very limited U.S. distribution, with nearly all its documented populations occurring south of Poggi Canyon and west of Otay Mountain. Only one population has been documented north of the site, in Rice Canyon just south of the Rancho Del Rey development.

Other Potentially Occurring Sensitive Flora

Multiple biological surveys including focused rare plant surveys were conducted on site throughout the blooming period for all potentially occurring sensitive species. As a result, only one species, Palmer's grappling-hook (*Harpagonella palmeri*) (CRPR 4.2, Special Plant), has a moderate or greater potential to occur on site despite not being observed during the biological surveys given the cryptic nature of this inconspicuous annual plant.

No other potential sensitive floral species are expected to have at least a moderate potential to occur within the project site, predominantly based on a lack of potentially suitable habitat, soils, and/or the number of recent field surveys conducted by M&A biologists on site throughout the year that would have likely detected most species, if present. All of the potentially occurring sensitive floral species are discussed in Appendix D.

Sensitive Fauna

Ten sensitive fauna species were identified within the project study area during the general biological surveys and/or protocol surveys: least Bell's vireo (FE, SE, Special Animal, and MSCP Covered); California gnatcatcher (*Polioptila californica californica*) (FT, SSC, Special Animal, and MSCP Covered); yellow-breasted chat (SSC, Special Animal); yellow warbler (SSC, Special Animal, USFWS Bird of Conservation Concern); Cooper's hawk (Special Animal, CDFW Watch List, MSCP Covered); Nuttall's woodpecker (Special Animal); northern harrier (SSC, Special Animal, MSCP Covered); white-tailed kite (CDFW Fully Protected Species, Special Animal); orange-throated whiptail (SSC, Special Animal, and MSCP Covered); and two-striped gartersnake (SSC, Special Animal). Several of the sensitive avian species on site, including the yellow warbler, yellow breasted chat, Nuttall's woodpecker, and least Bell's vireo, were observed within riparian habitat along Poggi Creek. These species are discussed further below (Table 5.3-4; Figure 5.3-2). The sensitive raptors observed on site (i.e., Cooper's hawk, northern harrier, white-tailed kite) were detected only flying over and/or potentially foraging throughout the site and were not observed to be nesting and are not expected to nest on site due to the limited amount of nesting habitat. The orange-throated whiptail and two-striped gartersnake were briefly detected in the central portion of the site within native grassland and Diegan coastal sage scrub habitats, respectively. Coastal California gnatcatcher was identified on site and is discussed further below. The following table identifies sensitive animal species detected on site and their location relative to Preserve boundaries.

Table 5.3-4. Sensitive Fauna Located On Site Inside and Outside Preserve Boundaries

Species	Inside Preserve	Outside Preserve	Total
Coastal California gnatcatcher (*Polioptila californica californica*)	1	1	2
*Cooper's hawk (*Accipiter cooperi*)	N/A	N/A	N/A

Table 5.3-4. Sensitive Fauna Located On Site Inside and Outside Preserve Boundaries

Species	Inside Preserve	Outside Preserve	Total
Least Bell's vireo (*Vireo bellii pusillus*)	0	1	1
*Northern harrier (*Circus cyaneus*)	N/A	N/A	N/A
Nuttall's woodpecker (Picoides nuttallii)	N/A	1	1
Orange-throated whiptail (*Aspidoscelis hyperythra*)	1	0	1
Two-striped gartersnake (*Thamnophis hammondii*)	1	0	1
*White-tailed kite (*Elanus leucurus*)	N/A	N/A	N/A
Yellow- breasted chat (*Icteria virens*)	2	1	3
Yellow warbler (*Setophaga petechia*)	4	1	5

Source: Appendix D.
Notes: N/A = not applicable.
* Fly-over species not limited to inside or outside the Preserve.

Least Bell's Vireo

One least Bell's vireo territorial male was incidentally detected by call within the southern willow scrub in Poggi Creek during general biological surveys as well as during protocol surveys for Quino checkerspot butterfly and coastal California gnatcatcher conducted by M&A throughout the spring months of 2020. The observations were relatively consistent and limited to the northeastern portion of the proposed project site (see Figure 5.3-2). The least Bell's vireo's territory appears to extend from the easternmost 200 feet of the channel on site to an off-site basin that supports southern willow scrub located just upstream of the project site to the east.

Coastal California Gnatcatcher

The project site supports approximately 37 acres of potentially suitable gnatcatcher habitat consisting of Diegan coastal sage scrub; however, not all of the 37 acres of the Diegan coastal sage scrub on site supports suitable nesting gnatcatcher habitat. The suitable nesting habitat is located predominantly within the existing Preserve in the central portion of the site along four rolling hillsides north of Poggi Creek and Olympic Parkway, as well as a smaller patch of Diegan coastal sage scrub that is located in the southeastern corner of the project site and extends off site (see Figure 5.3-2). The suitable gnatcatcher habitat quality in these areas is moderate to high, predominantly due to the native species composition and diversity. The remaining areas of Diegan coastal sage scrub on site, specifically those areas that consist entirely of lemonadeberry, are not considered suitable nesting habitat for gnatcatcher due to the lack of plant species composition preferred for nesting (e.g., *Artemisia californica*, *Eriogonum fasciculatum*). The narrow linear areas along Poggi Creek are less suitable gnatcatcher habitat and of lower quality for gnatcatcher due to their linear configuration and fragmented locations on site.

Based on USFWS protocol surveys conducted in April 2020 (Appendix D), two coastal California gnatcatcher territorial males were observed and heard within the survey area in two separate areas of Diegan coastal sage scrub on site (Appendix D). One gnatcatcher territory is located in the central portion of the site within the larger area of high-quality Diegan coastal sage scrub. The other gnatcatcher territory is located both on site and off site within the southeastern corner of the project site where a small amount of Diegan coastal sage scrub occurs on site with more suitable habitat that extends off site onto the County of San Diego (County) landfill property to the south (Figure 5.3-2).

Quino Checkerspot Butterfly

Based on USFWS protocol surveys for the federally listed endangered Quino checkerspot butterfly conducted by M&A in 2020, Quino checkerspot butterfly is not present within the proposed project site (Appendix D).

Other Potentially Occurring Sensitive Fauna

The red-diamond rattlesnake (*Crotalus ruber*) has been recorded to occur in open space habitat near the northwest corner of the site in 1987 and 2006 (CNDDB 2020). M&A biologists have observed this often cryptic species east of the site in Poggi Creek Channel within the last year. This cryptic species has a moderate potential to occur on-site, given the presence of suitable habitat and the most recent sightings near the project site. This is the only sensitive potentially occurring faunal species with at least a moderate potential of occurring on the site. No other potential sensitive faunal species are expected to have at least a moderate potential to occur within the project site, predominantly based on a lack of potentially suitable habitat and/or the number of recent field surveys conducted by M&A biologists on site throughout the year that would have likely detected most species if present. All of the potentially occurring sensitive faunal species are discussed in Appendix D.

Nesting Sensitive Raptor Species

No nests of sensitive raptor species were observed or are expected to occur on site. These include nests for tree/tall shrub nesting species such as the white-tailed kite and Cooper's hawk, as well as ground nesting species such as the northern harrier. These species were only observed flying over and/or foraging over the site. As discussed earlier, no burrowing owls or burrows with evidence of sign (i.e., molted feathers, cast pellets, prey remains, eggshell fragments, excrement) were observed during the surveys. Further, no ground squirrel burrows or other potential burrows were observed on site. As such, this species is not expected to occur on-site. Nesting potential for sensitive raptor species is also discussed in Appendix D.

Wildlife Corridors and Connectivity

The northern portion of the project site and Olympic Parkway are located in an area that was historically Poggi Canyon. The project site is not located within a known regional wildlife corridor. However, within the northern portion of the project site, wetlands along Poggi Creek, upland slopes, dirt trails, game trails, and drainages throughout the upland habitat likely serve as local wildlife corridors due to their topography, vegetation cover and location. These areas support undeveloped land within an urbanized area to the north, west, and portions to the south.

City of Chula Vista MSCP

As provided in the City Subarea Plan, the proposed project is not an MSCP Covered Project; however, a MSCP 100% Preserve designation is overlaid within the western half and the northern edge of the project site. The eastern half of the project site is mapped as a Development Area in the MSCP.

The western half of the project site and much of the northern edges along Poggi Creek is designated as 100% Preserve, while the eastern half of the site is designated as MSCP Development Area (Figure 5.3-1). In addition, there are adjacent MSCP designations to the south and southeast (Figure 5.3-1). Directly south of the project site, is a City-owned property that is an MSCP Minor Amendment Area. As provided in the MSCP Subarea Plan, these Minor Amendment Areas will require the processing of a Minor Amendment to the Subarea Plan before Take Authorization will apply to any portion of the properties with this designation. Directly southeast of the project site is a County-owned property, developed as the Otay Landfill. The Otay Landfill is designated as an MSCP Take Authorization Area that has granted take to the County under the County Subarea Plan presumably for County landfill activities.

5.3.1.3 Methodology

Literature Review

Historical and currently available biological literature and data pertaining to the study area were reviewed prior to initiation of current 2019-2020 field investigation. This review included examination of:

1) EIR, Sunbow General Development Plan Pre-Zone dated 1989
2) Addendum to Final EIR 88-1 Sunbow II Draft SPA Plan dated January 1990
3) BO on Impacts to the Coastal California Gnatcatcher (*Polioptila californica californica*) to Result from Construction of the Sunbow Planned Community #1-6-95-F-172
4) Analysis of ultra-low-altitude high-resolution ortho-rectified aerial photography of the site acquired by Merkel & Associates on January 3, 2020
5) Regional vegetation data for the project vicinity (City of Chula Vista 2019)
6) County Geographical Information System (GIS) data (Appendix D)
7) Google Earth Pro™ [Website Image Server], 2019 and 2020
8) Geological substrates and soil types mapped on the project site (Geocon geology data and USDA 2002, respectively)
9) CDFW CNDDB and USFWS special-status species records, and designated critical habitat for the project vicinity (CDFW 2020, USFWS 2019a and 2019b, respectively)

Survey Dates, Times, and Conditions

M&A biologists conducted several general biological field surveys within the project study area (Table 5.3-5) that consisted of the project site parcel and two areas directly offsite consisting of a portion of the Otay Village Two property to the east and a portion of City of Chula Vista property to the south. Further, a 50-foot habitat mapping buffer is included in some of the report figures for context only and is not a part of the proposed project or project study area.

Table 5.3-5. Schedule of Survey Dates, Times, Conditions, and Staff

Date	Time	Weather Conditions	Biologist	Survey
November 8, 2019	0800–1130	Weather: 0% cc Wind: 0–1 BS Temperature: 70°F–71°F	Kyle Ince	General Biological Survey
November 14, 2019	1115–1630	Weather: 0% cc Wind: 0–2 BS Temperature: 65°F–67°F	Kyle Ince Gina Krantz	General Biological Survey
November 18, 2019	1045–1600	Weather: 90% cc Wind: 0–1 BS Temperature: 80°F–76°F	Kyle Ince Gina Krantz	General Biological Survey
November 22, 2019	0730–0845	Weather: 0% cc Wind: 0–1 BS Temperature: 55°F–57°F	Kyle Ince	General Biological Survey

Table 5.3-5. Schedule of Survey Dates, Times, Conditions, and Staff

Date	Time	Weather Conditions	Biologist	Survey
December 20, 2019	0830–1130	Weather: 0% cc Wind: 0–1 BS Temperature: 60°F–66°F	Kyle Ince Gina Krantz	Jurisdictional Wetland Delineation
January 3, 2020	1130–1530	Weather: 0% cc Wind: 0–1 BS Temperature: 61°F–68°F	Jordan Volker	Low Altitude Aerial Survey
January 10, 2020	0815–1300	Weather: 0% cc Wind: 0–1 BS Temperature: 50°F–63°F	Kyle Ince	General Biological Survey
March 6, 2020	1020–1340	Weather: 0% cc Wind: 0–5 mph Temperature: 63°F–64°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #1
March 11, 2020	1245–1545	Weather: 30%–50% cc Wind: 1–5 mph Temperature: 62°F–69°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #2
March 17, 2020	1300–1645	Weather: 40%–10% cc Wind: 0–3 mph Temperature: 60°F–62°F	Gina Krantz Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #3
March 21, 2020	1115–1515	Weather: 50%–5% cc Wind: 0–3 mph Temperature: 66°F–68°F	Kyle Ince Adam Behle	Quino Checkerspot Butterfly Protocol Survey #4
March 24, 2020	1200–1600	Weather: 40%–10% cc Wind: 5–3 mph Temperature: 60°F–62°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #5
March 27, 2020	1045–1415	Weather: 40%–0% cc Wind: 0–5 mph Temperature: 60°F–62°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #6
April 3, 2020	1100–1500	Weather: 20%–30% cc Wind: 0–4 mph Temperature: 61°F–74°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #7
April 14, 2020	1100–1420	Weather: 5% cc Wind: 1–7 mph Temperature: 64°F–66°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #8
April 15, 2020	0830–1200	Weather: 0% cc Wind: BS 0–1 Temperature: 63°F –75°F	Gina Krantz Kyle Ince	Coastal California Gnatcatcher Protocol Survey #1
April 16, 2020	1000–1505	Weather: 0% cc Wind: 3–7 mph Temperature: 65°F–72°F	Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #9

Table 5.3-5. Schedule of Survey Dates, Times, Conditions, and Staff

Date	Time	Weather Conditions	Biologist	Survey
April 22, 2020	0835–1200	Weather: 0% cc Wind: BS 0–1 Temperature: 62°F–72°F	Gina Krantz Kyle Ince (Adam Behle/ Brandon Stidum)[2]	Coastal California Gnatcatcher Protocol Survey #2
April 23, 2020	0900–1235	Weather: 0% cc Wind: 1–5 mph Temperature: 64°F–78°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #10
April 28, 2020	1000–1500	Weather: 0% cc Wind: 0–5 mph Temperature: 70°F–72°F	Amanda Gonzales Kyle Ince	Jurisdictional Wetland Delineation
April 29, 2020	0840–1145	Weather: 100% cc Wind: BS 0–1 Temperature: 63°F–67°F	Gina Krantz Kyle Ince (Adam Behle/ Brandon Stidum)[2]	Coastal California Gnatcatcher Protocol Survey #3
April 30, 2020	1100–1430	Weather: 100%–50% cc Wind: 1–3 mph Temperature: 70°F–73°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #11
May 7, 2020	0845–1215	Weather: 0% cc Wind: 0–4 mph Temperature: 64°F–74°F	Gina Krantz Adam Behle Kyle Ince	Quino Checkerspot Butterfly Protocol Survey #12
May 7, 2020	1215–1330	Weather: 0%–5% cc Wind: 0–3 mph Temperature: 74°F–75°F	Kyle Ince	Rare Plant Survey
May 28, 2020	1545–1630	Weather: 100% cc Wind: 0–5 mph Temperature: 70°F–70°F	Kyle Ince	Rare Plant Survey
June 8, 2020	1115–1445	Weather: 0%–5% cc Wind: 3–5 mph Temperature: 75°F–81°F	Kyle Ince	General Biological Survey and Rare Plant Survey
July 9, 2020	0840–1420	Weather: 40%–5% cc Wind: 0–2 mph Temperature: 64°F–74°F	Kyle Ince Gina Krantz	Rare Plant Survey
July 15, 2020	0830–	Weather: 15%–0% cc Wind: 0–5 mph Temperature: 69°F–74°F	Kyle Ince Gina Krantz	Rare Plant Survey
January 13, 2021	0900-1215	Weather: 50%-0% cc Wind: 0-5 mph Temperature: 61°-72° F	Kyle Ince	General Biological Survey for Proposed Slope and Berm on Otay Village 2 Property

Source: Appendix D.
Notes: cc = cloud cover; BS = Beaufort Scale; mph = miles per hour; F= Fahrenheit.
[1] Merkel & Associates (M&A) biologist in training supervised by permitted biologists.

General Biological Survey

Existing vegetation types were delineated onto a 1 inch = 100 feet scale, December 2019 color aerial photograph of the site. Vegetation types were classified according to the Holland (1986) code classification system as modified by Oberbauer et al. (2008). Directed searches for sensitive species with a potential to occur on site were conducted within the study area, and any other potential occurrences were assessed in the field based on the existing biological conditions. The scientific and common names utilized for the floral and faunal resources were noted according to the following scientific nomenclature: flora, Rebman and Simpson (2014); butterflies, San Diego Natural History Museum (2002); amphibians and reptiles, Crother (2017); birds, American Ornithological Society (2019); and mammals, Wilson and Reeder (2005) for species names and Hall (1981) for subspecies. Additional details on the survey can be found in Appendix D.

Protocol Quino Checkerspot Butterfly Surveys

Quino checkerspot butterfly surveys were conducted the first week of March 2020 and were conducted less than a week apart when survey conditions were met to catch up to the protocol survey schedule. Specific Quino survey dates varied within the timeframe provided in the protocol according to weather conditions and scheduling needs. Biologists slowly walked a variable, winding course that generally followed 30-foot transects within suitable habitat in the pre- determined butterfly survey areas, carefully followed the movements of butterflies, and periodically stopped within areas that appeared most suitable. A detailed account of the survey is present in Appendix D.

Protocol California Coastal Gnatcatcher Surveys

Three protocol surveys for coastal California gnatcatcher were conducted at least one week apart within the gnatcatcher survey area that consisted of potentially suitable gnatcatcher habitat (e.g., Diegan coastal sage scrub) and any immediately adjacent habitat within the project site. All on-site vegetation communities were mapped, and survey routes were slowly walked in potentially suitable gnatcatcher habitat. Taped recordings of gnatcatcher vocalizations, as well as "pishing,'were used to elicit initial vocal responses, and an appropriate time interval was allowed for a response, particularly from advantageous viewpoints. A detailed account of the survey is present in Appendix D.

Rare Plant Surveys

Rare plants were detected and mapped throughout the late winter, spring, and early summer months. All areas of the project site were surveyed for rare plants although surveys were intensified in areas of clay soils which are suitable for a variety of endemic sensitive species known from the area.

Surveys were conducted during the flowering period for all potentially occurring sensitive species A detailed account of the survey is present in Appendix D

Jurisdictional Wetland Delineation

M&A, Inc. conducted a jurisdictional wetland delineation on December 20, 2019 and on April 28, 2020. The wetland delineation surveys were conducted using the routine on-site determination methods noted in the U.S. Army Corps of Engineers' (ACOE) *Wetland Delineation Manual* (ACOE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008) (Appendix D). In addition, the delineation was expanded to identify non-wetland federally regulated waters as well as waters of the state. The extent of jurisdictional boundaries was determined according to the ACOE, RWQCB, CDFW, and City definitions of wetlands, navigable waters, and non-wetland waters of the United States/streambed (NWW).

General Survey Limitations

Biological inventories are generally subject to various survey limitations. Depending on the season and time of day during which field surveys are conducted, some species may not be detected due to temporal species variability. The biological surveys conducted for this project were performed during daylight hours and included late fall, winter, spring, and the early summer months; thus, some nocturnal animal species that were not detected by sign (e.g., tracks, scat) during day surveys may not have been detected. Further, based on the literature review performed, as well as knowledge of species-specific habitat requirements, it is anticipated that any additional species potentially present on the project site can be fairly accurately predicted, and that the surveys conducted were sufficient in obtaining a thorough review of the biological resources present on the project site.

5.3.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to biological resources is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project 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 the California Department of Fish and Game or U.S. Wildlife Service.

B. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

C. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

D. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

E. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

F. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Additionally, impacts to biological resources are further categorized as direct impacts and indirect impacts. CEQA Guidelines Section 15358 define a “direct impact” as “effects which are caused by the project and occur at the same time and place” that can produce a temporary or permanent biologically significant, “physical change” in the environment.

CEQA Guidelines Section 15358 define an “indirect impact or secondary effect” as “effects which are caused by the project and are later in time or farther removed in distance,but are still reasonably foreseeable” that can produce a temporary or permanent biologically significant, “physical change” in the environment.

5.3.3 Impacts

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

Direct Impacts

Sensitive Plant Species

The proposed project would directly impact several sensitive plant species as quantified in Table 5.3-6 and assessed by species further below. Additionally, Figure 5.3-4, Biological Impacts Map, shows a map of biological impacts within the project site.

Table 5.3-6. Proposed Impacts to Sensitive Plant Species

Species (in Alphabetical Order)	Existing Conditions within Project Site (Inside Preserve and Outside Preserve)			Proposed Impacts (Inside Preserve and Outside Preserve)		
	Inside Preserve	*Outside Preserve*	*Total*	*Inside Preserve*	*Outside Preserve*	*Total*
*Ashy spike-moss (*Selaginella cinerascens*)	0	2	2	0	1	1
Coast barrel cactus (*Ferocactus viridescens*)	1	1	2	0	0	0
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	533	270	803	33	256	289
Orcutt's bird's-beak (*Dicranostegia orcuttiana*)	705	206	911	90**	1	91
Otay tarplant (*Deinandra conjugens*)	4,044	1,405	5,449	142	694	836
Palmer's sagewort (*Artemisia palmeri*)	16	28	44	0	0	0
San Diego bursage (*Ambrosia chenopodiifolia*)	7	17	24	0	16	16
San Diego County needlegrass (*Stipa diegoense*)	9	1	10	0	1	1
San Diego County viguiera (*Bahiopsis laciniata*)	2,745	4,902	7,647	1,133	4,825	5,958
San Diego marsh elder (*Iva hayesiana*)	641	175	816	0	3	3
Small-flowered bindweed (*Convolvulus simulans*)	91	0	91	0	0	0

Table 5.3-6. Proposed Impacts to Sensitive Plant Species

Species (in Alphabetical Order)	Existing Conditions within Project Site (Inside Preserve and Outside Preserve)			Proposed Impacts (Inside Preserve and Outside Preserve)		
	Inside Preserve	*Outside Preserve*	*Total*	*Inside Preserve*	*Outside Preserve*	*Total*
Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)	489	261	750	0	0	0

Source: Appendix D.
Notes:
* Prostrate ground cover herb quantified by number of patches.
** Impacts within Preserve are entirely within proposed Future Facility-Detention Basin footprint (see Figure 5.3-4).

Otay Tarplant

The proposed project would impact an estimated 836 Otay tarplants (142 located inside of the Preserve; 694 located outside of the Preserve) out of the total 5,449 Otay tarplants present on site (Table 5.3-4). Of the total Otay tarplant impacts, the proposed residential development would permanently impact 142 Otay tarplant inside the Preserve (including some impacted Otay tarplants within the Future Facility-Detention Basin) (see Figure 5.3-4) and 424 Otay tarplants outside the Preserve. Further, construction related vegetation clearing and grading activities would temporarily impact 270 Otay tarplants outside the Preserve.

Based on the sensitivity of this federally endangered and narrow endemic species, impacts to Otay tarplant would be considered **potentially significant** (**Impact BIO-1**) under CEQA and would require appropriate mitigation that would consist of on-site habitat mitigation (i.e., native grassland) within appropriate on-site conserved lands in the Preserve. Mitigation Measure **(MM) BIO-1** through **MM-BIO-3** (see Section 5.3.5, Mitigation Measures) would be implemented to reduce impacts to the Otay tarplant. The project also proposes habitat restoration efforts (soil salvage, seed transplant) within appropriate on-site areas within the Preserve (Project Design Feature **[PDF] BIO-1**; see Section 4.4.8, Project Design Features, of this EIR).

Orcutt's Bird's-Beak

Implementation of the proposed project would impact approximately 10% of the population of Orcutt's bird's- beak population estimated to be present on site (91 out of 911 plants). The proposed impacts to Orcutt's bird's- beak would occur from development of the proposed Future Facility-Detention Basin, located within Diegan coastal sage scrub, just south of the previously restored slope along Poggi Creek, where the majority of the Orcutt's bird's beak is located (Figure 5.3-4). The proposed impacts to Orcutt's bird's-beak would be considered significant under CEQA based on the sensitivity of this species and the rarity of this species in the region and the extent of impacts to the on-site population.

The proposed project's impacts to Orcutt's bird's-beak would be **potentially significant** (**Impact BIO-2**) and would require appropriate mitigation that would consist of preserving 90% (820 out of 911) of the Orcutt's bird's-beak estimated on-site population within the on-site Preserve (**MM-BIO-3**) and habitat mitigation (i.e., Diegan coastal sage scrub) and habitat restoration efforts (soil salvage, seed translocation) within appropriate on-site conserved lands in the Preserve (**MM-BIO-3**).

Decumbent Goldenbush

Implementation of the proposed project would impact approximately 36% of the decumbent goldenbush on-site population (289 out of 803 plants). A majority of the impacts to this species are associated with non-native grassland habitat located within the proposed development area (Figure 5.3-4). The proposed impacts to decumbent goldenbush would be considered **potentially significant** (**Impact BIO-3**). Therefore, require appropriate mitigation that may consist of preserving 64% (513 out of 803) of the decumbent goldenbush estimated on-site population within the on-site Preserve (**MM-BIO-3**) and habitat mitigation (i.e., native grassland) and habitat restoration efforts (soil salvage, seed translocation) within appropriate on-site conserved lands in the Preserve, as discussed further in Section 5.3.5 (**MM-BIO-3**).

San Diego Viguiera

Implementation of the proposed project would impact approximately 78% of the San Diego viguiera population (5,958 out of 7,647 plants). Impacts to this species are associated with impacts to Diegan coastal sage scrub along the western edge of the proposed development, discussed in further detail under Threshold B (Figure 5.3-4). The proposed impacts to San Diego viguiera, a CNDDB Special Plant with a CRPR 4.3 ranking, would be considered significant under CEQA primarily due to potential impacts to 5,958 plants out of 7,647 plants. The impacts to San Diego viguiera would be **potentially significant** (**Impact BIO-4**). **MM-BIO-3**, which consists of habitat mitigation (i.e., Diegan coastal sage scrub) and may also include habitat restoration within appropriate on-site conserved lands in the Preserve, would be implemented to reduce impacts to the San Diego viguiera.

San Diego County Needlegrass

Implementation of the proposed project would impact approximately 10% of the San Diego County needlegrass population present on site (1 out 10 plants). Impacts to this species are associated with impacts to Diegan coastal sage scrub along the western edge of the proposed development, which are discussed in further detail under Threshold B (Figure 5.3-4, Biological Impacts Map). In the City's MSCP, the impacts within Development Areas outside of Covered Projects require that impacts to Narrow Endemic Species be avoided. Where impacts are demonstrated to be unavoidable, impacts within these Development areas shall be limited to 20% of the total Narrow Endemic Species population with the project areas. However, San Diego County Needlegrass is not listed as a Narrow Endemic Species under the City's MSCP, therefore there are no MSCP specific impact avoidance guidelines. The CRPR for San Diego County Needlegrass is 4.2. As discussed earlier, CRPR 4 is the lowest rank designated for plants "of limited distribution or infrequent throughout a broader area in California" (CNPS 2020). Additionally, the threat level is 0.2 which is considered "moderately threatened in California." Due to San Diego County Needlegrass not being listed as a Narrow Endemic Species under the City's MSCP, its low rank on the CRPR list, and the impacts potentially affecting only 1 out of the 10 plants found within the project site, proposed impacts would be **less than significant.**

Ashy Spike-Moss

Implementation of the proposed project would impact 100% (two patches) of ashy spike-moss on site. Impacts to this species are associated with impacts to coastal sage scrub vegetation near the southeast corner and non-native grassland along the eastern boundary of the site. In the City's MSCP, the impacts within Development Areas outside of Covered Projects require that impacts to Narrow Endemic Species be avoided. Where impacts are demonstrated to be unavoidable, impacts within these Development Areas will be limited to 20% of the total Narrow Endemic Species population with the project area. However, ashy spike-moss is not listed as a Narrow Endemic Species under the City's

MSCP. Therefore, there are no MSCP-specific impact avoidance guidelines. The CRPR for ashy spike-moss is 4.1. As discussed earlier, CRPR 4 is the lowest rank designated for plants "of limited distribution or infrequent throughout a broader area in California" (CNPS 2020). Additionally, the threat level is 0.1, which is considered "seriously threatened in California." However, because ashy spike-moss is only found in two patches within the project site, ashy spike-moss is not listed as a Narrow Endemic Species within the City's MSCP, and the plant's CRPR is relatively low, the proposed impacts to ashy spike-moss would **be less than significant** based on the limited amount of proposed impact, sensitivity of this species, and its local and regional abundance throughout the County.

Small-Flowered Bindweed, Coast Barrel Cactus, San Diego Bursage, Southwestern Spiny Rush, San Diego Marsh Elder, and Palmer's Sagewort

Implementation of the project result in no impacts to existing populations (within the project site) of coast barrel cactus, palmer's sagewort, small-flowered bindweed, and southwestern spiny rush (Table 5.3-6). The proposed project would potentially result in impacts to 16 out of the 24 (66.7%) existing San Diego bursage plants, and 3 out of the 816 (0.37%) existing San Diego marsh elder plants. None of the previously mentioned plants are listed as a Narrow Endemic Species within the City MSCP.

San Diego marsh elder is ranked CRPR 2B.2, and San Diego bursage plant is ranked CRPR 2B.1. CRPR 2B is designated for plants that are rare, threatened, or endangered in California but are more common elsewhere (CNPS 2020). Threat rank 0.2 is defined as "moderately threatened in California" (20%–80% of occurrences threatened and a moderate degree and immediacy of threat), and threat rank 0.1 is defined as "seriously threatened in California" (over 80% of occurrences threatened and a high degree and immediacy of threat). Although the rank for San Diego marsh elder is relatively high, the amount that would be impacted resulting from implementation of the proposed project (0.37% of the existing San Diego marsh elder plant population within the project site) would be considered less than significant. However, 66.7% of existing San Diego bursage plants would be impacted due to implementation of the proposed project. Impacting 16 out of 24 existing San Diego bursage plants, paired with the plant's CRPR, would result in a **potentially significant** impact (**Impact BIO-5**). Impacts would be mitigated through biological construction monitoring and implementation of construction best management practices (BMPs; **MM-BIO-12**) and preparation of a Worker Environment Awareness Program (**MM-BIO-13**).

Sensitive Wildlife Species

Coastal California Gnatcatcher

Two coastal California gnatcatcher territories were determined to be present on site during the USFWS gnatcatcher protocol surveys conducted by M&A in 2020 (Appendix D). One gnatcatcher territory is located in the central portion of the site west of the proposed western access road within the larger area of high quality Diegan coastal sage scrub, while the other gnatcatcher territory is located along the southeastern site boundary where a small amount of Diegan coastal sage scrub occurs on site along with more suitable habitat that extends off site onto the County of San Diego landfill property to the south (Figure 5.3-4).

The one gnatcatcher territory located along the southeastern parcel boundary would be directly impacted by the proposed project vegetation clearing, grubbing, and grading activities (Figure 5.3-4) through the loss of a portion of nesting habitat (i.e., Diegan coastal sage scrub). This project impact would be **potentially significant** (**Impact BIO-6**) and would require implementation of mitigation measures (**MM-BIO-1 through MM-BIO-2**, and **MM-BIO-4 and MM-BIO-5**). Further, gnatcatcher specific MSCP Conditions of Coverage, such as area-specific management directives that must include measures to reduce edge effects and minimize disturbance during the nesting period, fire

protection measures to reduce the potential for habitat degradation due to unplanned fire, management measures to maintain or improve habitat quality including vegetation structure, and prohibition of clearing of occupied habitat in the County of San Diego Multiple Habitat Planning Area may occur from March 1 through August 15, would apply (City of Chula Vista 2003).

The other on-site gnatcatcher territory located in the central portion of the project site is not expected to be directly impacted by the project. The gnatcatchers observed in this area were limited to the Diegan coastal sage scrub located west of the proposed western main access road, largely within the existing Preserve that would remain protected as proposed by the project. In addition, although suitable gnatcatcher habitat occurs in other surrounding areas, no gnatcatchers were observed during the protocol surveys and/or any of the other biological surveys on site. Nonetheless, the reduction of potentially suitable and contiguous habitat and the potential for nesting failure due to the adjacent on-site construction related activities would result in **potentially significant direct impacts** (**Impact BIO-7**) to gnatcatcher and would require implementation of **MM-BIO-1 through MM-BIO-2**, and **MM-BIO-4 and MM-BIO-5** to reduce impacts to a level below significance.

Least Bell's Vireo

The least Bell's vireo that occurs on site is located entirely within Poggi Creek, where no development is proposed. Therefore, least Bell's vireo would not be directly impacted by the proposed project. Nonetheless, the potential for nesting failure due to the adjacent on-site construction related activities would result in potential direct impacts to vireo that would be considered **potentially significant** (**Impact BIO-8**) and would require implementation of **MM-BIO-6** in order to reduce impacts to a level below significance.

Quino Checkerspot Butterfly

Based on USFWS Quino checkerspot butterfly protocol surveys conducted by M&A in 2020, no Quino checkerspot butterfly (USFWS federally endangered), were observed or detected to be present within the project site and none are expected to occur (Appendix D). Therefore, the proposed project would have **no impact** to Quino checkerspot butterflies.

Yellow Warbler, Yellow-Breasted Chat, and Nuttall's Woodpecker

The proposed project is not expected to directly impact yellow warbler, yellow-breasted chat, and Nuttall's woodpecker since these species occur in the riparian habitat within Poggi Creek, within the Preserve, or within an existing conservation easement where the project proposes to avoid direct impacts. Therefore, the proposed project would have **no impact** to yellow warblers, yellow-breasted chats, and Nuttall's woodpeckers.

Sensitive Raptors

No nesting activities or potential nests of any sensitive raptor species, including white-tailed kite, northern harrier, and Cooper's hawk were observed on site and therefore no potential nesting habitat for sensitive raptor species is proposed to be impacted as a result of the project. Further, no indirect impacts such as construction elevated noise levels during the breeding season would affect nesting sensitive raptors since none are expected to nest on site.

Raptors including sensitive species such as the white-tailed kite, northern harrier, and Cooper's hawk were observed flying over and potentially foraging on site and may be negatively affected by the loss of this potential foraging habitat in the project area. The project would have direct impacts to potential raptor foraging habitat for

white-tailed kite, northern harrier, and Cooper's hawk associated with the loss of 61.0 acres of grassland habitat (i.e., 53.28 acres of non-native grassland, 7.72 acres of native grassland). As an important note, the potential raptor foraging habitat proposed to be impacted is located almost entirely inside the MSCP Development Area and is of lower habitat quality due to its densely thatched condition, while the proposed raptor foraging habitat mitigation consists of higher quality native grassland, patches of non-native grassland in a matrix of native habitats, and proposed habitat restoration areas that is either currently or proposed to be in the Preserve. The proposed impact to potential foraging habitat for white-tailed kite, northern harrier, and Cooper's hawk would be a **potentially significant impact** (**Impact BIO-9**). and would require implementation of **MM-BIO-1**, which requires habitat mitigation (i.e., native grassland, open Diegan coastal sage scrub) to reduce impacts to a level below significance.

Birds Protected under the Federal Migratory Bird Treaty Act and California Fish and Game Code

The project site has the potential to support active nests for regionally common migratory birds and raptors that are not designated as special status species under CEQA but are protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game (CFG) Code Sections 3503 and 3513.

The project could result in impacts to active bird and/or raptor nests protected under the federal MBTA and/or CFG Code Sections 3503 and 3513 if construction-related activities were to occur during the avian and/or raptor breeding season. The project construction activities undertaken for the project should comply with the regulatory requirements of the federal MTBA and CDFG Codes Sections 3503 and 3513. As discussed previously, here is an abundance of grassland onsite which is a potentially suitable habitat for burrowing owl; however, much of the grassland is dense and/or thatched and thus not preferred by this species. Further, no burrowing owls were observed during the numerous surveys of the site throughout the burrowing owl nesting and migratory season. In addition, no potential burrows with evidence of burrowing owl sign (i.e., molted feathers, cast pellets, prey remains, eggshell fragments, excrement) were observed during the surveys. As such, this species is not expected to occur onsite. However, there is potential for burrowing owls to subsequently occupy the project site as a result of construction vegetation clearing and grading activities that may temporarily create attractive conditions for burrowing owl. The potential impact to active nests of birds (including burrowing owl) protected under MBTA and/or CDFG Codes would be a **potentially significant impact** (**Impact BIO-10**) and would require avoidance of the avian breeding season or conduct pre-construction active nest surveys through implementation of **MM-BIO-7**, which requires to reduce impacts to a level below significance.

Sensitive Reptiles

Orange-Throated Whiptail and Two-Striped Gartersnake

Both the orange-throated whiptail and two-striped gartersnake were observed near the central portion of the site within the existing Preserve. Both species are not expected to be abundant on site as they were each only observed on one occasion during the numerous surveys that were conducted. Both species are expected to use riparian habitat associated with Poggi Creek as well as adjacent coastal sage scrub vegetation. All riparian habitat and much of the adjacent coastal sage scrub would be protected as part of the project. Therefore, the proposed project would have **no impacts** to orange-throated whiptails and two-striped gartersnakes.

No other sensitive wildlife species are expected to occur on site based on recent negative focused surveys and/or the lack of suitable habitat and thus would not be impacted by the proposed project.

Indirect Impacts

There would be no indirect impacts to sensitive wildlife species. There are few indirect impacts to the remaining native vegetation. Many of these are related to habitat fragmentation, which occurs when a native vegetation community is not entirely altered or developed, but what remains has a diminished wildlife habitat value due to edge effects and lack of connectivity. Indirect impacts to native vegetation are further discussed in Threshold B.

B. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Vegetation Community

Based on the proposed project design, the proposed project would result in direct permanent and temporary impacts to sensitive vegetation communities/habitats consisting of native grassland (Tier I), Diegan coastal sage scrub (Tier II), and non-native grassland (Tier III) habitats (see Table 5.3-7; Figure 5.3-4). Impacts would result in a total of 69.28 acres of on-site impacts and 1.15 acres of off-site impacts (Table 5.3-7). Permanent project impacts to sensitive vegetation communities would result from vegetation clearing, grading, and residential development including houses, fuel modification zone activities, detention basins, and roadways. Temporary impacts to sensitive vegetation communities would result from vegetation clearing, construction vehicular temporary access and activities, grading in some areas, and subsequent revegetation efforts to ensure erosion control and/or native habitat restoration activities to ensure long-term biological functions and values.

Table 5.3-7. Quantitative Summary of Vegetation Community Impacts from the Proposed Project

Vegetation Type	MSCP Tier Habitat Type	On-Site Impacts (Acres)					Off-Site Impacts (Acres)		
		Total On-Site Impact	*Preserve*		*Development Area*		*Total Off-Site Impact*	*City Minor Amend-ment Area*	*Otay Ranch Village 2*
			Perm	*Temp*	*Perm*	*Temp*			
Southern willow scrub	Wetland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mule fat scrub	Wetland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coastal and valley freshwater marsh	Wetland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Native grassland	I	7.72	3.22	0.18	4.21	0.11	0.04	0.00	0.03 temp/ 0.01 perm
Diegan coastal sage scrub	II	8.25*	2.24	0.39	5.08*	0.54	0.32	0.22 temp	0.05 perm/ 0.05 temp
Non-native grassland	III	53.28	1.66	0.10	48.61	2.91	0.79	0.35 temp	0.02 perm/ 0.42 perm
Non-native vegetation	IV	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Urban/developed	N/A	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Total		**69.28**	**7.12**	**0.67**	**57.92**	**3.57**	**1.15**	**0.57**	**0.58**

Source: Appendix D.
Notes: MSCP = Multiple Species Conservation Program; N/A = not applicable.
* The proposed project would permanently impact 7.58 acres of Diegan coastal sage scrub in the Development Area; however, the 2.5 acres of Diegan coastal sage scrub impact as documented in the USFWS 1995 BO has been applied to this proposed impact acreage resulting in a residual amount of 5.08 acres impact.

In association with direct impacts to native vegetation communities, there are usually indirect impacts to the remaining native vegetation. Many of these are related to habitat fragmentation, which occurs when a native vegetation community is not entirely altered or developed, but what remains has a diminished wildlife habitat value due to edge effects and lack of connectivity. Fragmented habitats may no longer be able to support large predators. The presence of native predators has been demonstrated to hold in check populations of meso-predators such as domestic/feral cats. Without the presence of such predators, avian and small mammal diversity and abundance declines, presumably due to increased depredation pressure from non-native meso-predators (Appendix D). Edge effects may include increased predation pressure, increased brood parasitism, increased competition for nesting cavities from non-native species, and increased floral competition from weedy species. Outside of those effects associated with fragmentation, indirect impacts may include elevated noise above 60 A-weighted decibels (dBA) equivalent measured sound level (L_{eq}), artificial night lighting within wildlife habitat, increased human disturbance, change in duration and amount of surface water within a floodplain, and increased erosion or sedimentation. These types of indirect impacts can affect vegetation communities or alter habitat use by sensitive species.

The project proposes to fill in gaps of the MSCP Preserve where areas have not been previously included in the in the 2003 City Subarea Plan configuration with areas of the Preserve along Poggi Creek by adjusting the proposed BLA. The proposed project would also extend the native habitat buffer widths between Poggi Creek and the proposed project footprint that will be included in the Preserve.

Per Table 5.3-7, permanent impacts (totaling on-site 64.05 acres) and temporary impacts (totaling on-site 4.24 acres) to native grassland, Diegan coastal sage scrub, and non-native grassland from construction activities such as vegetation clearing, grading, residential development, and construction vehicular temporary access and activities would be considered **potentially significant** (**Impact BIO-11**) and would require implementation of **MM-MM-BIO-1, MM-BIO-2, MM-BIO-12,** and **MM-BIO-13,** consistent with the City MSCP Subarea Plan as well as the HLIT, to reduce impacts to a level below significance.

It is expected that the portions of the MSCP Preserve directly adjacent and closest to the proposed project development boundaries would potentially be negatively affected by edge effects such as invasive plant invasion, habitat degradation, increased predation pressure from domestic pets (i.e., cats), lighting, noise, irrigation, and human disturbance. These potential indirect impacts would be considered **potentially significant** (**Impact BIO-12**) and would require mitigation measures **MM-BIO-8** through **MM-BIO-13** to reduce impacts to a level below significance.

C. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Wetlands within the proposed project are located largely along the northern border of the project site within Poggi Creek. Two streambeds are located along the western half of the project site (see Figure 5.3-3). As shown on Figure 5.3-4, the proposed project would avoid permanent and temporary impacts to jurisdictional resources, including wetlands and any appropriate buffer around applicable jurisdictional resources. Therefore, there would be complete avoidance during project construction and implementation. All of the state or federally protected wetlands are located within the Preserve, which is an area intended to remain unimproved and/or restored and its use strictly limited, or within the isolated 0.3-acre wetland avoidance area within HOA open space along the southern property

boundary that would be completely fenced off and inaccessible to the public. No significant development is planned to occur within the Preserve. Therefore, direct impacts to jurisdictional wetlands would be **less than significant** and no wetland mitigation or regulatory permitting would be required.

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.

There are a few local wildlife corridors on site, including Poggi Creek, located along the northern extent of the project site, as well as game trails and small drainages throughout the upland habitats particularly in the western half of the project site. Poggi Creek includes existing culverts and creek crossings in two locations. The project proposes to construct roadways on the existing creek crossings that currently support vegetation. Although the new access roadways would bisect the habitat on the south side of the creek including portions of the dirt trail along the creek, it is anticipated that wildlife movement would still be facilitated through the culverts under drier conditions as well as across the roadways where vehicular traffic is expected to be relatively slow due to the locations near the entrance and exit of the residential development.

Further, the project likely serves as part of a steppingstone corridor for bird species in the region due to the available habitat on site that is generally surrounded by an urbanized area. As noted, the USFWS BO for the Sunbow II project required off-site habitat mitigation of sage scrub habitat associated with the further fragmentation of the habitat connectivity associated with development of the proposed project. A BO (Biological Opinion) is a USFWS document that states the opinion of the USFWS as to whether the federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. As a result, the anticipation of habitat connectivity impact associated with project development has been captured in regional conservation planning and project-specific regulatory actions.

The wildlife species known or expected to occur on site consist of urban tolerant species such as coyote and raccoon that are expected to continue to move throughout the site and along Poggi Creek after implementation of the proposed project. Therefore, the proposed project is not expected to significantly impact any of the function and use of the local wildlife corridors on site predominantly due to the urban tolerant nature of the wildlife species that occur on site. Although there are local wildlife corridors present on site, the project site is not located within or in the vicinity of a known regional wildlife corridor.

In addition, the project site likely serves as part of a steppingstone corridor for avian species in the region due to the available habitat on site that is generally surrounded by urban development. Although the entire site may provide habitat as part of a stepping stone corridor, the higher quality habitats are located in the western half and northern portions of the project site that would located within the Preserve.

In addition, the 1995 USFWS BO for the Sunbow II project required off-site habitat mitigation of coastal sage scrub habitat associated with the further fragmentation of the habitat connectivity associated with development of Sunbow II Phase 3. The proposed project would be required to implement the 1995 USFWS BO. As a result, the anticipation of habitat connectivity impact associated with Phase 3 development has been captured in regional conservation planning and project specific regulatory actions. Therefore, the proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. Impacts would be **less than significant**.

E. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The proposed project would develop a 67.5-acre area composed of 44.2 acres of residential area, a 0.9-acre Community Purpose Facility site, 5.9 acres of public streets, and 16.5 acres of manufactured slopes/basins within the City. The proposed project would not plan to remove any trees. The City does not have any codes specific to tree removal or tree preservation. The closest related code would refer to the City of Chula Vista Municipal Code 12.32.160, which states that any tree, palm, shrub or plant shall be authorized (by the City's Department of Public Works) to be removed to remedy a dangerous condition. The proposed project would abide by all local policies or ordinances protecting biological resources in the City of Chula Vista. Therefore, impacts would be **less than significant.**

F. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

City of Chula Vista MSCP Consistency

Habitat Loss and Incidental Take Ordinance

The proposed project was assessed to ensure consistency with the City of Chula Vista's HLIT Ordinance and City of Chula Vista MSCP Subarea Plan. As discussed in Section 5.3.1.2, Existing Biological Resources, the proposed project is not a Covered Project and is designated within the MSCP as a Development Area outside of Covered Projects. A portion of the project site is designated as MSCP 100% Preserve. For projects within Development Areas outside of Covered Projects that contain sensitive biological resources, the HLIT Ordinance will require biological evaluation of all resources on site. The surveys discussed earlier and detailed in Appendix D meet the biological evaluation requirements. In addition, the HLIT does not limit encroachment into MSCP Tier I, II, and III except where necessary to avoid and/or minimize potential impacts to Narrow Endemic Species and/or Wetlands. As discussed earlier, where impacts are demonstrated to be unavoidable, impacts within these Development Areas will be limited to 20% of the total Narrow Endemic Species population within the project site. The only Narrow Endemic Species listed in the MSCP found within the project site is Otay tarplant, of which 836 out of the 5,449 existing Otay tarplant would be impacted by the proposed project (Table 5.3-6). The impacts to Otay tarplant consist of approximately 15% of the existing population, which would be under the 20% of the total Narrow Endemic Species population threshold as stated in the MSCP. Within areas mapped as 100% Preserve, impacts to Narrow Endemic Species must be limited to 5% of the total population within a project site. The existing Otay tarplant population within the Preserve is 4,044 plants, 142 of which would potentially be impacted by the proposed project. This would constitute approximately 3.5% of the Otay tarplant population within the Preserve, which complies with the thresholds outlined in the MSCP. The proposed project would comply with the HLIT Ordinance as stated within the MSCP and impacts would be **less than significant.**

Boundary Line Adjustment

The current project proposes an MSCP Preserve BLA, as discussed further in the Functional Equivalency Analysis Report (Appendix D). A biological function equivalency would demonstrate how the proposed MSCP Preserve BLA within the project property would result in equal or higher biological value as compared to the existing Preserve in accordance with meeting the six BLA functional equivalency criteria. The six BLA functional equivalency criteria are further discussed below.

There is a conflict between the currently proposed development boundaries and the mapped Preserve on site. The MSCP states that "these 100% Conservation Areas-Preserve are either already in public ownership or will be dedicated into Preserve as part of the development approval process for Covered Projects". However, the

placement of the 100% Conservation Areas/Preserve overlay rather than a 75%–100% Preserve was premature on the project site based on the fact that the proposed project was not identified as a Covered Project and design had not developed to the extent necessary to fully establish limits of preserve and development. The conflict between the proposed project and the mapped Preserve requiring an MSCP Preserve BLA today would not have existed if the preservation were 75%–100%. To rectify these issues between MSCP planned conservation and the proposed development, a MSCP Preserve boundary correction, or a BLA, would be required. A boundary correction is characterized as a corrective action to address an inadvertent error in the initial mapping of the preserve areas within the City. The proposed Preserve BLA would modify the existing Preserve boundary predominantly in two distinct areas to accommodate the proposed project development footprint on either side of the main access road where these areas are different from the mapped MSCP Development Areas on site (Figure 5.3-4; Figure 5.3-5, MSCP Preserve BLA Map). The proposed Preserve BLA provided as Give and Take areas is depicted on Figure 5.3-5.

As a part of the MSCP BLA process, the project would need to propose a potentially suitable area(s) currently located outside of the Preserve to "Give" to the MSCP Preserve of equal size to the portion of land that would "Take" from the Preserve (1:1 acreage ratio). In addition, a proposed Preserve BLA would need to result in equal or higher biological value as compared to the existing Preserve in accordance with meeting the six Count of San Diego Multiple Habitat Planning Area BLA functional equivalency criteria (Appendix D). These six criteria are outlined in detail below.

1. Effects on significantly and sufficiently conserved habitats

The applicable project site habitats that are considered significantly and/or sufficiently conserved include Diegan coastal sage scrub, riparian scrub, and freshwater marsh. The MSCP BLA, as summarized in Table 5.3-8, would result in a higher acreage of conservation of riparian habitat (i.e., southern willow scrub), and freshwater marsh (i.e., coastal and valley freshwater marsh) through on-site preservation in the proposed Give; and equal conservation for Diegan coastal sage scrub through on-site preservation of Diegan coastal sage scrub within the proposed Give and habitat restoration of non-native grassland restored to Diegan coastal sage scrub within additional areas of proposed Give (Figures 5.3-4 and 5.3-5). It is estimated that 2.91 acres out of the total 4.53 acres of habitat restoration areas include proposed manufactured slopes that would be restored to support Diegan coastal sage scrub habitat. It is expected that the proposed BLA exchange would maintain the conservation acreage and status of these significantly and sufficiently conserved habitats.

2. Effects on Preserve configuration and management

The proposed project MSCP BLA, as shown on Figure 5.3-5 and summarized in Table 5.3-8, would result in an equal to or greater conservation corridor and configuration as compared to the existing Preserve. The proposed MSCP Preserve BLA includes the addition of a wider conservation corridor along the easternmost portion of Poggi Creek, a slight reduction of the Preserve conservation corridor along the central reach of Poggi Creek, and an addition to the Preserve located just west of the main access entry that includes a portion of Poggi Creek itself as well as the adjacent upland habitat that supports sensitive species to the south resulting in an equal to or greater Preserve configuration (Figure 5.3-5 and Table 5-3-8). Further, the proposed BLA includes smaller areas along the Poggi Creek habitat corridor to fill in gaps of Preserve that were not included in the Preserve configuration in the 2003 City Subarea Plan. In addition, the proposed BLA would reduce the Preserve along the southeastern extent of the existing Preserve that connects with off-site the MSCP Minor Amendment Area to the south but is generally consistent with the on-site Preserve boundary geometry. As a note, there are three distinct areas of proposed Take from temporary construction impacts that encroach into the existing Preserve where native habitat restoration is proposed in the northeastern portion of the project site (Table 6 and Figure 6 of Appendix D2).

These three Take areas are surrounded and contiguous with the existing Preserve and proposed Give-habitat restoration areas that will be included in the Preserve and as such after habitat restoration is complete would provide a biological function to the ultimate Preserve, despite being a Take in this proposed BLA. It is expected that the proposed BLA exchange would maintain the Preserve general configuration and management as intended and provided in the City's MSCP Subarea Plan.

3. Effects on ecotones or other conditions affecting species diversity

The proposed project MSCP BLA would generally result in an equal or greater ecotone condition considering the wider habitat buffer between Poggi Creek and the proposed development area in the eastern half of the project site, the proposed addition of smaller areas to fill in the gaps of the existing Preserve, as well as the reduction of edge in the proposed Preserve in the location where the proposed western main access bisects the existing Preserve, as shown on Figure 5.3-5. In addition, the project proposes native habitat restoration in a majority of the Give areas that currently support non-native grassland in the vicinity of the eastern access road. These habitat restoration areas are expected to improve the habitat quality, species diversity, and overall biological function within the ecotones located between the proposed development and the proposed Preserve including Poggi Creek.

Table 5.3-8. City of Chula Vista MSCP Preserve Boundary Line Adjustment Habitats and Acreages

Habitat Type/ Biological Resources	MSCP Tier Habitat Type	Total on Site (Acres)	City of Chula Vista MSCP Preserve BLA (Acres)				
			Existing		*Proposed*		
			Preserve	*Development Area*	*Proposed Preserve Addition/Give*	*Proposed Preserve Removal/Take*	*Net Change to 100% Preserve*
Southern willow scrub	Wetland	2.06	1.14	0.92	0.22	0.00	+0.22
Mule fat scrub	Wetland	0.03	0.03	0.00	0.00	0.00	0.00
Coastal and valley freshwater marsh	Wetland	7.66	6.31	1.35	0.24	0.00	+0.24
Native grassland	I	24.09	19.38	4.71	0.37	3.40	-3.03
Diegan coastal sage scrub	II	37.08	24.46	12.62	0.91	1.48 and 0.04 Habitat Restoration**	-0.61
Non-native grassland	III	64.19	10.31	53.88	0.46 and 4.53 Habitat Restoration*	1.64 and 0.11 Habitat Restoration**	+3.23
Non-native vegetation	IV	0.53	0.44	0.09	0.04	0.00	+0.04
Urban/developed	N/A	0.06	0.00	0.06	0.00	0.00	0.00
Total		**135.70**	**62.07**	**73.63**	**6.77**	**6.68**	**+0.09**

Source: Appendix D.

* Proposed habitat restoration (4.53 acres) from non-native grassland to native grassland and Diegan coastal sage scrub within Give areas located in the eastern portion of the site. A portion of these habitat restoration areas (2.91 acres) are located within proposed manufactured slopes.

** Proposed habitat restoration within three distinct areas of take from temporary impacts that encroach into the existing Preserve.

4. Effects to species of concern not on the Covered Species list

The proposed project MSCP BLA would result in an equal to or greater Preserve that would include native grassland and Diegan coastal sage scrub habitat restoration within the proposed Give Preserve areas. The proposed Preserve BLA would benefit Covered Species as well as other sensitive species that are not covered under the City's MSCP Subarea Plan such as decumbent goldenbush, San Diego viguiera, San Diego marsh elder, southwestern spiny rush, and potentially grasshopper sparrow (not currently present within the project site but may be potentially in future) within the Give areas including the proposed habitat restoration areas that are contiguous with existing Preserve that supports native habitat within a widened conservation buffer along Poggi Creek. These non-covered species within the proposed Give areas would be conserved and managed within the Proposed Preserve and as such benefit the onsite populations of these species. There are a few sensitive species not on the Covered Species list (i.e., decumbent goldenbush, San Diego viguiera) found on site that will decrease in numbers due to the proposed Take; however, the proposed native habitat restoration within the proposed Give areas would include these species in the plant palette and therefore, it is expected that the on-site populations of these species would be maintained in the proposed Preserve.

5. Effects to Covered Species

The proposed project MSCP BLA would affect the following Covered Species: Otay tarplant and coastal California gnatcatcher. Approximately 142 Otay tarplant would be removed from the existing Preserve in the take area of proposed BLA, as shown in Figure 5.3-5. The areas that are proposed to be added to the Preserve per the BLA would support 718 Otay tarplant (400% greater counts) and the proposed Give-habitat restoration from non-native grassland to native grassland would be restored to support Otay tarplant and other rare plants through clay soil salvage and seed translocation (Appendix D). The combination of Give and Give-habitat restoration areas in the proposed project BLA exchange would increase the conservation of Otay tarplant in the Preserve.

USFWS designated Otay tarplant critical habitat in 2001. The City of Chula Vista MSCP Subarea Plan adopted in 2003 included the extent of Otay tarplant critical habitat that occurs on site within the Preserve. The proposed project BLA would overlap with Otay tarplant critical habitat in some areas (Appendix D). City MSCP Section 5.9 Critical Habitat, specifically addresses critical habitat for three Covered Species including Otay tarplant. It states that in approving the MSCP, the USFWS included in their BO for the MSCP findings regarding whether activities permitted under the Section 10(a)(1)(B) permit would result in the destruction or adverse modification of the critical habitat. The MSCP permits development in nonessential areas for each of the Covered Species, establishes a hardline Preserve, employs long-term conservation for the protection of Covered Species, and employs added protections for Narrow Endemic species (including Otay tarplant) and wetlands. Because of these factors, it is anticipated that no additional special management considerations or protection would be necessary for the Otay tarplant, as a result of either the implementation of the MSCP or any future federally permitted Covered Activity within the areas designated as critical habitat for those species. Therefore, since the City MSCP provided for future BLAs, the proposed BLA Take of Otay tarplant critical habitat would be addressed by implementing the long-term conservation and added protections for Narrow Endemic Species in the MSCP.

The proposed BLA would affect coastal California gnatcatcher suitable habitat through the take of Diegan coastal sage scrub in the existing Preserve; however, the proposed Give to the Preserve includes additional good quality Diegan coastal sage scrub located northeast of the gnatcatcher territory in the central portion of the project site (Figure 5.3-5). In addition, the proposed BLA includes habitat restoration from non-native grassland to Diegan coastal sage scrub within the northeastern portion of the site that are not currently occupied by gnatcatcher but

are located in proximity to existing Diegan coastal sage that would benefit gnatcatcher through an increase in potential foraging and nesting habitat on site.

6. Effects on habitat linkages and functions of Preserve areas

The proposed project MSCP BLA would generally maintain the habitat linkages and functions of the Preserve. In some areas of the proposed BLA, habitat linkages would be improved, but in other areas habitat linkages would be reduced. More specifically, the proposed BLA would result in a greater habitat linkage connectivity and function in the Preserve along Poggi Creek due to the addition of smaller areas within Poggi creek to the Preserve and the larger habitat buffers south of the creek that would better facilitate wildlife use and movement in this area of the Preserve (Figure 5.3-5). The proposed BLA along the southeastern extent of the Preserve would result in less conserved habitat connectivity along the southern boundary to other habitat to the south into the Minor Amendment Area.

Conclusion

The proposed project's BLA would comply with the six Multiple Habitat Planning Area BLA functional equivalency criteria, which is a requirement of the City MSCP BLA guidelines. Therefore, impacts would be **less than significant** and no mitigation measures are required.

Facilities Siting Criteria

The proposed project includes a MSCP Future Facility (i.e., detention basin) that would be located partially in the existing Preserve on site (see Figure 5.3-5). The relocation of this basin was considered in the project design to avoid or minimize impacts to the Preserve but was determined to be site specific due to the necessary topography for drainage and the confined development configuration due to the avoidance of wetlands and Otay tarplant (a narrow endemic) in this area; however, the size and configuration of the basin was modified to reduce impacts to the Preserve to the maximum extent practicable. The City MSCP, Chapter 6.0 Land Use Considerations in the Preserve, identifies permitted uses including Future Facilities within the Preserve. Future Facilities are subject to the MSCP Facilities Siting Criteria which ensures that the facilities located within the Preserve have been sited within the least environmentally sensitive areas and that impacts to the Preserve have been minimized to the maximum extent practical. The City of Chula Vista is allotted up to 50 acres of impact/"Take" for Future Facilities. The cumulative impacts to covered habitats from Future Facilities, including the proposed Sunbow Future Facility (i.e., detention basin) within the City of Chula Vista are summarized in Table 5.3-9 below. The proposed Future Facility-Detention Basin (1.12 acres) is partially within an area of the existing Preserve on site. The Future Facility-Detention Basin can be seen in Figure 5.3-4.

Table 5.3-9. Cumulative Impacts to Covered Habitat from Future Facilities

Project	Project Permanent Impacts to Covered Habitat (acres)
Village Eleven	0.50
Village Two	0.10
Village Eight West	0.09
Village Nine	0.20
Village Three North, Village Eight East, Village Ten	6.10
Village Four	1.23

Table 5.3-9. Cumulative Impacts to Covered Habitat from Future Facilities

Project	Project Permanent Impacts to Covered Habitat (acres)
UID	4.00
Sunbow II Phase 3 (Proposed Project)	1.12
Total Cumulative Impacts	**13.34**
Remaining Acres (out of 50 acres)	36.66

Source: Appendix D.

The proposed project has been designed to completely avoid any wetland habitat impacts and would predominantly result in impacts to non-native grassland consisting primarily of densely thatched non-native grasses (**Impact BIO-11**). In addition, the proposed project would result in significant impacts to Diegan coastal sage scrub, specifically within the proposed Future Facility-Detention Basin area, as well as impacts to native grassland, within the southwestern portion of the area proposed for residential uses, as discussed in Threshold B (**Impact BIO-11**). The siting of the proposed Future Facility-Detention Basin within the Preserve is analyzed in the project Facility Siting Criteria Report(Appendix D).

100% Preserve Compatible and Conditionally Compatible Uses

Projects within Preserve areas outside Covered Projects are limited to certain Compatible Uses or Allowed Uses within the Preserve, as described in the City's MSCP. The project's consistency with Compatible Uses or Allowed Uses within the Preserve is outlined below.

Compatible uses and conditionally compatible uses in the Preserve are land uses and activities that are compatible with the biological objectives of the MSCP Subregional Plan and the City's MSCP. 100% Preserve compatible uses include public access and recreation, preserve management, including scientific and biological activities, and emergency safety and police services. Conditionally compatible uses consist of mining, flood control, and road/infrastructure activities that include planned and future facilities. As discussed in Chapter 4, Project Description, of this EIR, the Preserve is intended to remain unimproved and/or restored and its use strictly limited. Vegetation would consist of native plants that already occur on site. Only under limited circumstances may certain amenities and facilities, as determined by the City to be compatible with the goals and objectives of the City's MSCP, be permitted within the Preserve. Any proposed amenities or facilities within the MSCP Preserve area shall be subject to the prior review and approval of the Director of Development Services.

The project proposes a Future Facility-Detention Basin that is partially within an area of the existing Preserve on site (see Figure 5.3-5). The relocation of this basin was considered in the project design to avoid or minimize impacts to the Preserve but was determined to be site specific due to the necessary topography for drainage and the confined development configuration due to the avoidance of wetlands and Otay tarplant (a narrow endemic) in this area; however, the size and configuration of the basin was modified to reduce impacts to the Preserve to the maximum extent practicable. This encroachment would qualify as a Future Facility in the Preserve.

Therefore, the proposed project would remain consistent with land uses within the Preserve and impacts would be **less than significant**.

Narrow Endemic Policy and Wetland Protection Program Narrow Endemic Policy

Otay tarplant is the only Narrow Endemic Species that is known and/or expected to occur within the project site. Based on 2019-2020 Otay tarplant field surveys completed on the project site, the on-site population is estimated to be 5,449 plants predominantly located in the western half of the project site within the existing Preserve (4,044 plants within the Preserve and 1,405 plants outside the Preserve). Of the 5,449 on-site Otay tarplant population, the proposed project would impact an estimated 142 Otay tarplant plants (2.6%) inside the Preserve and 694 Otay tarplant plants (12.7%) outside the Preserve/within Development Area (Table 5.3-6). Impacts to Otay tarplant would be potentially significant, as discussed in Threshold A (**Impact BIO-1)**. However, to ensure consistency with the City's MSCP Narrow Endemic Policy, the proposed project would minimize impacts to Otay tarplant to less than 5% within the Preserve and less than 20% within the Development Area with implementation of **MM-BIO-1** through **MM-BIO-3**.

The proposed project would meet the MSCP Narrow Endemic Policy based on the estimated Otay tarplant population on-site totals and estimated plants to be impacted in the Preserve and the Development Area that are below the Narrow Endemic Policy impact thresholds, as provided in Table 5.3-10. The proposed project would ensure consistency with MSCP Narrow Endemic Policy Section 5.2.3.3 for Development Areas outside of Covered Projects, where applicable by limiting the proposed impacts to the existing Otay tarplant population within the project site to less than 5% of the population within the Preserve and less than 20% of the population outside of the Preserve (see Table 5.3-10). Therefore, impacts related to plan consistency would be **less than significant.**

Table 5.3-10. Narrow Endemic Policy – Estimated Otay Tarplant Impact Assessment

Total Estimated Otay Tarplant Population in Project Area/ On Site	Preserve			Development Area (Outside Preserve)		
	Individual Impact	*Percent*	*Narrow Endemic Policy (<5%)*	*Individual Impact*	*Percent*	*Narrow Endemic Policy (<20%)*
5,449	142	2.6%	Consistent/ Meets Policy	694	12.7%	Consistent/ Meets Policy

Source: Appendix D.

Wetlands Protection Program

As discussed under Threshold C, the project proposes to completely avoid any impacts to wetland; therefore, the project would be consistent with the Wetlands Protection Program provided in the City's MSCP, Section 5.2.4. Therefore, impacts would be **less than significant.**

MSCP Conditions of Coverage

Coastal California Gnatcatcher Condition of Coverage

The MSCP Condition of Coverage for coastal California gnatcatcher specifies that the area specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to avoid habitat degradation due to unplanned fire, management measures to maintain and improve habitat quality, and prohibit clearing of occupied habitat during gnatcatcher breeding season (March 1-August 15) within the Preserve. Therefore, prior to implementation of mitigation, impacts would be **potentially significant** (**Impact BIO-6** and **BIO-7**). However, the proposed project would comply with and address the applicable Conditions of Coverage as specified in Section 5.3.5, Mitigation Measures (see **MM-BIO-4** through **MM-BIO-5**). Therefore, with implementation of **MM-BIO-4** through **MM-BIO-5,** impacts would be reduced to a **less-than-significant** level**.**

Least Bell's Vireo Condition of Coverage

The MSCP Condition of Coverage for least Bell's vireo specifies that the area specific management directives must include measures consistent with the ACOE 404(b)(1) Guidelines into the project where applicable. In addition, measures to provide appropriate successional habitat, upland buffers for known populations, cowbird control, and measures to reduce edge effects, as well as, prohibit clearing of occupied habitat during vireo breeding season (March 15-September 15). Therefore, prior to implementation of mitigation, impacts would be **potentially significant** (**Impact BIO-8**). However, the proposed project would completely avoid direct impacts to least Bell's vireo through implementation of **MM-BIO-6**) and would provide a conserved upland buffer to the one vireo pair on site that is limited to the northeastern most portion of riparian habitat on site. Further, the project proposes measures such as vegetation barriers, fencing, and night light shielding to avoid and/or reduce potential edge effects (**MM-BIO-8** through **MM-BIO-13**) to the vireo pair within Poggi Creek. Due to the limited vireo presence/population on site and uncertainty regarding a least Bell's vireo population within Poggi Creek upstream to the east, the project does not propose a brown-headed cowbird control program on site. These cowbird control programs are typically implemented and most cost effective within a river system where a larger known vireo population within conserved lands would benefit. Although the project does not propose any direct impacts to vireo occupied habitat, the project proposes to comply and address the applicable Conditions of Coverage as specified in Section 5.3.5 (**MM-BIO-7**). Therefore, with implementation of **MM-BIO-7**, impacts would be reduced to a **less-than-significant** level.

Orange-Throated Whiptail Condition of Coverage

The MSCP Condition of Coverage for orange-throated whiptail specifies that the area specific management directives must include measures to address edge effects. However, as discussed in Threshold A, the orange-throated whiptail is not expected to be abundant within the project site as it was observed on one occasion during the numerous surveys conducted during the 2019-2020 field survey effort, as summarized in the Table 5.3-5 above. Therefore, impacts would be **less than significant.**

Cooper's Hawk Condition of Coverage

The MSCP Condition of Coverage for Cooper's hawk specifies that the area specific management directives must include 300-foot impact avoidance areas around active nests and minimization of disturbance to oak woodlands and oak riparian forests. No Cooper's hawk potentially suitable nesting habitat including oak woodlands and oak riparian forests occur within the proposed development area. This species was not observed nesting or exhibiting any nesting behavior on site. Therefore, the Conditions of Coverage are not applicable and there would be **no impacts**.

Northern Harrier Condition of Coverage

The MSCP Condition of Coverage for northern harrier specifies that the area specific management directives must include the following: (1) manage agricultural and disturbed lands (which become part of the Preserve) within four miles of nesting habitat to provide foraging habitat; (2) include an impact avoidance area (900 feet or maximum possible within the Preserve) around active nests; and (3) include measures for maintaining winter foraging habitat in Preserve areas in Proctor Valley, around Sweetwater Reservoir, San Miguel Ranch, Otay Ranch east of Wueste Road, Lake Hodges, and San Pasqual Valley. No nesting northern harrier occur on site and none are expected. The northern harriers on site were only flying over and potentially foraging on site. No agricultural or disturbed lands occur within the proposed Preserve or within the project site; however, the non-native grassland along with the other potential raptor foraging habitat within the on-site Preserve will be managed to provide potential foraging habitat for a variety of raptors including northern harrier. Therefore, impacts would be **less than significant.**

Otay Tarplant Condition of Coverage

The MSCP Condition of Coverage for Otay tarplant specifies that the area specific management directives must include measures for monitoring of populations, adaptive management of preserves, and measures to protect against detrimental edge effects. The project proposes to comply and address the Conditions of Coverage where applicable as specified in Section 5.3.5. Additionally, impacts to Otay tarplant (**Impact BIO-1**) would be mitigated with the implementation of **MM-BIO-1** and **MM-BIO-2**. Therefore, with implementation of **MM-BIO-1** and **MM-BIO-2**, impacts would be reduced to **less than significant.**

Orcutt's Bird's-Beak Condition of Coverage

The MSCP Condition of Coverage for Orcutt's bird's-beak specifies that strategies to provide protection for this species within the Minor Amendment Area must be included at the time any MSCP Minor Amendments are proposed. The proposed project temporary grading impacts in the Minor Amendment Area directly south of the Sunbow property does not support Orcutt's bird's-beak. Therefore, **no impacts** would occur.

Coast Barrel Cactus Condition of Coverage

The MSCP Condition of Coverage for coast barrel cactus specifies that the area specific management directives must include measures to address edge effects, unauthorized collection, and fire management/control practices. The project proposes to comply and address the Conditions of Coverage where applicable as specified in Section 5.3.5. Therefore, impacts would be **less than significant.**

Adjacency Management Guidelines

The City of Chula Vista requires that land uses adjacent to the MSCP Preserve be managed to avoid and minimize impacts to the preserve; therefore, project mitigation measures pertaining to lighting (**MM-BIO-9**), noise (**MM-BIO-4 through MM-BIO-6**), landscaping (**MM-BIO-10**), access (**MM-BIO-8**), and drainage (**MM-BIO-11**) would be required to ensure consistency with the City's MSCP , Section 7.5.2, Adjacency Management Guidelines, and ensure the long-term viability of wildlife and sensitive habitats in the Preserve. These Guidelines and applicability to the proposed project are summarized below and incorporated where applicable into project mitigation measures as provided in Section 5.3.5.

Drainage

1. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the Preserve through the use of a variety of methods including natural detention basins, grass swales or mechanical trapping devices.
2. Develop and implement urban runoff and drainage plans which will create the least impact practicable for all development adjacent to the Preserve. All development projects will be required to meet NPDES standards and incorporate BMPs as defined by the City's Standard Urban Storm Water Mitigation Plan (SUSMP).
3. Pursuant to the San Diego RWQCB Municipal Permit, and the City of Chula Vista Storm Water Management Standards Requirements Manual, all development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area are required to implement site design, source control, and treatment control BMPs.

4. Require all NPDES-regulated projects to implement a combination of BMPs as close to potential pollutant sources as feasible. The proposed project would comply with the applicable drainage and storm water permits and implement features such as vegetated detention basins to avoid the potential release of toxins, chemicals, and other elements from entering the Preserve and ensure consistency with the Guidelines.

The proposed project would comply with the applicable drainage and storm water permits and implement features such as vegetated detention/water quality basins to avoid the potential release of toxins, chemicals, and other elements from entering the Preserve and ensure consistency with the Guidelines. Therefore, impacts would be **less than significant.**

Toxic Substances

All agricultural uses, including animal-keeping activities, and recreational uses that use chemicals or general by-products that are impactive to biological resources or water quality need to incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the Preserve. Methods shall be consistent with requirements of the San Diego RWQCB and NPDES standards and therefore impacts would be **less than significant.**

The proposed project does not include any agricultural uses or recreational uses that would result in potential impacts from toxic substances entering into the Preserve.

Lighting

Lighting of all developed areas adjacent to the Preserve should be directed away from the Preserve wherever feasible and consistent with public safety. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting. As provided in the City's MSCP, consideration should be given to the use of low-pressure sodium lighting.

Although the specificity of the proposed lighting plan is not available at this time, the proposed project would include the use of outdoor lighting along roadways and in association with proposed buildings that may have the potential to spill into the adjacent Preserve (**Impact BIO-12**). Therefore, the proposed project would result in **potentially significant impacts**. Due to this potential impact, the project would incorporate **MM-BIO-9,** which requires adequate shielding and the potential use of low-pressure sodium lighting to ensure consistency with the Guidelines.

Noise

Uses in or adjacent to the Preserve should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve. Excessively noisy uses or activities adjacent to breeding areas, including temporary grading activities, must incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species, consistent with Table 3-5 of the MSCP Subregional Plan.

The Poggi Creek portion of the Preserve and the north-facing slope directly adjacent to the creek are close to Olympic Parkway, a busy roadway that is a source of consistent noise from vehicular traffic. The northern portion of the project site likely has a higher ambient noise level than the southern portion of the site due to the Olympic Parkway traffic noise levels and thus the proposed noise levels may or may not result in substantially greater noise levels. Conversely, the proposed project may potentially introduce elevated noise levels into the Preserve

particularly along the southwestern boundary of the proposed development where the current conditions are relatively quiet. Therefore, impacts would be **potentially significant** (**Impact BIO-12**). Due to this potential impact, the project would implement **MM-BIO-4, MM-BIO-5, MM-BIO-6 and MM-BIO-7,** which requires the avoidance of the breeding season for construction activities to ensure consistency with the Guidelines.

Invasives

No invasive non-native plant species shall be introduced into areas immediately adjacent to the Preserve. All open space slopes immediately adjacent to the Preserve should be planted with native species that reflect the adjacent native habitat. The plant list contained in the Wildland / Urban Interface: Fuel Modification Standards (Appendix K of the City's MSCP), must be utilized to the maximum extent practicable when developing landscaping plans in areas adjacent to the Preserve.

The proposed project includes fuel modification zones within the project development adjacent to the Preserve as well as landscape areas that have the potential to introduce invasive non-native species into the Preserve Therefore, impacts would be **potentially significant** (**Impact BIO-12**). Due to this potential impact, the project would incorporate **MM-BIO-10,** which requires the prohibition of invasive plant species in the planting palette as well as the maintenance and monitoring of the adjacent areas to ensure consistency with the Guidelines.

Buffers

There are no requirements for buffers outside the Preserve, except as required for Wetlands pursuant to Federal and/or State permits, or by local agency CEQA mitigation conditions. All open space requirements for the Preserve shall be limited to the Preserve and do not include any buffers that extend beyond the Preserve boundary. Fuel modification zones must be consistent with City's MSCP, Section 7.4.4.

The proposed project has incorporated appropriate wetland buffers to ensure avoidance from project construction and implementation. In addition, proposed fuel modification zones are included in the project development footprint as a proposed impact. The proposed Preserve includes open space to be conserved in perpetuity as well as some areas of proposed habitat restoration that will include sensitive plant species. Therefore, impacts would be **less than significant.**

MSCP Minor Amendment Area

The City-owned property directly south of the proposed project site is designated a Minor Amendment Area (Figure 5.3-1; Figure 5.3-4). Designated Minor Amendment Areas throughout the City are not currently a part of the City's MSCP and do not receive any take authorization or coverage benefits. Minor Amendment Areas may be incorporated into the City's MSCP through the Minor Amendment Process described in the City's MSCP, Section 5.1.3.1.

The Applicant is working with the City to request a Minor Amendment to allow off-site temporary grading impacts that would encroach 25 feet onto the City's property and within this Minor Amendment Area, which is located directly south of the proposed project (see Figure 5.3-1) (**Impact BIO-15**). This request for a Minor Amendment would also require Wildlife Agency concurrence.

This potential encroachment onto the City property would consist of a 25-foot grading buffer for temporary construction equipment access and grading as well as a minor excavation and fill for a buttress to address slope stability that would be located entirely within the 25-foot construction buffer. The temporary impact areas in the 25-foot grading buffer within the Minor Amendment Area from project construction activities and buttress construction (**Impact BIO-15**) would be revegetated

with a native erosion control hydroseed mix acceptable to the City and Wildlife Agencies to ensure soil stability and prevent subsequent erosion (**MM-BIO-14**); further, these temporary impacts would be fully mitigated within the proposed project site inside the Preserve. The requested off-site temporary impacts onto City property are included in the total proposed project impacts and proposed on-site mitigation as provided above in the impact analysis and quantified in Tables 5.3-4 and 5.3-7. Because the proposed project would result in temporary impacts to the Minor Amendment Area, impacts would be potentially significant (**Impact BIO-15**) and would require implementation of **MM-BIO-14 through MM-BIO-16** to reduce impacts to **a level below significance**.

HLIT Draft Findings

In order for the City of Chula Vista to approve or conditionally approve a HLIT permit, all of the draft Section 17.35.080 HLIT Findings such as those that demonstrate the project and associated mitigation are consistent with the Subarea Plan and the project results in minimum disturbance to sensitive biological resources, except impacts to natural vegetation in mapped development areas, shall be made by the decision maker.

The project is consistent with the HLIT Ordinance including the Findings the City needs to make for Issuance of HLIT Permit (Section 17.35.080) and applicable MSCP Subarea Plan Sections 5.2.3 and 5.2.4 that addresses impacts to Narrow Endemics and Wetlands, as discussed above. Further, the project is consistent with applicable general and specific MSCP development regulations/standards as specified in the HLIT, Section 17.35.090, including but not limited to those summarized below:

- Project impacts located on the least environmentally sensitive portions of the site to minimize impacts to sensitive biological resources to the maximum extent practicable.
- Wetland impacts shall be avoided.
- Grading during applicable wildlife breeding seasons shall be avoided.
- Temporary impact areas to sensitive biological resources shall be revegetated with native species.

The draft HLIT Findings for the project are included in Appendix D. The City shall finalize the HLIT Findings during the HLIT Permit process. Therefore, impacts would be **less than significant.**

5.3.4 Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would have potentially significant impacts associated with sensitive flora, sensitive fauna, loss of sensitive and important habitats, inconsistencies with the City's MSCP, and temporary construction impacts within the Minor Amendment Area. Impacts prior to mitigation would be **potentially significant**. Impacts would be reduced to a **less-than-significant** level after implementation of the mitigation measures listed in Section 5.3.5.

5.3.5 Mitigation Measures

The following mitigation measures would reduce identified significant impacts associated with biological resources to a less than significant level. Refer also to Table 5.3-11 for the project habitat impact areas and mitigation requirements.

Impacts to Sensitive Upland Habitats Consisting of Native Grassland, Diegan Coastal Sage Scrub, Non-native Grassland (**Impact BIO-11**) that support Sensitive Wildlife and Plant Species (**Impacts BIO-1 through BIO-7**) and Raptor Foraging Habitat (**Impact BIO-9**) would be mitigated by **MM-BIO-1 and MM-BIO-2**:

MM-BIO-1 The Applicant shall include an irrevocable offer of dedication (IOD) to the City of Chula Vista on the first final map for 62.16 acres of onsite Preserve land within Preserve Management Area 3, Subunits 3-1a, 3-1b, and 3-1c of the Chula Vista Central City Preserve lands. The MSCP Preserve land shall be conserved, maintained, and managed by the City of Chula Vista or its designee in perpetuity as directed in the Chula Vista Central City Preserve Area-Specific Management Directives (ASMDs) for Preserve Management Area 3 (PMA 3) (RECON Environmental, April 26, 2004) and funded by the Sunbow Preserve Community Facilities District (No. 98-3). The City of Chula Vista Preserve Habitat Manager shall be responsible for the long-term Preserve management activities identified in the Central City Preserve ASMD. Said IOD for the 62.16 acres Proposed MSCP Preserve shall include 48.95 acres to mitigate for significant habitat impacts to 7.79 acres of native grassland, 8.55 acres of Diegan coastal sage scrub, and 55.61 of non-native grassland as well as the following sensitive species significant impacts:

- *Coastal California Gnatcatcher*- occupied Diegan coastal sage scrub to mitigate for significant direct impacts to coastal California gnatcatcher occupied habitat;
- *Otay Tarplant*- 0.34 acre of Otay tarplant occupied habitat (i.e.,native grassland) to mitigate for direct impacts to 0.34 acre of Otay tarplant occupied habitat that currently supports 836 Otay tarplant individual plants;
- *Orcutt's Bird's-beak*- Orcutt's bird's-beak habitat (i.e., Diegan coastal sage scrub) to mitigate for significant direct impacts to onsite Diegan coastal sage scrub that currently supports 91 Orcutt's bird's-beak individual plants;
- *Decumbent Goldenbush*- Decumbent goldenbush habitat (i.e., Diegan coastal sage scrub and native grassland), that includes at least 289 decumbent goldenbush individual plants) to mitigate for significant direct impacts to onsite native grassland and Diegan coastal sage scrub that currently supports 289 decumbent goldenbush individual plants; and
- *San Diego Viguiera*- San Diego viguiera habitat (i.e., Diegan coastal sage scrub) that includes at least 2,979 San Diego viguiera individual plants) to mitigate for significant direct impacts to onsite Diegan coastal sage scrub that currently supports 5,958 San Diego viguiera individual plants.

MM-BIO-2 Prior to initiation of construction related activities including clearing and grubbing or prior to vegetation/ground disturbance or prior to site mobilization activities or issuance of a grading permit, the Applicant shall submit documentation to the City demonstrating that the Applicant has contracted with a qualified biologist(s) to monitor the project construction activities and avoid any inadvertent impacts to sensitive biological and ensure complete avoidance of jurisdictional resources. Each qualified biologist shall have demonstrated expertise with the sensitive habitats, special status species of the project region. The qualified biologist(s) shall monitor the installation of the construction temporary fencing and/or flagging, silt fencing, and other best management practices (BMPs) along the construction limits prior to construction activities. The qualified biologist shall be present full-time during all initial vegetation clearing and grubbing activities, and potentially on a less frequent basis during grading activities to ensure construction remains within the approved project development area. The Applicant shall report results of biological monitoring activities to the City on a regular basis through the preparation and submission of summary monitoring reports.

Impacts to Sensitive Plant Species (Otay tarplant [**Impact BIO-1**], Orcutt's bird's-beak [**Impact BIO-2**], decumbent goldenbush [**Impact BIO-3**], and San Diego County viguiera [**Impact BIO-4]**) would be mitigated by **MM-BIO-1 and MM-BIO-2** listed above, and **MM-BIO-3:**

MM-BIO-3 Prior to the issuance of any land development permits including for clearing and grubbing or grading, the Applicant shall prepare a Restoration Plan prepared by a qualified biologist to mitigate for impacts to sensitive plant species consisting of Otay tarplant, Orcutt's bird's-beak, decumbent goldenbush, and San Diego County viguiera consistent with the Habitat Restoration and Sensitive Plant Specifies Mitigation Plan (Merkel & Associates, Inc. 2021, Appendix D). The Applicant shall implement the 5-year maintenance and monitoring activities consistent with the Conceptual Restoration Plan to the satisfaction of the Development Services Director (or their designee). The revegetation plan must be prepared by a qualified City approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project Applicant shall be required to prepare and implement the revegetation plan subject to the oversight and approval of the Development Services Director (or their designee). NOTE: Since the revegetation is critical to approving the MSCP Boundary Line Adjustment, the applicant will be required to enter into a Secured Agreement with the City and will be required to provide a cash deposit.

Impacts to coastal California gnatcatcher territories (**Impact BIO-6**) and coastal California gnatcatcher potential suitable habitats (**Impact BIO-7**) would be mitigated by **MM-BIO-1 to MM-BIO-2** above and **MM-BIO-4** and **MM-BIO-5 below:**

MM-BIO-4 To avoid any direct impacts to nesting coastal California gnatcatcher, all vegetation clearing, grubbing and grading activities within gnatcatcher occupied habitat (i.e., Diegan coastal sage scrub) shall be conducted outside of the gnatcatcher breeding season (February 15 to August 15).

MM-BIO-5 Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall delineate coastal California gnatcatcher occupied habitat located adjacent to the proposed project development area during the breeding season (February 15 to August 15) by orange biological fencing or comparable materials to ensure that no work shall occur within these habitats. In addition, a minimum 300-foot buffer and on-site noise reduction/attenuation techniques shall be incorporated, as appropriate to avoid impacts to breeding gnatcatcher from elevated construction noise levels. The City Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. Noise monitoring may be required to ensure that the elevated construction noise levels are appropriately attenuated at the edge of occupied habitat to a level that is not expected to adversely affect nesting bird behavior (i.e., not to exceed an hourly average of 60 A-weighted decibels (dBA) or ambient at the edge of occupied habitat).

Impacts to potentially suitable and contiguous habitat for least Bell's vireo and nesting least Bell's vireo (**Impact BIO-8**) would be mitigated by **MM-BIO-6**:

MM-BIO-6 Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall delineate least Bell's vireo occupied habitat by orange biological fencing or comparable to avoid direct impact to vireo within occupied habitat located adjacent to the

proposed project during the breeding season (March 15 to September 15). In addition, a minimum 300-foot buffer and on-site noise reduction/attenuation techniques shall be incorporated, as appropriate to avoid impacts to breeding vireo from elevated construction noise levels. The City Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. Noise monitoring may be required to ensure that the elevated construction noise levels are appropriately attenuated at the edge of occupied habitat to a level that is not expected to adversely affect nesting bird behavior (i.e., not to exceed an hourly average of 60 dBA or ambient at the edge of occupied habitat).

Impacts to nesting birds protected under MBTA and CDFG Code Sections 3503 and 3513 (**Impact BIO-10**) would be mitigated by **MM-BIO-7**:

MM-BIO-7 To avoid any direct impacts to migratory birds and/or raptors protected under the federal Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3513, removal of habitat that supports active nests on the proposed area of disturbance should occur outside of the breeding season for these species. The breeding season is defined as January 15–August 31 for raptor species and February 15–August 15 for other non-raptor birds (excluding listed species). If removal of habitat on the proposed area of disturbance must occur during the breeding season, then prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds (including burrowing owl) on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and the results must be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan, as deemed appropriate by the City, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities are avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's mitigation monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

To reduce potential impacts to burrowing owl during construction, the City-approved biologist shall perform pre-construction inspection of potential habitat, and, at minimum, twice weekly inspections be performed while rough grading is ongoing. All pre-construction survey efforts shall be conducted prior to any project activities that could result in habitat disturbance to soil, vegetation or other sheltering habitat for burrowing owl. If any burrowing owls or sign of burrowing owls are detected, the Wildlife Agencies (jointly, CDFW and USFWS) shall be contacted; efforts shall be made to determine the breeding status of the species on site, and whether it is safe at that point to exclude burrowing owls from occupied burrows. Active or passive relocation methods shall only be employed with concurrence by CDFW and USFWS.

The Applicant shall implement mitigation measures **MM-BIO-4 to MM-BIO-6** above and the following mitigation measures (**MM-BIO-8 to MM-BIO-11**) to further reduce indirect impacts including edge effects (**Impact BIO-12**) in accordance with the City's MSCP Adjacency Guidelines:

MM-BIO-8 Prior to approval of the first final map, the Applicant shall submit a Landscape Master Plan for the entire project which shall demonstrate compliance with the proposed fence and wall plan for the project. The proposed fence and wall plan shall include appropriate fencing and barriers (e.g., vegetation) where applicable to shield human presence and deter human intrusion into the Preserve.

MM-BIO-9 Concurrent with design review and prior to issuance of a building permit for any development located adjacent to the Preserve, the Applicant shall prepare, a lighting plan and photometric analysis for review and approval the Development Services Director (or their designee). The lighting plan shall illustrate the location of the proposed lighting standards and type of shielding measures. Low-pressure sodium lighting shall be used, if feasible, and shall be subject to the approval of the Development Services Director (or their designee).

MM-BIO-10 Prior to approval of the first final map, the Applicant shall submit a Landscape Master Plan for the entire project which shall demonstrate compliance with the proposed plant palette for the project. The proposed plant palette shall prohibit invasive non-native plant species on the California Exotic Pest Plant Council List of Exotic Pest Plants of Greatest Ecological Concern in California that could spread into the adjacent Preserve. No invasive non-native plant species shall be introduced into areas immediately adjacent to the preserve. All slopes immediately adjacent to the Preserve shall be planted with native species that reflect the adjacent native habitat. Further, the proposed plant palette shall be consistent with the plant list contained in the "Wildland/Urban Interface: Fuel Modification Standards," and provided as Appendix L of the Subarea Plan, must be reviewed and utilized to the maximum extent practicable when developing landscaping plans in areas adjacent to the Preserve.

MM-BIO-11 To avoid habitat degradation to the adjacent Preserve lands, project irrigation shall be contained to the project development and fuel modification zones and shall not drain or overspray resulting in potential erosion/sedimentation, spread of invasive plant species, and/or non-native species such as Argentine ants.

Inadvertent direct impacts to biological resources (**Impacts BIO-5, BIO-11, and BIO-12**) would be mitigated with implementation of **MM-BIO-12 and MM-BIO-13**:

MM-BIO-12 Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall demonstrate how the project would avoid or minimize applicable inadvertent impacts during construction. To ensure the avoidance and minimization of impacts to biological resources during construction the following construction BMPs shall be implemented:

a) Prior to ground disturbance, all permanent and temporary disturbance areas shall be clearly delineated by orange construction fencing and the identification of environmentally sensitive areas with flagging and/or fencing.

b) To minimize disturbance of areas outside the project site, all construction and operation vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas shall be included in pre-construction surveys and, to the extent possible, shall be established in locations disturbed by previous activities to prevent further impacts.

c) Construction and operation vehicles shall observe appropriate safe speed limits and adhere to safety practices.

d) Dust suppression shall occur during construction activities when necessary to meet air quality standards and protect biological resources.

e) No vehicles or equipment shall be refueled or undergo maintenance within 100 feet of a jurisdictional waters feature. Spill kits shall be maintained on the site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles

driven or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of contaminated fluids.

f) All general trash, food-related trash items (wrappers, cans, bottles, food scraps, cigarettes, etc.), and other human-generated debris scheduled to be removed shall be stored in animal-proof containers and removed from the site on a regular basis (weekly during construction, and at least monthly during operations). No deliberate feeding of wildlife shall be allowed.

g) Use of chemicals, fuels, lubricants, or biocides shall comply with all local, state, and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation. Use of first-and second- generation rodenticides shall not be permitted except for the limited use of zinc phosphide, or a rodenticide approved by the City, and only after other means of pest control (e.g. rodent traps) have proven to be ineffective.

MM-BIO-13 Prior to issuance of a grading permit, prior to vegetation clearing, grubbing, grading, or any ground disturbing activities, the Applicant shall submit evidence to the City that the Applicant has retained qualified biologists to prepare a Worker Environmental Awareness Program that shall be presented to all construction personnel and employees before any ground-disturbing activities commence at the project site and shall be continued through the construction phase for all new construction personnel. The program shall consist of a brief presentation going over the on-site sensitive biological resources and compliance with project impact and open space boundaries, and applicable environmental laws and requirements with all personnel involved in the project. This presentation shall explain to construction personnel how best to avoid impacts sensitive resources during construction. The program shall include a description of all special status species potentially on the project site and their habitat needs; an explanation of the status of the species and their protection under the state and federal regulations; specific mitigation measures applicable to listed and other special status species; permit conditions, and the penalties for violation of applicable laws. The program shall also explain to construction personnel how to avoid impacts to jurisdictional waters, including wetlands. The program shall include a map and description of jurisdictional waters on the site to be avoided and measures to implement to ensure the protection and avoidance of jurisdictional waters.

Temporary impacts to the Minor Amendment Area (**Impact BIO-15**) would require implementation of the following mitigation measure:

MM-BIO-14 Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall prepare a revegetation plan for the temporary impact areas within the 25-foot grading buffer in the Minor Amendment Area that utilizes a native erosion control hydroseed mix acceptable to the City and the Wildlife Agencies (U.S. Fish and Wildlife Service and California Department of Fish and Wildlife) to ensure soil stability and prevent subsequent erosion. The revegetation plan must be prepared by a qualified City approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project Applicant shall be required to prepare and implement the revegetation plan subject to the oversight and approval of the Development Services Director (or their designee).The proposed project MSCP BLA and Minor Amendment would require implementation of the following mitigation measure:

MM-BIO-15 Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall receive approval by the City and Wildlife Agencies for the MSCP BLA. The Applicant shall be required to implement conditions associated with the BLA subject to the oversight and approval of the Development Services Director (or their designee).

MM-BIO-16 Prior to initiating any construction related activities requiring a clearing and grubbing or grading permit, the Applicant shall receive approval by the City and Wildlife Agencies for the MSCP Minor Amendment. The Applicant shall be required to implement conditions associated with the Minor Amendment subject to the oversight and approval of the Development Services Director (or their designee).

Table 5.3-11. Project Habitat Mitigation Ratios and Acreages

Vegetation Type	MSCP Tier Habitat Type	Total on Site (Acres)	Proposed On-Site and Off-Site Impacts (Acres)					Mitigation Ratio	Required Project Mitigation (Acres)			Available in Existing Preserve for On-Site Mitigation (Acres)	Proposed On-Site Habitat Mitigation/ Surplus Preserved Habitat (Acres)
			Inside Preserve		*Outside Preserve*				*Impact Inside Preserve*	*Impact Outside Preserve*	*Total*		
			Perm	*Temp*	*Perm*	*Temp*	*Total*						
Southern willow scrub	Wetland	2.06	0.00	0.00	0.00	0.00	0.00	1:1 to 2:1	0.00	0.00	0.00	1.14	N/A
Mule fat scrub	Wetland	0.03	0.00	0.00	0.00	0.00	0.00	1:1 to 2:1	0.00	0.00	0.00	0.03	N/A
Coastal and valley freshwater marsh	Wetland	7.66	0.00	0.00	0.00	0.00	0.00	1:1 to 2:1	0.00	0.00	0.00	6.31	N/A
Native grassland	I	24.09	3.22	0.18	4.22	0.17	7.79	2:1 (Impact Inside Preserve) 1:1 (Impact Outside Preserve)	6.80	4.39	11.19	15.98	**11.19** (Existing Preserve)/ **4.79** (Surplus)
Diegan coastal sage scrub	II	37.08	2.24	0.39	5.15	0.77	8.55	1:5:1 (Impact Inside Preserve) 1:1 (Impact Outside Preserve)	3.94	5.92	9.86	21.83	**9.86** (Existing Preserve)/ **11.97** (Surplus)
Non-native grassland	III	64.19	1.66	0.10	49.62	3.63	55.01	1:1 (Impact Inside Preserve) 0.5:1 (Impact Outside Preserve)	1.76	26.62	28.38	8.55	8.55 (NNG Existing Preserve) and 16.76 (NG & DCSS Existing Preserve), and 3.07 (NNG Proposed Preserve)
Non-native vegetation	IV	0.53	0.00	0.00	0.02	0.00	0.02	N/A	0.00	0.00	0.00	0.00	0.00
Urban/developed	N/A	0.06	0.00	0.00	0.00	0.01	0.01	N/A	0.00	0.00	0.00	0.00	0.00
	Total	**135.70**	**7.12**	**0.67**	**59.01**	**4.58**	**71.38**	**N/A**	**12.50**	**36.93**	**49.43**	**54.33**	**46.36** (Existing Preserve) **3.07** (Proposed Preserve)

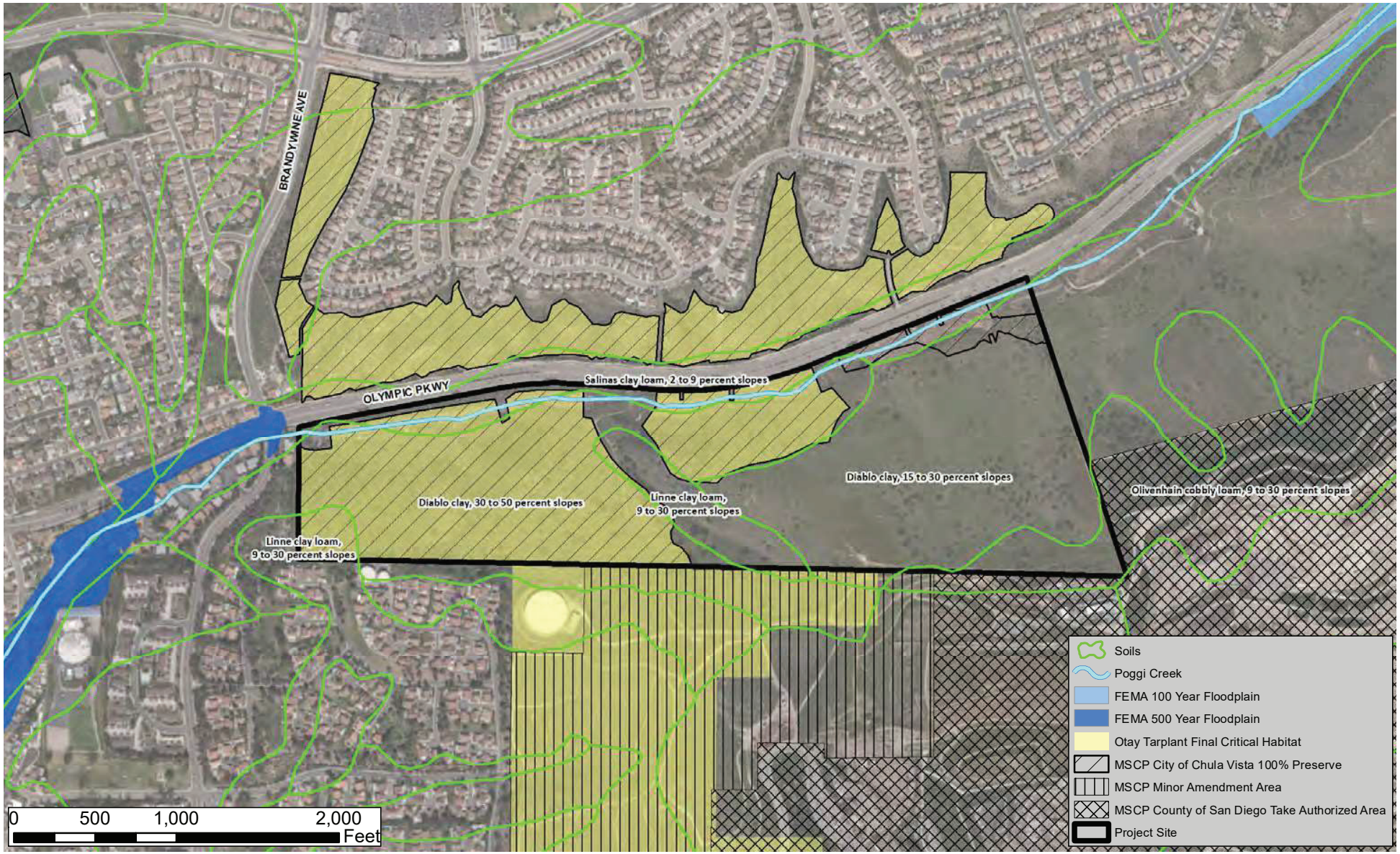
Source: Appendix D.
Notes: MSCP = Multiple Species Conservation Program; N/A = not applicable; NG = native grassland; NNG = non-native grassland; DCSS = Diegan coastal sage scrub.

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5.3.6 Level of Significance After Mitigation

The mitigation measures listed in Section 5.3.5 would reduce potential impacts associated with biological resources to a **less-than-significant** level.

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SOURCE: Merkel & Associates 2020

FIGURE 5.3-1

Local Environmental Setting Map

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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Vegetation Communities

- Coastal and Valley Freshwater Marsh
- Southern Willow Scrub
- Mule Fat Scrub
- Diegan Coastal Sage Scrub
- Native Grassland
- Non-native Grassland
- Non-native Vegetation
- Urban/Developed
- Waters of the State (RWQCB)/Streambed (CDFW)

Special Status Species (Numbers Provided Indicate Total Observed On-site for Each Species)

Special Status Flora

- Otay Tarplant *(Deinandra conjugens)* - 5,449
- Decumbent Goldenbush *(Isocoma menziessii var. decumbens)* - 803
- Orcutt's Bird's-beak *(Dicranostegia orcuttianus)* - 911
- Ashy Spike-moss *(Selaginella cinerascens)* - 2
- Coast Barrel Cactus *(Ferocactus viridescens)* - 2
- Palmer's Sagwort *(Artemisia palmeri)* - 44
- San Diego County Needlegrass *(Stipa diegoense)* - 10
- San Diego County Viguiera *(Bahiopsis laciniata)* - 7,647
- San Diego Bursage *(Ambrosia chenopodifolia)* - 24
- San Diego Marsh Elder *(Iva hayesiana)* - 816
- Small-flowered Bindweed *(Convolvulus simulans)* - 91
- Southwestern Spiny Rush *(Juncus acutus ssp. leopoldii)* - 750

Special Status Fauna

- Coastal California Gnatcatcher *(Polioptila californica californica)* - 2
- Least Bell's Vireo *(Vireo belli pusillus)* - 1
- Nuttall's Woodpecker *(Picoides nuttallii)* - 1
- Yellow Breasted Chat *(Icteria virens)* - 3
- Yellow Warbler *(Dendroica petechia)* - 5
- Orange-throated Whiptail *(Aspidoscelis hyperythra)* - 1
- Two-striped Garter Snake *(Thamnophis hammondii)* - 1

Flyover Only

- Cooper's Hawk *(Accipiter cooperii)*
- White-tailed Kite *(Elanus leucurus)*
- Northern Harrier *(Circus cyaneus)*

Other

- MSCP City of Chula Vista 100% Preserve
- 50ft Offsite Mapping Buffer
- Project Site

0 150 300 600 Feet

OLYMPIC PKWY

SOURCE: Merkel & Associates 2020

FIGURE 5.3-2

Biological Resources Map

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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Jurisdictional Habitats
- Coastal and Valley Freshwater Marsh
- Southern Willow Scrub
- Mule Fat Scrub
- Waters of the State (RWQCB)/Streambed (CDFW)

Jurisdictions
- ACOE, CDFW, RWQCB
- CDFW Only
- RWQCB Only
- Wetland (ACOE) Sampling Point
- Water (RWQCB) Sampling Point
- Upland Sampling Point
- Map Reference Point
- Aquatic Resource Delineation Survey Area
- 50ft Offsite Mapping Buffer

0 150 300 600 Feet

32.61087, -117.01285

32.60602, -117.02735

OLYMPIC PKWY

DP1 DP2 DP3 DP4 DP5 DP6 DP7 DP8 DP9

SOURCE: Merkel & Associates 2020

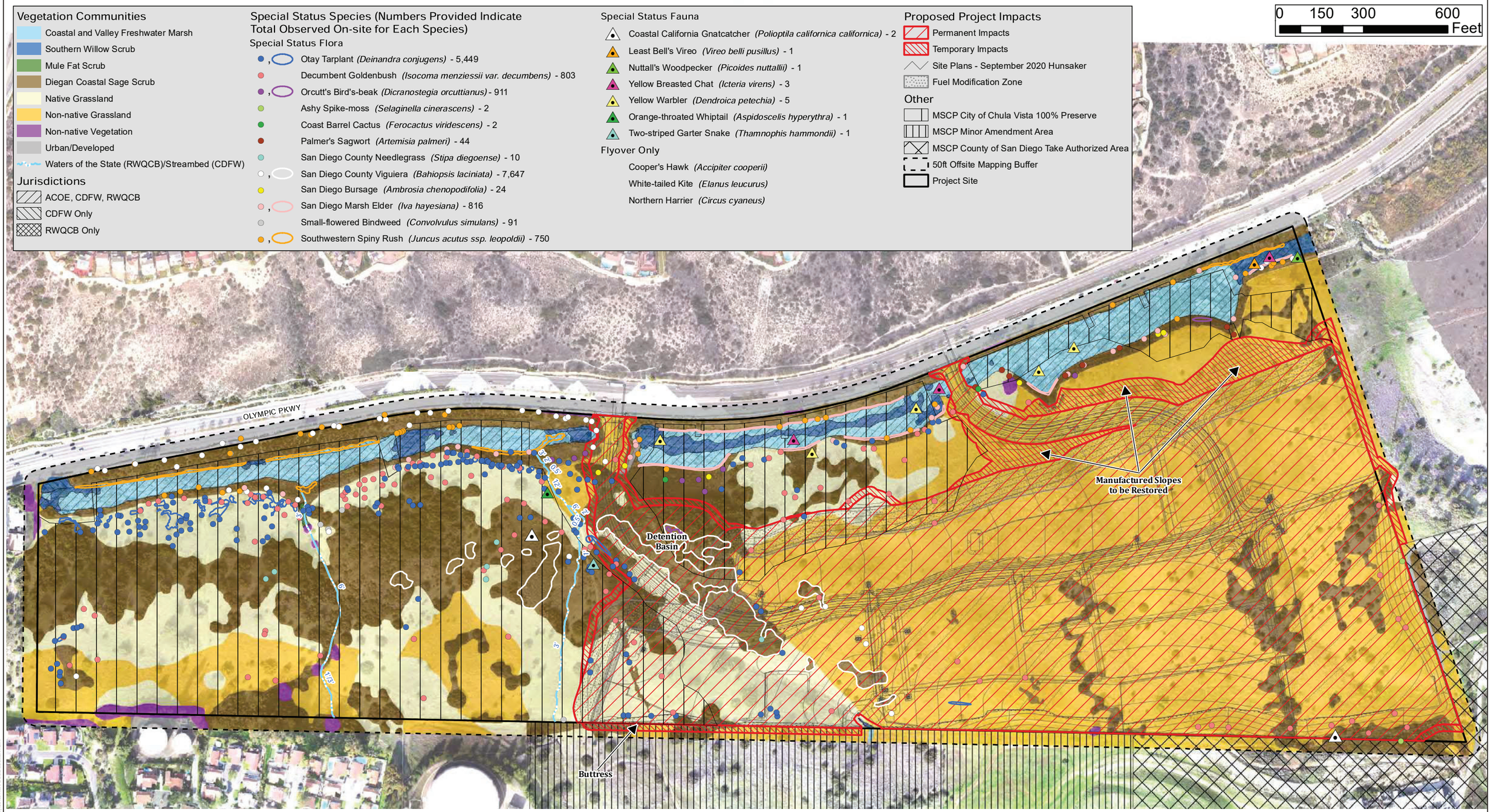
FIGURE 5.3-3

Wetland Delineation Map

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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SOURCE: Merkel & Associates 2020

FIGURE 5.3-4

Biological Impacts Map

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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Vegetation Communities

- Coastal and Valley Freshwater Marsh
- Southern Willow Scrub
- Mule Fat Scrub
- Diegan Coastal Sage Scrub
- Native Grassland
- Non-native Grassland
- Non-native Vegetation
- Urban/Developed
- Waters of the State (RWQCB)/Streambed (CDFW)

Special Status Species (Numbers Provided Indicate Total Observed On-site for Each Species)

Special Status Flora

- Otay Tarplant *(Deinandra conjugens)* - 5,449
- Decumbent Goldenbush *(Isocoma menziessii var. decumbens)* - 803
- Orcutt's Bird's-beak *(Dicranostegia orcuttianus)* - 911
- Ashy Spike-moss *(Selaginella cinerascens)* - 2
- Coast Barrel Cactus *(Ferocactus viridescens)* - 2
- Palmer's Sagwort *(Artemisia palmeri)* - 44
- San Diego County Needlegrass *(Stipa diegoense)* - 10
- San Diego County Viguiera *(Bahiopsis laciniata)* - 7,647
- San Diego Bursage *(Ambrosia chenopodifolia)* - 24
- San Diego Marsh Elder *(Iva hayesiana)* - 816
- Small-flowered Bindweed *(Convolvulus simulans)* - 91
- Southwestern Spiny Rush *(Juncus acutus ssp. leopoldii)* - 750

Special Status Fauna

- Coastal California Gnatcatcher *(Polioptila californica californica)* - 2
- Least Bell's Vireo *(Vireo belli pusillus)* - 1
- Nuttall's Woodpecker *(Picoides nuttallii)* - 1
- Yellow Breasted Chat *(Icteria virens)* - 3
- Yellow Warbler *(Dendroica petechia)* - 5
- Orange-throated Whiptail *(Aspidoscelis hyperythra)* - 1
- Two-striped Garter Snake *(Thamnophis hammondii)* - 1

Flyover Only

- Cooper's Hawk *(Accipiter cooperii)*
- White-tailed Kite *(Elanus leucurus)*
- Northern Harrier *(Circus cyaneus)*

Other

- MSCP City of Chula Vista 100% Preserve
- MSCP Minor Amendment Area
- MSCP County of San Diego Take Authorized Area
- MSCP Proposed Preserve (Hunsaker September 2020)
- MSCP Proposed Preserve Habitat Restoration
- Site Plans - September 2020 Hunsaker
- 50ft Offsite Mapping Buffer
- Project Site

0 150 300 600 Feet

Mapping Correction

OLYMPIC PKWY

Detention Basin

SOURCE: Merkel & Associates 2020

FIGURE 5.3-5

MSCP Preserve BLA Map

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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5.4 Cultural and Tribal Cultural Resources

This section of the environmental impact report (EIR) addresses potential impacts to cultural and tribal cultural resources resulting from the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). The discussion in this section is based on the Negative Cultural and Paleontological Resources Inventory Report for the project, prepared for the project by Dudek (Appendix E).

5.4.1 Existing Conditions

5.4.1.1 Regulatory Framework

Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) (16 United States Code (USC) 470 et seq.) establishes the nation's policy for historic preservation and a program for the preservation of historic properties by requiring federal agencies to consider effects to significant cultural resources (e.g., historic properties) prior to undertakings, which includes a project, activity, or program either funded, permitted, licenses, or approved by a federal agency.

Section 106 of the NHPA requires federal agencies to consider the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places (NRHP)). It also gives the Advisory Council on Historic Preservation and the state historic preservation offices an opportunity to consult. Federal agencies issuing permits for the proposed project will be required to comply with NHPA requirements.

Executive Order 11593, "Protection and Enhancement of the Cultural Environment"

Executive Order 11593 (36 Federal Register 8921) (1) orders the protection and enhancement of the cultural environment through requiring federal agencies to administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations; (2) initiates measures necessary to direct their policies, plans, and programs in such a way that federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people; and (3) in consultation with the Advisory Council on Historic Preservation, institutes procedures to ensure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance (16 USC 470-1).

National Register of Historic Places

The NRHP is the nation's official list of historic places. The register is overseen by the National Park Service and requires that a property or resource eligible for listing in the register meet one or more of the following four criteria at the national, state, or local level to ensure integrity and obtain official designation:

- The property is associated with events that have made a significant contribution to the broad patterns of our history.
- The property is associated with the lives of persons significant to our past. Eligible properties based on this criterion are generally those associated with the productive life of the individual in the field in which the person achieved significance.

- The property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components lack individual distinction.
- The property has yielded, or is likely to yield, information important to prehistory or history.

In addition to meeting at least one of these four criteria, listed properties must also retain sufficient physical integrity of those features necessary to convey historic significance. The register has identified the following seven aspects of integrity: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association.

Properties are nominated to the register by the state historic preservation officer of the state in which the property is located, by the federal preservation officer for properties under federal ownership or control, or by the tribal preservation officer if on tribal lands. Listing in the NRHP provides formal recognition of a property's historic, architectural, or archaeological significance based on national standards used by every state. Once a property is listed in the NRHP, it becomes searchable in the NRHP database of research information. Documentation of a property's historic significance helps encourage preservation of the resource.

State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that all private and public activities not specifically exempted be evaluated for the potential to impact the environment, including effects to historical resources. Historical resources are recognized as part of the environment under CEQA. It defines historical resources as "any object, building, structure, site, area, or place, which is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (Division I, Public Resources Code, Section 5021.1(b)).

Lead agencies have a responsibility to evaluate historical resources against the California Register of Historical Resources (CRHR) criteria prior to making a finding as to a proposed project's impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change. Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. While demolition and destruction are fairly obvious significant impacts, it is more difficult to assess when change, alteration, or relocation crosses the threshold of substantial adverse change. The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource's significance.

The CRHR is used in the consideration of historic resources relative to significance for purposes of CEQA. The CRHR includes resources listed in, or formally determined eligible for, some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise.

Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR (California Public Resources Code Section 5024.1; Title 14 California Code of Regulations [CCR], Section 4852) consisting of the following:

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; or
2. It is associated with the lives of persons important to local, California, or national history; or

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; or
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.

A "unique" archaeological resource, as defined by the California Public Resources Code Section 21083.2, may be considered significant under CEQA. If a significant archaeological resource is identified, defined mitigation would be appropriately implemented. As used in this section, "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

CEQA was amended in 2014 through Assembly Bill (AB) 52, which created a new category of "tribal culture resources" that must be considered under CEQA, and applies to all projects that file a Notice of Preparation or notice of negative declaration or mitigated negative declaration on or after July 1, 2015. AB 52 requires lead agencies to provide notice to and begin consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of a project if that tribe has requested, in writing, to be kept informed of projects by the lead agency prior to the determination whether a negative declaration, mitigated negative declaration, or environmental impact report will be prepared. If a tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. AB 52 also specifies mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. Specifically, California Public Resources Code Section 21074 provides the following guidance:

(a) Tribal Cultural Resources are either of the following:
    (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
        (A) Included or determined to be eligible for inclusion in the California Register of Cultural Resources.
        (B) Included in a local register of cultural resources as defined in subdivision (k) of §5020.1.
    (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of §5024.1. In applying the criteria set forth in subdivision (c) of §5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

In the event that Native American human remains or related cultural material are encountered, Section 15064.5(e) of the state CEQA Guidelines (as incorporated from California Public Resources Code Section 5097.98) and Health and Safety Code Section 7050.5 define the subsequent protocol. In the event of the accidental discovery or recognition of any human remains, excavation or other disturbances shall be suspended of the site or any nearby area reasonably suspected to overlie adjacent human remains or related material. Protocol requires that a county-approved coroner be contacted in order to determine if the remains are of Native American origin. Should the coroner determine the remains to be Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in California Public Resources Code Section 5097.98 (14 CCR 15064.5[e]).

Senate Bill 18

SB 18, approved in 2004, amends the California Civil Code and the California Government Code, requiring cities and counties to contact and consult with California Native American tribes prior to adopting or amending any general plan or specific plan, or designating land as open space in order to preserve or mitigate impacts to specified Native American places, features and objects that are located within the city's or county's jurisdiction. SB 18 also requires cities and counties to hold in strict confidence any information about the specific identity, location, character or use of these resources. In 2005, OPR published Tribal Consultation Guidelines to guide cities and counties on the process of engaging in consultation in accordance with SB 18. The NAHC maintains a list of California Native American Tribes with whom cities and counties must consult pursuant to SB 18.

Local

City of Chula Vista Historic Designation Ordinance

The City of Chula Vista Historic Designation Ordinance (Title 21, Chula Vista Municipal Code (CVMC) Section 21.04.100) (CVMC 2011) establishes general standards by which the Historical Significance of a Historical Resource is judged as eligible for designation:

1. A Resource is at least 45 years old; and
2. A Resource possesses historical Integrity defined under the CVMC §21.04.100 (discussed below) and the resource is determined to have historical significance by meeting at least one of the following criteria:
    1. It is associated with an event that is important to prehistory or history on a national, state, regional, or local level.
    2. It is associated with a person or persons that have made significant contributions to prehistory or history on a national, state or local level.
    3. It embodies those distinctive characteristics of a style, type, period, or method of construction, or represents the work of a master or important creative individual, and/or possesses high artistic values.
    4. It is an outstanding example of a publicly owned Historic Landscape, that represents the work of a master landscape architect, horticulturalist, or landscape designer, or a publicly owned Historical Landscape that has potential to provide important information to the further study of landscape architecture or history.
    5. It has yielded or may be likely to yield information important in prehistory or the history of Chula Vista, the state, region, or nation.

Additionally, the designation of an exceptional historical resource may be considered only if:

1. The Historic Preservation Committee (HPC) considered and makes a recommendation to the Council; and
2. It has been demonstrated through expert technical analysis and verifiable evidence that all of the following findings of fact are made:
   a. The resource meets criteria and the findings of fact for designation found in subsections (A)(1) and (A)(2) of this section; and
   b. The resource is the best representative sample of its kind or the last of its kind; and
   c. The resource is an exceptionally important component of the City's history and loss or impairment of the resource would be detrimental to the City's heritage; and
3. Four-fifths vote of the Council vote to designate the resource as an exceptional historical resource.

City of Chula Vista Historic Preservation Program

The City's Historic Preservation Program (HPP) establishes a screening process for determining historical significant of potential historical resources that are 45 years or older, that have not previously been surveyed or designated as historic, and that are proposed for alteration or demolition (City of Chula Vista 2011). The HPP is intended to be a resource document that will educate and inform the user on the City's goals, policies, and procedures for preservation of historical resources and may be used for all preservation activities in the City. The HPP provides the following:

1. Provides user-friendly preservation guides and procedures for both city staff and members of the public.
2. Establish consistency between historic preservation goals and land-use policies by incorporating a historical significance review process and Certificate of Appropriateness permit process for historical resources into the building permit and discretionary project review process.
3. Adopt a more detailed Historic Preservation Ordinance that provides clear and easy to follow processes and procedures and complies with the requirements for Certified Local Government (CLG) status.
4. Attain and maintain CLG status.
5. Establish process and procedures for the identification and survey of historical resources.
6. Provide reference and technical assistance for preservation activities.
7. Utilize the State Historical Building Code.
8. Encourage the use of the Secretary of the Interior Standards for Treatment of Historical Properties: Preservation, Rehabilitation, Restoration, and Reconstruction.

City of Chula Vista General Plan – Environmental Element

The Environmental Element of the City of Chula Vista General Plan (Chapter 9, Section 3.1.9) (City of Chula Vista 2005) specifically addresses potential impacts to cultural resources and outlines policies to mitigate negative impacts. The objective and policies protecting cultural and historical resources are outlined below:

- **Objective E-9:** Protect Chula Vista's important cultural resources and support and encourage their accessibility to the public
- **Policy E-9.1:** Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to cultural resources, in accordance with the California Environmental Quality Act.

- **Policy E-9.2:** Support and encourage the accessibility of Chula Vista's important cultural resources to the public for educational; religious; cultural; scientific; and other purposes, including the establishment of museums and facilities accessible to the public, where such resources can be appropriately studied, exhibited, curated, etc.
- **Policy E-9.3:** Discourage disruption, demolition, and other negative impacts to historic cultural resources.

5.4.1.2 Existing Cultural Setting

Prehistoric and Ethnohistoric Periods

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC.–AD 500), Late Prehistoric (AD 500–1750), and Ethnohistoric (post-AD 1750). A detailed discussion on the prehistoric and ethnohistoric periods are available in Appendix E.

NAHC Sacred Lands File Search and Outreach

Dudek requested a Native American Heritage Commission (NAHC) search of the Sacred Lands File on April 8, 2020, for Traditional Cultural Properties or Sacred Sites that have been identified to be within the proposed project's APE (Appendix E). The Sacred Lands file search found no Native American cultural resources within a one-half mile distance of the proposed project area. The NAHC additionally provided a list of Native American tribes and individuals/organizations that might have knowledge of cultural resources in this area.

Following the NAHC response, letters were sent to NAHC-listed tribal representatives with the intent of requesting information, opinions or concerns relating to the proposed project impacts (Appendix E). These letters contained a brief description of the planned project, reference maps, and a summary of the NAHC Sacred Lands File search results.

On April 27, 2020, Dudek archaeologist, Jessica Colston, sent an Information Request letter to John Christman (Viejas Band of Kumeyaay Indians), John Flores (San Pasqual Band of Diegueno Mission Indians), Michael Garcia (Ewiiaapaayp Tribe), Ralph Goff (Campo Band of Diegueno Mission Indians), Allen E. Lawson (San Pasqual Band of Diegueno Mission Indians), Clint Linton (Ipay Nation of Santa Ysabel), Michael Linton (Mesa Grande Band of Dieguneo Mission Indians), Carmen Lucas (Kwaaymii Laguna Band of Mission Indians), Cody Martinez (Sycuan Band of the Kumeyaay Nation), Javaughn Miller (La Posta Band of Diegueno Mission Indians), Kristi Orosco (Sycuan Band of the Kumeyaay Nation), Rebecca Osuna (Inaja-Cosmit Band of Indians), Gwendolyn Parada (La Posta Band of Diegueno Mission Indians), Virgil Perez (Iipay Nation of Santa Ysabel), Ernest Pingleton (Viejas Band of Kumeyaay Indians), Erica Pinto (Jamul Indian Village), Robert Pinto (Ewiaapaayp Tribe), Edwin (Thorpe) Romero (Barona Group of the Capitan Grande), and Angela Elliott Santos (Manzanita Band of Kumeyaay Nation). No responses to these outreach attempts have been received to date. The lead agency will be provided with any responses should they be received from tribal representatives.

Tribal Consultation

The proposed project is also subject to compliance with AB 52 (California Public Resources Code Section 21074) which requires consideration of impacts to "tribal cultural resources" as part of the CEQA process. AB 52 requires the City, lead agency responsible for CEQA compliance for the proposed project, to notify any groups (who have requested notification) of the proposed project who are traditionally or culturally affiliated with the geographic area of the project. Because AB 52 is a government-to-government process, all records of correspondence related to AB 52 notification and any subsequent consultation are on file with the City.

SB 18 requires the City to contact and consult with California Native American tribes prior to adopting or amending any general plan or specific plan, or designating land as open space in order to preserve or mitigate impacts to specified Native American places, features and objects that are located within the city's or county's jurisdiction. On December 14, 2020, the City sent notification letters pursuant to SB 18 to tribes listed on the NAHC contact list. To date, one response from the San Pasqual Band of Mission Indians has been received, which deferred consultation to other tribes and recommended the consideration of Native American monitoring. Consultation with Native American tribes is ongoing.

Records Search and Previous Cultural Resource Investigations

Dudek conducted a California Historical Resources Information System records search through the South Coastal Information Center (SCIC) database on April 2, 2020, for the proposed project and a 1-mile search buffer surrounding the project. This search included their collection of mapped prehistoric, historical and built-environment resources, Department of Parks and Recreation (DPR) Site Records, technical reports, archival resources, and ethnographic references. Additional consulted sources included the National Register of Historic Places, California Inventory of Historical Resources/CRHR and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, California Historical Landmarks, and Caltrans Bridge Survey information.

Survey Methods

Dudek Archaeologists Patrick Hadel, Jessica Colston, and Loukas Barton conducted a pedestrian survey of the APE for cultural resources on April 11, 2020. Areas throughout the APE were inspected at 10- and 15-meter transects. Archaeological survey exceeded the applicable Secretary of Interior Professional Qualifications Standards for archaeological survey and evaluation. Areas with a slope exceeding 25% are avoided as a matter of safety. The survey crew was equipped with a GPS receiver. Location-specific photographs were taken using an Apple 3rd Generation iPad equipped with 8 MP resolution and georeferenced PDF maps of the proposed project area. Accuracy of this device ranged between 3 meters and 10 meters. Evidence for buried cultural and paleontological deposits was sought through inspection of natural or artificial erosion exposures and the spoils from rodent burrows.

Disturbances

All areas of the project site showed evidence of surface disturbances from disking/plowing activities, as indicated by the presence of furrows and irregular surface topography. Other areas have been previously subject to grading and other mechanical earth-work. All areas have been subject to natural erosion processes. The presence of numerous rodent burros throughout the site suggests that the site soils are likely heavily disturbed by wildlife. The exact depth and character of past disturbances is unclear, allowing for the possibility that deeper strata may have been unaffected. This indicates that undisturbed resources could be present.

Results

Archival Review – Cultural Resources

A records search conducted on April 2, 2020, resulted in a total of 68 reports within the 1-mile buffer, of which only 16 reports fall within the proposed project APE (Table 5.4-1). One of these (SD- 10448) outlines the study of impacts for a proposed pipeline through the middle of the proposed project APE. To date, only one intersecting report was available at the SCIC.

Table 5.4-1. Reports within the Proposed Project APE

Report No.	Year	Title	Publisher
SD-02690	1993	Final Cultural Resources Evaluation of the 23,088-Acre Otay Ranch, San Diego County	Ogden Environmental
SD-03625	1999	A Cultural Resources Study for the Olympic Parkway Project	The City of Chula Vista
SD-03625	1999	A Cultural Resources Study for the Olympic Parkway Project	The City of Chula Vista
SD-03726	1996	Archaeological Survey Report for the Otay Annex Landfill Project	Woodward-Clyde Consultants
SD-03824	2000	Cultural Resource Survey for the Proposed Olympic Parkway Project, City of Chula Vista, California	Kyle Consulting
SD-03824	2000	Cultural Resource Survey for the Proposed Olympic Parkway Project, City of Chula Vista, California	Kyle Consulting
SD-03950	1997	Cultural Resources Report for the Otay Annex Landfill Project	Gallegos and Associates
SD-04657	1992	Draft Program Environmental Impact Report, Otay Ranch	Ogden Environmental and Energy Services Co., Inc.
SD-06805	1987	Archaeological Overview and Planning Document for the Proposed Rancho Otay Project	TMI Environmental Services
SD-07163	1999	A Cultural Resources Study for the Olympic Parkway Project	Brian F. Smith
SD-07668	2001	Archaeological Mitigation of Impact to Prehistoric Site SDI-13864, Otay Ranch Village One West	Brian F. Smith & Assoc.
SD-07775	2000	A Report of an Archaeological Evaluation of Cultural Resources at the Otay Ranch Village Two SPA	Brian F. Smith and Associates
SD-10448	2005	Site Significance Evaluation of a Portion of Prehistoric Archaeological Site CA-SDI-17668 located along the Proposed Otay Water District, 30-Inch Recycled Water Pipeline Route, in the Otay River Valley, San Diego County, California	Mooney, Jones & Stokes
SD-10821	2007	Final Cultural Resources Mitigation Monitoring Report for the Otay Water District 30- Inch Recycled Water Pipeline San Diego County, California	Mooney, Jones & Stokes
SD-11502	1995	Results of an Archaeological Survey and the Evaluation of Cultural Resources at the Otay Ranch Sectional Planning Area One and Annexation Project	Brian F. Smith & Associates
SD-12397	2009	Archaeological Monitoring of the Otay Ranch Village 2 Project	Brian F. Smith & Associates

Source: Appendix E.
Note: APE = area of potential effect; SPA = Sectional Planning Area.

SD-12397

Report SD-12397 is a summary of the archaeological monitoring effort in support of the Otay Ranch Village 2 Project, an 855-acre parcel located immediately to the east of (but not overlapping) the current proposed project APE (Appendix E). Conducted by Brian F. Smith and Associates, from June 2006 to April 2007, the report summarizes recoveries at three archaeological sites and four cultural isolates. None of the monitoring discoveries were considered significant and the authors determined that construction of the Otay Ranch Village 2 Project would not induce an adverse effect on cultural resources and recommended that no further archaeological mitigation was necessary (Appendix E).

Archival Review – Cultural Resources found within the Project APE

The SCIC record search indicates that no cultural resources have been identified within the project APE. However, 82 cultural resources have been recorded within the 1-mile search buffer (Table 5.4-2). Of these, only 3 are historic resources, while 79 are prehistoric resources. The density of resources within this 1-mile buffer attests to the potential for buried resources within the proposed project APE, even though none have yet been identified (Appendix E).

Historic resources within the 1-mile buffer include the Otay Ranch Farm Complex (approximately 830 meters to the east of the current proposed project APE), a farmhouse at 5401 Main Street, and a structure mapped on the 1903 map. Of the 79 prehistoric resources already identified within the 1-mile buffer, there is evidence of four temporary camps, 27 light scatters of artifacts, most notably chipped stone, a single bedrock milling station, and 47 isolated artifacts that include simple flake tools, cores, millingstones, and pestles. Though the majority of these have not been fully evaluated, the nature and character of them attest to fairly light land-use patterns within the 1-mile buffer.

Table 5.4-2. Resource within Proposed Project Research Area (1-Mile Buffer)

Primary	Trinomial	Period	Description	CRHP Eligibility	Intersect?
37-008065	SDI-008065	Prehistoric	Lithic and artifact scatter	Potentially Eligible	No
37-008912	SDI-008912	Prehistoric	Artifact scatter	Potentially Eligible	No
37-010471	SDI-010471	Prehistoric	Artifact scatter	Potentially Eligible	No
37-010472	SDI-010472	Prehistoric	Lithic scatter	Potentially Eligible	No
37-010473	SDI-010473	Prehistoric	Artifact scatter	Potentially Eligible	No
37-010489	SDI-010489	Prehistoric	Lithic scatter	Potentially Eligible	No
37-011145	SDI-011145	Prehistoric	Lithic scatter	Potentially Eligible	No
37-011146	SDI-011146	Prehistoric	Lithic scatter	Potentially Eligible	No
37-011387	SDI-011387	Historic	Otay Ranch Farm Complex	Not Eligible	No
37-011968	SDI-011968	Prehistoric	Lithic scatter	Potentially Eligible	No
37-012289	SDI-012289	Prehistoric	Temporary Camp	Not Eligible	No
37-012290	SDI-012290	Prehistoric	Lithic scatter	Not Eligible	No
37-012292	SDI-012292	Prehistoric	Lithic scatter	Not Eligible	No
37-012293	SDI-012293	Prehistoric	Artifact scatter	Potentially Eligible	No
37-013226	SDI-013226	Prehistoric	Temporary camp	Not Eligible	No
37-013771	SDI-013776	Prehistoric	Bedrock milling	Potentially Eligible	No
37-013872	SDI-013862	Prehistoric	Lithic scatter	Potentially Eligible	No
37-013873	SDI-013863	Prehistoric	Lithic scatter	Potentially Eligible	No
37-013874	SDI-013864	Prehistoric	Lithic scatter	Not Eligible	No

Table 5.4-2. Resource within Proposed Project Research Area (1-Mile Buffer)

Primary	Trinomial	Period	Description	CRHP Eligibility	Intersect?
37-013875	SDI-013865	Prehistoric	Lithic scatter	Not Eligible	No
37-013876	SDI-013866	Prehistoric	Lithic scatter	Potentially Eligible	No
37-013877	SDI-013867	Prehistoric	Lithic scatter	Not Eligible	No
37-013878	SDI-013868	Prehistoric	Temporary camp	Potentially Eligible	No
37-014153	N/A	Prehistoric	Isolate – Flake and core	Not Eligible	No
37-014154	N/A	Prehistoric	Isolate – Millingstone	Not Eligible	No
37-014155	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-014156	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014157	N/A	Prehistoric	Isolate – Core	Not Eligible	No
37-014159	N/A	Prehistoric	Isolate – Simple Flake Tool and Flake	Not Eligible	No
37-014160	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-014161	N/A	Prehistoric	Isolate – Core	Not Eligible	No
37-014162	N/A	Prehistoric	Isolate – Core and flake	Not Eligible	No
37-014163	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-014164	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-014165	N/A	Prehistoric	Isolate – 2 Flakes	Not Eligible	No
37-014166	N/A	Prehistoric	Isolate – Retouched Flake Tool	Not Eligible	No
37-014167	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014168	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014178	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014179	N/A	Prehistoric	Isolate – 2 flakes	Not Eligible	No
37-014180	N/A	Prehistoric	Isolate – Core	Not Eligible	No
37-014181	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014182	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014183	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-014184	N/A	Prehistoric	Isolate – 2 Simple Flake Tools	Not Eligible	No
37-014185	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014186	N/A	Prehistoric	Isolate – 2 Simple Flake Tools	Not Eligible	No
37-014187	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-014188	N/A	Prehistoric	Isolate – 2 Flakes	Not Eligible	No
37-014189	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-014190	N/A	Prehistoric	Isolate – Simple Flake Tool and Flake	Not Eligible	No
37-014191	N/A	Prehistoric	Isolate – Pestle	Not Eligible	No
37-014192	N/A	Prehistoric	Isolate – Simple Flake Tools	Not Eligible	No
37-014193	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-014223	SDI-014055	Prehistoric	Temporary Camp	Potentially Eligible	No
37-014224	SDI-014056	Prehistoric	Artifact scatter	Potentially Eligible	No
37-014529	N/A	Prehistoric	Isolate – Core	Not Eligible	No
37-014542	SDI-014175	Prehistoric	Lithic Scatter	Potentially Eligible	No
37-014544	SDI-014177	Prehistoric	Lithic Scatter	Not Eligible	No

Table 5.4-2. Resource within Proposed Project Research Area (1-Mile Buffer)

Primary	Trinomial	Period	Description	CRHP Eligibility	Intersect?
37-014570	SDI-014203	Prehistoric	Artifact Scatter	Potentially Eligible	No
37-015009	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-015010	N/A	Prehistoric	Isolate – Core fragment	Not Eligible	No
37-015148	N/A	Prehistoric	Isolate – Simple Flake Tool	Not Eligible	No
37-015149	N/A	Prehistoric	Isolate – Core	Not Eligible	No
37-015231	N/A	Prehistoric	Isolate – Core	Not Eligible	No
37-015332	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-015333	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-015334	N/A	Prehistoric	Isolate – Assayed cobble and flake	Not Eligible	No
37-015335	N/A	Prehistoric	Isolate –Core and Flake	Not Eligible	No
37-015336	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-015525	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-015526	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-015975	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-025521	N/A	Historic	Farmhouse at 4501 Main St.	Potentially Eligible	No
37-026550	N/A	Historic	Structure mapped on 1903 map	Potentially Eligible	No
37-028497	SDI-014303	Prehistoric	Lithic Scatter	Potentially Eligible	No
37-030154	SDI-019219	Prehistoric	Lithic Scatter	Potentially Eligible	No
37-030158	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-030568	N/A	Prehistoric	Isolate – Flake	Not Eligible	No
37-030569	SDI-019432	Prehistoric	Lithic Scatter	Potentially Eligible	No
37-032800	SDI-020737	Prehistoric	Lithic Scatter	Potentially Eligible	No
37-032801	SDI-020738	Prehistoric	Lithic Scatter	Potentially Eligible	No

Source: Appendix E.
Notes: CRHP = California Register of Historical Places; N/A = not applicable.

Two previously recorded prehistoric artifact scatter sites, approximately 160 meters upslope from the proposed project APE, are reflective of the kinds of resources that may be encountered within the proposed project APE. These sites might also be subject to erosion and result in artifact drift downslope into the proposed project APE.

P-37-010471 (CA-SDI-10471)

This resource is a prehistoric artifact scatter found immediately upslope of the proposed project APE, on the adjacent property to the south. The site measures roughly 45 meters in diameter. The site consists of moderate amounts of large tools, cores, and flakes, as documented by Fink in 1973. A representative surface collection of the tools was taken. The area had been recently burned; therefore, the presence of midden soils was impossible to determine.

P-37-010473 (CA-SDI-10473)

This resource is a prehistoric artifact scatter, consisting of large flakes, tools, cores situated on the crest of the southern side of Poggi Canyon, upslope from the project's southern boundary. The site measures approximately 32 meters in diameter. This site was heavily surface collected during recordation by Fink in 1974 and was subjected

to subsurface testing at that time. The shovel test pits yielded no subsurface component. The interpretation was that this site constituted as surface scatter of a San Dieguito III lithic workshop.

Aerial Imagery Analysis

A review of historic aerial imagery for the proposed project APE extends back to 1953 (Appendix E) with photos present from 1953, 1964, 1966, 1968, 1971, 1981, 1989, 1994, 1996, 2002, 2003, 2005, 2009, 2010, 2012, 2014, and 2016. The aerial imagery showed that for the vast majority of the proposed project APE, no development of the property had been on site from the earliest aerial image in 1953. The proposed project APE is located at the western end of Poggi Canyon, occupying the southern slope. The construction of Olympic Parkway along the northern border of the proposed project APE began as a small dirt road visible in the 1953 photo but was paved as a split lane highway between 1996 and 2002. The addition of the median and development of Olympic Parkway also impacted the project APE with improvements related to Poggi Creek running parallel to Olympic Parkway. The proposed project APE includes the culvert as well as engineered animal crossing overpasses with surface vegetation. This impact runs along the northern 40 feet of the proposed project APE. From at least the early 1960s, the eastern section of the proposed project APE has been subject to cultivation as indicated by patterns of mechanical plowing; this practice appears to have ended in the 1980s. Historic topographic maps consulted were from 1904, 1908, 1911, 1915, 1920, 1928, 1932, 1941, 1943, 1955, 1960, 1962, 1977, 2002, 2012, 2015, and 2018. The topographical maps show the current location of the landfill to have been a historic borrow pit, as early as 1904, with continuous use into the present.

Survey Results

The intensive pedestrian survey of the APE, conducted April 11, 2020, identified no new cultural resources within the current APE limits. Visibility was overwhelmingly obscured by vegetation, allowing for less than one-third of the ground surface to be viewed in many areas. In addition, the westernmost sector of the project site was inaccessible due to the presence of an active, inhabited homeless camp located within the proposed open space and the MSCP Preserve area. Fortunately, this section of the project site is not scheduled for either grading or residential development. Across the proposed project site, surface visibility was confined to scattered exposures near stands of lemonade berry (*Rhus integrifolia*), gopher and ground squirrel burrow spoils, and to a series of recently graded roadways. Several different vegetation communities have been identified across the proposed project APE (Appendix D), with elements of the Diegan Coastal Sage Scrub (namely, large stands of lemonade berry), as well as Southern Willow Scrub (composed mainly of arroyo and black willows, *Salix lasiolepis* and *Salix gooddingii* respectively) being particularly impenetrable. Recent growth in both native and non-native grasslands due to heavy rains obscured surface visibility nearly everywhere else. Recent notable growth included blue-eyed grass (*Sisyrinchium bellum*) sweet fennel (*Foeniculum vulgare*) and wild oat (*Avena barbata*). The invasive white garden snail (*Theba pisana*) was in high abundance throughout the proposed project APE.

Crisscrossing the western sector of the project site is a network of recently graded roadways. These provided the most extensive and unobstructed view of the ground surface, revealing rounded alluvial cobbles and pebbles embedded in a clay-rich, fine-grained, and currently water-logged sediment matrix. Though the recorded roadways exposed roughly 2,350 square meters of bare ground, Dudek did not encounter any cultural resources in those areas.

Other notable disturbances, namely colluvial slope wash at the bottoms of the small tributary feeder drainages, on the north side of the project site, obscured bedrock, active vegetation, and likely all cultural resources in the immediate area. Indeed, the colluvial movement of sediment and gravels downslope during seasonal heavy rains would ensure

that cultural resources at the bottom of the hill, in and adjacent to Poggi Canyon, located along the northern boundary of the project site, are deeply buried, wherever present.

5.4.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to cultural and tribal cultural resources is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

B. Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.

C. Disturb any human remains, including those interred outside of formal cemeteries.

D. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

   a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

   b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

5.4.3 Impacts

A. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

As described in Section 5.4.1. Existing Conditions, no historic sites were identified in previous cultural investigations, records search, or pedestrian survey. Therefore, construction and operation of the proposed project would not cause a substantial change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5, and **no impact** would occur.

B. Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.

Based on Appendix E of this EIR, no known cultural resources will be impacted as a result of project implementation. However, while no cultural resources have been identified or recorded within the proposed project APE, the proximity to known sites beyond the southern boundary of the project site, P-37-010473 (CA-SDI-10473) and P-37-010471 (CA-SDI-10471), indicates a high sensitivity of encountering intact subsurface cultural resources. The hills dividing Poggi Canyon and its affiliated seasonal drainage (located within the northern portion of the site) from the more substantial Otay River (located 1 mile directly south of the proposed project APE) likely housed numerous trails connecting them, and may have hosted occasional gatherings or other activities. As with the existing

archaeological record of the broader area, the proposed project APE may contain intact, buried evidence of prehistoric or historic transit, transportation, short-term encampments, and/or resource acquisition. There is potential to encounter previously unidentified subsurface cultural deposits. Therefore, impacts would be **potentially significant** and mitigation, as required and detailed in **MM-CUL-1**, would reduce potentially significant impacts to a **level below significance**.

C. Disturb any human remains, including those interred outside of formal cemeteries.

No evidence of human remains, including those interred outside of formal cemeteries, was discovered during the records search, literature review, field survey, or site testing and evaluation. Further, the site has been previously disturbed and never used as a formal cemetery. However, the possibility exists that human remains may be discovered during project grading and construction. Any disturbance of human remains that may occur during project grading or construction would be potentially significant. Therefore, impacts would be **potentially significant** and mitigation, as required by mitigation measure **MM-CUL-1** would reduce potentially significant impacts to a **level below significance**.

D. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

As discussed under Threshold A, no historical resources, as defined by California Public Resources Code Section 5020.1(k), are present within areas that would be impacted by the proposed project. No previously recorded tribal cultural resources (TCRs) listed in the CRHR or a local register were identified within the proposed project APE. However, there is still potential to disturb unknown TCRs. Mitigation measure **MM-CUL-1** would be implemented to reduce potentially significant impacts to a **level below significance**.

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No TCRs have been identified that could be impacted by the proposed project. However, there is still potential for unknown subsurface TCRs to be present on site. Proposed grading activities have potential to disturb unknown subsurface TCRs. Therefore, impacts would be **potentially significant**. Mitigation measure **MM-CUL-1** would be implemented to reduce potentially significant impacts to a **level below significance**.

5.4.4 Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would have potentially significant impacts associated with cultural and tribal cultural resources. Impacts prior to mitigation would be **potentially significant**. Impacts related to historic resources would be **less than significant**.

5.4.5 Mitigation Measures

The following mitigation measure is recommended to reduce **potentially significant** impacts to unrecorded subsurface archaeological resources, unrecorded human remains, and tribal cultural resources within the proposed project site:

MM-CUL-1

A. Prior to beginning construction activities, the project archaeologist and Native American representative shall attend any pertinent preconstruction meetings with the construction manager and/or grading contractor in order to provide recommendations and answer questions relating to the archaeological monitoring program. The project archaeologist shall be familiar with the cultural inventory conducted for the current project and shall be prepared to introduce any pertinent information concerning expectations and probabilities of discovery during ground-disturbing activities. Prior to the initiation of construction, the cultural consultant shall acquire all evaluation information and the draft evaluation report, if a report was prepared.

B. Both an archaeological monitor familiar with local resources and a Native American monitor shall be present full time during the initial disturbance of soil with potential to contain cultural deposits. All areas of initial project-related subsurface disturbance shall be assumed to have the potential to contain cultural deposits. Monitoring of initial ground disturbance shall not exceed a depth of 5 feet (1.5 meters) unless cultural resources are identified or if, through direct inspection of subsurface exposures bythe project Archaeologist, an area is observed to have the potential to support the presence of archaeological deposits at greater depths. Cultural resources monitoring may be reduced from initial full-time monitoring to periodic spot checks, or discontinued if appropriate, once the project archaeologist determines that there is little or no risk of encountering cultural material.

C. Daily archaeological and Native American monitoring logs shall be prepared. Logs shall include monitor names and affiliations, a description of general activities observed, cultural discoveries, as well as comments or concerns as applicable.

D. In the event of an archaeological discovery, and when requested by the archaeological monitor or Native American monitor, the resident contractor will divert, redirect, or temporarily halt ground disturbing activities in the area of discovery or impacts to allow for preliminary inspection of potentially significant archaeological resources or impacts. The significance of the discovered resources or impacts shall be determined by the archaeologist, in consultation with the City of Chula Vista (City). For significant cultural resources, a Research Design and Data Recovery Program shall be prepared and carried out to mitigate impacts before grading activities in the area of discovery shall be allowed to resume.

E. The project archaeologist shall be responsible for ensuring that all cultural materials collected will be cleaned, catalogued, and curated permanently with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to the City; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material will be identified as to species; and that specialty studies are completed, as appropriate. The project archaeologist shall make a good-faith effort to ensure that all archaeological material collected through previous work is appropriately curated with any material recovered through construction monitoring.

F. If human remains are discovered, work shall halt in that area and procedures set forth in the California Public Resources Code (Section 5097.98) and State Health and Safety Code (Section 7050.5) shall be followed by the archaeological monitor after notification to the County Coroner by

the project Archaeologist. If Native American remains are present, the County Coroner shall contact the Native American Heritage Commission to designate a Most Likely Descendant, who shall arrange for the dignified disposition and treatment of theremains.

G. Within 3 months following the completion of monitoring, two copies of a monitoring results report (even if negative) and/or evaluation report, if applicable, that describes the results, analysis, and conclusions of the archaeological monitoring program (with appropriate graphics) shall be submitted to City.

H. For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the final evaluation monitoring report. Two copies of the final monitoring report for significant archaeological resources, if required, shall be submitted to the City. This final monitoring report should also incorporate a summary of the evaluation results and analyses previously conducted within the project area.

I. The archaeologist shall be responsible for recording (on the appropriate CA DPR 523 Series forms) any significant or potentially significant resources encountered during the archaeological monitoring program in accordance with Section 106 and the City's Cultural Resources Guidelines, and submittal of such forms to the South Coastal Information Center at San Diego State University with the final monitoring results report.

5.4.6 Level of Significance After Mitigation

Implementation of **MM-CUL-1** would reduce **potentially significant** impacts associated with archeological, human remains and tribal cultural resources to a **less-than-significant** level.

5.5 Energy

This section of the environmental impact report (EIR) addresses potential impacts to energy resulting from the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). The discussion in this section is based on the Air Quality and Greenhouse Gas Emissions Technical Report prepared for the proposed project by Dudek in September 2020. The complete report is provided in Appendix C and the energy use calculations are provided as Appendix F of this EIR.

5.5.1 Existing Conditions

5.5.1.1 Regulatory Framework

Federal

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased corporate average fuel economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable fuel standard (RFS) (Section 202)
- Appliance and lighting efficiency standards (Sections 301–325)
- Building energy efficiency (Sections 411–441)

This federal legislation (the RFS) requires ever-increasing levels of renewable fuels to replace petroleum (EPA 2017). The U.S. Environmental Protection Agency is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the Energy Policy Act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of greenhouse gas (GHG) emissions through the use of renewable fuels, for reducing imported petroleum, and for

encouraging the development and expansion of our nation's renewable fuels sector. The updated program ("RFS2") includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required the U.S. Environmental Protection Agency (EPA) to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.

State

Warren-Alquist Act

The California Legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act created the California Energy Commission (CEC). The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation's first energy conservation standards for both buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

The CEC and the California Public Utilities Commission (CPUC) approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. In 2005, a second Energy Action Plan was adopted by the CEC and CPUC to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based in part on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

California Code of Regulations Title 20 and Title 24

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 of Title 24 specifically establishes Building Energy Efficiency

Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the CEC (and revised if necessary) (California Public Resources Code, Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code Section 25402[d]) and cost effectiveness (California Public Resources Code Sections 25402[b][2] and [3]). These standards are updated to consider and incorporate new energy-efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Standards will continue to improve upon the 2016 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Significant efficiency improvements to residential standards include the introduction of photovoltaic into the prescriptive package, improvements for attics, walls, water heating, and lighting. Significant efficiency improvements to nonresidential standards include alignment with the ASHRAE 90.1 2017 national standards. The 2019 Standards became effective on January 1, 2020. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018).

The 2022 Building Energy Efficiency Standards would improve upon the 2019 Energy Code for new construction of, and additions and alterations to, residential and nonresidential buildings. The proposed standards would be adopted in 2021 with an effective date of January 1, 2023 (CEC 2020a).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code is commonly referred to as CALGreen and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards first took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The California Building Standards Code is published and updated every 3 years. The updated CALGreen 2019 standards have mandatory standards require the following that are related to energy-use (CALGreen 2019):

- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs (CALGreen 2019).

The CEC's 2019 Integrated Energy Policy Report indicates that California's Renewables Portfolio Standard (RPS) calls for 33% of the retail sales to be served with renewable resources by 2020, and by 2018 the state achieved approximately 34% (CEC 2020a). In 2017, 52% of total electricity generation, including in-state generation and imported power, came from zero-carbon generation sources.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Senate Bill 1

SB 1 (2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the California Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses within 10 years of adoption and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "GoSolarCalifornia," was previously titled "Million Solar Roofs."

Senate Bill 1078

This bill established the California RPS Program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. The bill relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

Senate Bills 107 (2006), X1-2 (2011), 350 (2015), and 100 (2018)

Senate Bill (SB) 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) requires all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 sets a three-stage compliance period: by December 31, 2013, 20% shall come from renewables; by December 31, 2016, 25% shall come from renewables; and by December 31, 2020, 33% shall come from renewables.

SB 350 (2015) requires retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

SB 100 (2018) accelerated and expanded the standards set forth in SB 350 by establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030 be secured from qualifying renewable energy sources. SB 100 also states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the 60% RPS in 2030. Therefore, any project's reliance on non-renewable energy sources would also be reduced.

Assembly Bill 1470

This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Assembly Bill 1109

Enacted in 2007, AB 1109 required CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

Assembly Bill 1007 (2005)

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with the California Air Resources Board (CARB) and in consultation with the other state, federal, and local agencies. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Assembly Bill 32 (2006) and Senate Bill 32 (2016)

In 2006, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted SB 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, CARB prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focused on increasing energy efficiencies and the use of renewable resources and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources.

California Long-Term Energy Efficiency Strategic Plan

In 2008, the California Energy Commission (CEC) and CPUC, working with a broad range of stakeholders, developed the first long-term strategic plan for California's energy efficiency efforts. The Strategic Plan was most recently updated in January 2011. The plan outlines numerous policy and program objectives, including net-zero goals for residential (2020) and (2030) commercial new construction. The Plan seeks to effect substantial and sustained progress towards more efficient technologies and practices in each of the customer end use sectors (e.g., Commercial, Industrial, Residential, Agricultural). Likewise, the Plan describes the market transformation efforts necessary in each of the cross-cutting areas discussed (e.g., Codes and Standards, Workforce Education and Training, Marketing Education and Outreach, and Research and Technology) (CPUC 2011).

Energy Upgrade California

Energy Upgrade California is a statewide energy management initiative designed to help residents and small businesses learn the best ways to improve energy efficiency, save money and be more comfortable at home and at work. This new initiative will help our communities meet our energy efficiency and clean energy goals. Energy Upgrade California is a program of the CPUC in collaboration with the CEC, California counties, cities, nonprofit organizations, and the state's investor-owned utilities. Funding comes from the utilities' ratepayers under the auspices of the CPUC in addition to incremental funding from the DOE. Energy Upgrade California offers a wide variety of incentives and rebates to choose from to help homeowners replace appliances, pool pumps, HVAC systems, hot water heaters, install windows, insulation, and more. Incentives and rebates can help offset the cost of energy efficient products (Energy Upgrade California 2018).

California Air Resources Board (CARB) Climate Change Scoping Plan

CARB's Climate Change Scoping Plan (Scoping Plan) was adopted on December 2008, pursuant to AB 32 (CARB 2008). The Scoping Plan called for expanding and strengthening existing energy efficiency programs as well as building and appliance standards and achieving statewide renewables energy mix of 33%. The Scoping Plan also calls for local governments to reduce GHG emissions to 15% below 2008 levels by 2020.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law SB 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the CPUC.

The CEC has designed regulations that accomplish the following (Perata, Chapter 598, Statutes of 2006):

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds carbon dioxide (CO_2) per megawatt-hour. This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (EPS).

Assembly Bill 1493

Adopted in 2002 by the state legislature, Assembly Bill (AB) 1493 ("Pavley" regulations) required that the CARB develop and adopt, no later than January 1, 2005, regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.

The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005 and was denied by the EPA in March 2008. That decision was based on a finding that California's request to reduce GHG emissions from passenger vehicles did not meet the Clean Air Act requirement of showing that the waiver was needed to meet "compelling and extraordinary conditions."

The EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On September 24, 2009, CARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment to a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016. CARB's September 2009 amendments will allow for California's enforcement of the Pavley rule while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to harmonize its rules with the federal rules for passenger vehicles.

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by approximately 22% in 2012 and approximately 30% in 2016, while improving fuel efficiency and reducing motorists' costs.

Executive Order S-1-07

Issued on January 18, 2007, Executive Order (EO) S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2-equivalent (CO_2e) grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste. In addition, the Low Carbon Fuel Standard would drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles. The Low Carbon Fuel Standard is anticipated to lead to the replacement of 20% of the fuel used in motor vehicles with alternative fuels by 2020.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates. As codified in California Government Code, Section 65080, SB 375 requires metropolitan planning organizations (San Diego Association of Governments) to include a sustainable communities strategy in its regional transportation plan. The main focus of the sustainable communities strategy is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also a part of a bigger effort to address other development issues within the general vicinity, including transit and vehicle miles traveled (VMT), which influence the consumption of petroleum-based fuels.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a

single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB will propose new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero-emissions vehicles (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

Executive Order B-16-12

Governor Brown issued EO S-16-12 on March 23, 2012. The EO requires that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It orders CARB, the CEC, the CPUC, and other relevant agencies work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve the following by 2015:

- The state's major metropolitan areas will be able to accommodate ZEVs, each with infrastructure plans and streamlined permitting.
- The state's manufacturing sector will be expanding ZEV and component manufacturing.
- The private sector's investment in ZEV infrastructure will be growing.
- The state's academic and research institutions will be contributing to ZEV research, innovation, and education.

CARB, the CEC, and CPUC are also directed to establish benchmarks to help achieve the following goals by 2020:

- The state's ZEV infrastructure will be able to support up to one million vehicles.
- The costs of ZEV will be competitive with conventional combustion vehicles.
- ZEVs will be accessible to mainstream consumers.
- There will be widespread use of ZEVs for public transportation and freight transport.
- Transportation sector GHG emissions will be falling as a result of the switch to ZEVs.
- Electric vehicle charging will be integrated into the electricity grid.
- The private sector's role in the supply chain for ZEV component development and manufacturing will be expanding.

Benchmarks are also to be established to help achieve the following goals by 2025:

- Over 1.5 million ZEVs will be on California roads and their market share will be expanding.
- Californians will have easy access to ZEV infrastructure.
- The ZEV industry will be a strong and sustainable part of California's economy.
- California's clean, efficient vehicles will annually displace at least 1.5 billion gallons of petroleum fuels.

On a statewide basis, the EO establishes a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050.

Local

San Diego Gas & Electric Company 2020 Individual Integrated Resource Plan

San Diego Gas & Electric Company (SDG&E) filed its 2020 Individual Integrated Resource Plan (IIRP) to the CPUC on September 1, 2020 (SDG&E 2020a). The IIRP is guided by the following key statutory principles: (1) ensuring reliability, (2) reducing GHG emissions with the best-fit resources at the lowest possible cost, and (3) meeting the state's RPS Program goals. The IIRP provides two conforming portfolios. One portfolio achieves the 46 million metric tons (MMT) GHG benchmark, and the second portfolio achieves the 38 MMT GHG benchmark.

International Council of Environmental Initiatives Local Governments for Sustainability

In 1992, the City of Chula Vista (City) participated in the Cities for Climate Protection Program, which aimed at developing municipal action plans for the reduction of GHGs. This program was sponsored and developed by the International Council of Environmental Initiatives and the United Nations Environment Program in response to the United Nations Framework Convention on Climate Change, while recognizing that all local planning and development has direct consequences on energy consumption, and cities exercise key powers over urban infrastructure, including neighborhood design, and over transportation infrastructure, such as roads, streets, pedestrian areas, bicycle lanes, and public transport.

City of Chula Vista Climate Action Plan

Since 2000, Chula Vista has been implementing a Climate Action Plan (CAP) to address climate change issues and its impacts on the City. The City's Climate Action Plan is a group of documents including various GHG emission inventories, the original Carbon Dioxide Reduction Plan (2000), Climate Mitigation Plan (2008), new Climate Adaptation Plan (2011), and Municipal Action (2014). The City's Increased Energy Efficiency Ordinance, Green Building Standards, and Solar Ready Ordinances are products of the Climate Action Plan. Actions and goals of the 2017 CAP relate to energy and water efficient buildings, smart growth and clean transit, zero waste, increased local energy and water resources, leading by example, and community resilience (City of Chula Vista 2017).

Chula Vista Climate Adaptation Strategies – Implementation Plans

The Climate Adaptation Strategies – Implementation Plans document developed by the Climate Change Working Group includes 11 strategies to adapt Chula Vista to the potential impacts of global climate change, including energy supply. The strategies to reduce energy demand include cool paving, shade trees, and cool roofs. For each strategy, the plans outline specific implementation components, critical steps, costs, and timelines. To limit the necessary staffing and funding required to implement the strategies, the plans were also designed to build upon existing municipal efforts rather than create new, stand-alone policies or programs. Initial implementation of all 11 strategies is intended to be phased in over a 3-year period from plan adoption (City of Chula Vista 2011).

Chula Vista Green Building Standards

The City of Chula Vista amended the City Municipal Code Ordinance 15.12 pertaining to green building practices to include residential and non-residential remodels and additions. The Code contains Residential Mandatory Measures and Non-Residential Mandatory Measures and also provides Voluntary Measures that can be used by developers to improve energy efficiency and reduce environmental impacts through design and construction.

San Diego Regional Energy Efficiency Plan/City of Chula Vista Energy Strategy and Action Plan

The San Diego Regional Energy Plan provided policy and program recommendations to achieve energy sustainability and security (SANDAG 1994). The San Diego Regional Energy office worked with SANDAG to update the plan with Energy 2030, the San Diego Regional Energy Strategy. The Regional Energy Strategy is intended to create a vision of how energy will be produced and consumed in the San Diego region in 2030. It also provides an integrated approach to meeting energy needs and ensures that an adequate supply and distribution of electricity, natural gas and transportation fuels is available (SANDAG 2009).

The City has adopted an energy plan to address long-term energy issues and to protect its residents from unreliable energy supply and volatile prices. The plan, called the Chula Vista Energy Strategy and Action Plan, addresses demand side management, energy efficient and renewable energy outreach programs for businesses and residents, energy acquisition, power generation, and distributed energy resources and legislative actions (City of Chula Vista 2001).

City of Chula Vista Solar Ready Ordinances

CVMC, Section 15.28.015, solar water heater pre-plumbing, and Section 15.24.065, photovoltaic pre-wiring requirements, are referred to as the Solar Ready ordinances. Section 15.28.015 requires all new residential units to include plumbing specifically designed to allow the later installation of a system which utilizes solar energy as the primary means of heating domestic potable water. Section 15.24.065 requires all new residential units to include electrical conduit specifically designed to allow the later installation of a photovoltaic system which utilizes solar energy as a means to provide electricity.

City of Chula Vista General Plan

The City of Chula Vista General Plan (General Plan) recognizes that to ensure adequate and reliable energy service, efficient energy efforts throughout the City and transitioning to non-fossil fuel alternatives will help to extend limited supplies, reduce the need for expensive new regional power generators and transmission lines, and contribute to Chula Vista's economic sustainability and regional competitiveness. The General Plan includes objectives in the Public Facilities and Services Element to ensure adequate energy supplies throughout Chula Vista (Objective PFS 22) and in the Environmental Element to promote conservation through the efficient use of energy and through the development of local, non-fossil fuel-based renewable sources of energy (Objective E 7) (City of Chula Vista 2005).

5.5.1.2 Existing Conditions

Electricity

According to the U.S. Energy Information Administration (EIA), California used approximately 255,224 gigawatt hours of electricity in 2018 (EIA 2020a). Electricity usage in California for different land uses varies substantially by the types of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita in the residential sector is lower than any other state except Hawaii (EIA 2020b).

SDG&E, a subsidiary of Sempra Energy, provides electric services to 3.6 million customers through 1.4 million electric meters throughout a 4,100-square-mile service area in San Diego and Southern Orange County (SDG&E

2020b). According to the SDG&E Final 2019 Renewables Portfolio Standard Procurement Plan, 43% of SDG&E's power came from eligible renewables in 2018, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (SDG&E 2020c). Renewable resources, including hydropower and small-scale (less than 1-megawatt) customer-sited solar photovoltaics, supplied almost half of California's in-state electricity generation in 2018 (EIA 2020b). California's RPS Program establishes a goal for California to increase the amount of electricity generated from renewable energy resources to 20% by 2010 and to 33% by 2020. Recent legislation revised the current RPS target for California to obtain 50% of total retail electricity sales from renewable sources by 2030, with interim targets of 40% by 2024, and 45% by 2027 (CPUC 2016). In addition, the CAP set a goal of using 100% clean renewable energy and the City is currently evaluating the feasibility of a Community Choice Aggregation program (City of Chula Vista 2017, 2020a).

In San Diego County, electricity demand in 2019 was 19,048 million kilowatt-hour (kWh) (CEC 2020b). More specifically, within the City, the annual community-wide electricity consumption (encompassing both residential and non-residential) is approximately 828 million kWh in 2016 (City of Chula Vista 2020b).

Natural Gas

According to the EIA, California used approximately 2,154,030 million cubic feet of natural gas in 2019 (EIA 2020c). Natural gas is used for cooking, space heating, generating electricity, and as an alternative transportation fuel. The majority of California's natural gas customers are residential and small commercial customers (core customers), which accounted for approximately 35% of the natural gas delivered by California utilities in 2018 (CPUC 2020). Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 65% of the natural gas delivered by California utilities (CPUC 2020). The CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. Biogas (e.g., from wastewater treatment facilities or dairy farms) is just beginning to be delivered into the gas utility pipeline systems, and the state has been encouraging its development (CPUC 2020).

SDG&E provides natural gas services to 3.6 million customers through 873,000 natural gas meters throughout a 4,100-square-mile service area in San Diego and Southern Orange County (SDG&E 2020b). SDG&E delivered approximately 534 million therms (53 billion kilo British thermal units [kBtu]) to San Diego County (CEC 2020c). Within the City of Chula Vista, the annual community-wide natural gas consumption (encompassing both residential and non-residential) is approximately 3,531,230 million British thermal units or 35.3 million therms in 2016 (City of Chula Vista 2020b).

Petroleum

According to the EIA, California used approximately 681 million barrels of petroleum in 2018, with the majority (584 million barrels) used for the transportation sector (EIA 2020d). This total annual consumption equates to a daily use of approximately 1.9 million barrels of petroleum. There are 42 U.S. gallons in a barrel, so California consumes approximately 78.4 million gallons of petroleum per day, adding up to an annual consumption of 28.7 billion gallons of petroleum. Also, countywide total petroleum use by vehicles is expected to be 1.6 billion gallons per year in 2021 and 1.3 billion gallons per year in 2028 (CARB 2020).

By sector, transportation uses utilize approximately 85.5% of the state's petroleum, followed by 11.1% from industrial, 2.5% from commercial, 0.9% from residential, and 0.01% from electric power uses (EIA 2018b).

Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation, which are described in Section 5.5.1.1, Regulatory Framework.

5.5.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to energy is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

5.5.3 Impacts

A. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Construction

Electricity

Electrical power would be consumed to construct the proposed project. The demand would be supplied from existing electrical services at the proposed project site. Construction activities would require minimal electricity consumption and would not be expected to have any adverse impact on available electricity supplies and infrastructure as the proposed project site is surrounded by developed residential parcels. The City's noise ordinance generally restricts construction during the hours of 7:00 a.m. and 10:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. and 10:00 p.m., Saturday and Sunday, which would minimize the need for nighttime lighting. The electricity used for construction would be temporary, would be substantially less than required for proposed project operation, and would therefore have a negligible contribution to the proposed project's overall energy consumption.

Natural Gas

Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the petroleum subsection, below. Any minor amounts of natural gas that may be consumed as a result of project construction would be substantially less than that required for project operation and would have a negligible contribution to the proposed project's overall energy consumption.

Petroleum

Heavy-duty construction equipment of various types would be used during each phase of project construction. The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 analysis discussed in Section 5.2, Air Quality, and included in Appendix C lists the assumed equipment usage for each phase of construction. Potential impacts were assessed through projected traffic trip generation during construction, as provided by CalEEMod outputs (Appendix C). Fuel consumption from construction equipment was estimated by converting the total carbon dioxide (CO_2) emissions from each construction phase to gallons using conversion factors for CO2 to gallons of gasoline or

diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2020). It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles. Fuel consumption from worker and vendor trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, and vendor vehicles are assumed to be diesel fueled. Based on that analysis, over all phases of construction, diesel-fueled construction equipment would run for an estimated 142,582 hours as summarized in Table 5.5-1.

Table 5.5-1. Hours of Operation for Construction Equipment

Construction Phase	Hours of Equipment Use
Site preparation	1,680
Grading	11,264
Architectural coating	9,990
Building construction	112,880
Paving	6,768
Total	**142,582**

Source: Appendix F.

The estimated diesel fuel use from construction equipment is shown in Table 5.5-2.

Table 5.5-2. Construction Equipment Diesel Demand

Phase	Pieces of Equipment[a]	Equipment CO_2 (MT)[a]	kg CO_2/Gallon[b]	Gallons
Site preparation	7	50.15	10.21	4,912.19
Grading	8	479.60	10.21	46,973.45
Architectural coating	1	212.56	10.21	20,818.63
Building construction	9	1924.42	10.21	188,484.11
Paving	6	141.19	10.21	13,829.00
			Total	**275,017.38**

Sources:
[a] Appendix F.
[b] The Climate Registry 2020.
Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.

Calculations for total worker and vendor fuel consumption are provided in Tables 5.5-3 and 5.5-4.

Table 5.5-3. Construction Worker Vehicle Gasoline Demand

Phase	Trips	Vehicle CO_2 (MT)[a]	kg CO_2/Gallon[b]	Gallons
Site Preparation	540	1.89	8.78	215.42
Grading	3,520	12.27	8.78	1,397.81
Architectural Coating	298,035	909.17	8.78	103,550.14
Building Construction	1,482,380	4520.05	8.78	514,812.44
Paving	2,115	7.14	8.78	812.81
			Total	**620,788.62**

Sources:
[a] Appendix F.

[b] The Climate Registry 2020.
Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.

Table 5.5-4. Construction Vendor Truck Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)[a]	kg/CO_2/Gallon[b]	Gallons
Site Preparation	0	0.00	10.21	0.00
Grading	0	0.00	10.21	0.00
Architectural Coating	0	0.00	10.21	0.00
Building Construction	370,180	4641.50	10.21	454,603.52
Paving	0	0.00	10.21	0.00
			Total	454,603.52

Sources:
[a] Appendix F.
[b] The Climate Registry 2020.
Notes: CO_2 = carbon dioxide; MT = metric ton; kg = kilogram.

As shown in Tables 5.5-3 and 5.5-4, the project is estimated to consume 1,350,410 gallons of petroleum during the construction phase. The project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which would minimize fuel consumption. While construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to project construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. In addition, the project site is served by public transportation services and Interstate 805. Due to the presence of a MTS bus routes 703 and 704 bus stop at Brandywine and Olympic Parkway, approximately 0.9 miles from the site and the East Palomar Transit Station located approximately one mile from the project site, some construction workers would be anticipated to use public transportation to access the project site during construction. Therefore, construction worker trips and associated petroleum consumption would be expected to be reduced compared to similar construction projects in rural locations. The project would also utilize Tier 3 off-road construction equipment as implemented under **MM-GHG-1**.

Therefore, because electricity, natural gas, and petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be **less than significant.**

Operation

Electricity

The operational phase would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Additionally, the supply, conveyance, treatment, and distribution of water would indirectly result in electricity usage. CalEEMod was used to estimate project emissions from electricity uses (see Appendix F for calculations). Default electricity generation rates in CalEEMod were used based on the proposed land use and climate zone and were adjusted to reflect compliance with 2019 Title 24 standards. The current Title 24, Part 6 standards, referred to as the 2019 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2020. The current version of CalEEMod assumes compliance with the 2016 Title 24 Building Energy Efficiency Standards (CAPCOA 2017); however, the proposed project would be required to comply with the 2019 Title 24 Standards. The project operational energy emissions were adjusted to meet the 2019 Title 24 Standards, by assuming 53% less energy use than that under the 2016 standards (CEC

2018). This is because, as described in Section 5.5.1, once rooftop solar electricity generation is factored in, residential units built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Using the 2019 Title 24 Standards, the proposed project's estimated electricity consumption is approximately 4,480,067 kWh per year (Appendix F). For disclosure, in comparison, for San Diego County, electricity demand in 2019 was 19,048 million kWh (CEC 2020b). More specifically, within the City, the annual community-wide electricity consumption (encompassing both residential and non-residential) is approximately 828 million kWh in 2016 (City of Chula Vista 2020b).

The proposed project's impacts in the category of GHG emissions was determined to be potentially significant; thus, the project would be required to comply with Mitigation Measure **(MM) GHG-1**, Greenhouse Gas Emissions Reduction Measures (see Section 5.7, Greenhouse Gas Emissions, for details)., Reducing GHG emissions during operation would help reduce operation-related electricity usage and operation related GHG emissions in the City. The energy demand calculations do not take into account the energy saving measures from **MM-GHG-1**, including installing energy-efficient lighting for all street, parking, and area lighting associated with the project and implementing energy-efficient design practices, which include high-performance glazing, Energy Star compliant systems and appliances, radiant heat roof barriers, insulation on all pipes, programmable thermostats, and sealed ducts. Furthermore, the project would be consistent with the applicable measures within the City's CAP to reduce the proposed project's energy use by planting 600 shade trees, installing solar photovoltaic systems consistent with current building standards, and installing cool roof material with a greater solar reflectivity to help conserve energy (see Section 5.7 for a complete consistency analysis with the CAP). In summary, the proposed project would comply with the CAP and implement energy reducing measures in **MM-GHG-1**, as required to reduce GHG emissions, but used to also further reduce electricity usage.

Natural Gas

The operation of the proposed project would require natural gas for space heating, water heating, and to power appliances (EIA 2010). Default natural gas usage rates in CalEEMod for the proposed land use and climate zone were used and adjusted based on compliance with 2019 Title 24 standards. The project's estimated natural gas consumption is approximately 9,841,430 kBTU per year, which is equivalent to 98,414 therms (Appendix F).

For disclosure, 2019, SDG&E delivered approximately 534 million therms (53 billion kBtu) to San Diego County (CEC 2020c). Within the City of Chula Vista, the annual community-wide natural gas consumption (encompassing both residential and non-residential) is approximately 3,531,230 million Btu or 35.3 million therms in 2016 (City of Chula Vista 2020b). Project-specific measures would be implemented under **MM-GHG-1** (as listed in Section 5.7), including energy-efficient design practices, which would minimize the proposed project's natural gas use. The project is subject to statewide mandatory energy requirements as outlined in Title 24, Part 6, of the California Code of Regulations. Prior to project approval, the applicant would ensure that the project would meet Title 24 requirements applicable at that time, as required by state regulations through their plan review process.

Peak natural gas use for households typically occurs in the winter months (EIA 2016). In Southern California, peak demand occurs in winter (California Gas and Electric Utilities 2016). As such, the proposed project's peak natural gas use is expected to align generally with typical peak use patterns in the region. In addition, the regulations and design features described above would reduce the proposed project's effect on peak and base periods of natural gas demand.

In summary, the proposed project would implement energy reducing measures through implementation of **MM-GHG-1**, the effects of which would be increased through implementation of green building standards, required for implementation of the proposed project.

Petroleum

During operations, fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site by residents.

Petroleum fuel consumption associated with motor vehicles traveling to and from the project site is a function of the vehicle miles traveled as a result of project operation. The annual unmitigated VMT attributable to the proposed project is expected to be 10,196,784 VMT (Appendix F). The proposed project would consume an estimated 324,636 gallons of gasoline per year and 58,548 gallons of diesel per year from operation of vehicle trips traveling to and from the project site, or 383,184 gallons of petroleum per year. By comparison, California as a whole consumes approximately 78.4 million gallons of petroleum per day, adding up to an annual consumption of 28.7 billion gallons of petroleum (EIA 2020d). Also, for disclosure, countywide total petroleum use by vehicles is expected to be 1.3 billion gallons per year in 2028 (CARB 2020).

Over the lifetime of the proposed project, the fuel efficiency of the vehicles being used by the residents of the proposed project is expected to increase. As such, the amount of gasoline consumed as a result of vehicular trips to and from the project site during operation would decrease over time. As discussed under Section 5.5.1.1, there are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted a new approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and ZEVs in California (CARB 2017). As such, operation of the proposed project is expected to use decreasing amounts of petroleum over time, due to advances in fuel economy.

The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes strategies that would further reduce the project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks.

The proposed project's impacts in the category of GHG emissions was determined to be potentially significant; thus, the project would be required to implement **MM-GHG-1** (see Section 5.7 for details), which include pre-wiring two parking spots and the project's 718 parking garages to be electric vehicle capable. Furthermore, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles. Reducing GHG emissions during operation would help reduce operation-related fuel usage. Furthermore, the proposed project would provide pedestrian and bicycle connectivity to the neighborhood due to proximity to bicycle routes and by providing pedestrian sidewalk connections to the Chula Vista Regional Trail located along Olympic Parkway. The proposed project would be located near MTS bus routes 703 and 704 and Interstate 805 and the East Palomar Transit Station would be located approximately one mile from the project site. In addition, the project is located near commercial and employment centers in an urban setting. These project characteristics would promote pedestrian and bicycle activity and encourage alternate forms of transportation. Lastly, the project would be consistent with the applicable measures within the CAP to reduce the proposed project's petroleum use (see Section 5.7 of this EIR for a complete consistency analysis with the CAP).

In summary, over time. vehicles would use less petroleum due to advances in fuel economy. Additionally, the proposed project would include a variety of features that are expected to reduce the proposed project's petroleum use and reduce the number of vehicles traveling to and from the site during operation. Given these considerations, the electrictiy, natural gas, petroleum consumption associated with the proposed project would not be considered inefficient or wasteful, and impacts would be **less than significant.**

B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

The proposed project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR, Part 6). Part 6 of Title 24 establishes energy efficiency standards for residential and non-residential buildings constructed in California in order to reduce energy demand and consumption.

Part 11 of Title 24 sets forth voluntary and mandatory energy measures that are applicable to the proposed project under the California Green Building Standards Code. As discussed under Threshold A, the proposed project would result in an increased demand for electricity, natural gas, and petroleum. During both construction and operation of the project, the project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. As implemented by MM-GHG-1, during construction, all wastes would be recycled to the maximum extent possible and exceed the City of Chula Vista's Construction and Demolition Debris Waste Management Plan's 65% diversion of construction and demolition waste. In addition, the proposed project is subject to the City's CAP, City's Green Building Standards, and City's Energy Code for Residential Development. The California Green Building Standards, on which the City's Green Building Standards Ordinance 15.12 is based, includes measures for reducing overall energy consumption through water conservation, electricity and natural gas conservation, and building design. Included in these standards is a mandate for 20% less water use than currently required by the state plumbing code. The City's Landscape Water Conservation Ordinance would further reduce water consumption and associated electricity use through the use of drought-tolerant landscaping and water-efficient irrigation systems. As implemented under **MM-GHG-1**, the project would install energy-efficient lighting for all street, parking, and area lighting associated with the project. Furthermore, energy-efficient design practices, such as high-performance glazing, Energy Star compliant systems and appliances, radiant heat roof barriers, insulation on all pipes, programmable thermostats, and sealed ducts, shall be implemented. The project would install cool roof material with a greater solar reflectivity to help conserve energy. In addition, the project would plant native species and drought-tolerant species would be used for a minimum of 50% of the ornamental plant palette in non-turf areas to minimize the project's water demand, and the project would install purple pipes to use reclaimed water for irrigation.

The project would be consistent with the applicable measures within the CAP to reduce the proposed project's petroleum use and reduce the number of vehicles traveling to and from the project site. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks. The project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable. In addition, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles. The project would be located near MTS bus routes 703 and 704 and I-805, and the East Palomar Transit Station is located approximately one mile from the project site. In addition, the project is located near commercial and employment centers in an urban setting. These project characteristics would promote pedestrian and bicycle activity and encourage alternate forms of transportation (see Section 5.7 of this EIR for a complete consistency analysis with the CAP).

The proposed project would use energy supplied by SDG&E, which achieved a renewable procurement percentage of 44% in 2017 as reported by CEC. In addition, the CAP set a goal of using 100% clean renewable energy and the City is currently evaluating the feasibility of a Community Choice Aggregation program (City of Chula Vista 2017, 2020a). In addition, the project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 standards.

Because the proposed project would comply with and exceed the existing energy standards and regulations, the project would result in a **less than significant** impact associated with the potential to conflict with energy standards and regulations.

5.5.4 Level of Significance Prior to Mitigation

Impacts prior to mitigation would be **less than significant**.

5.5.5 Mitigation Measures

No mitigation measures are required.

5.5.6 Level of Significance After Mitigation

There are no mitigation measures proposed and impacts would remain **less than significant.**

5.6 Geology and Soils

This section of the environmental impact report (EIR) describes the existing geology and soils setting of the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project), identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures to reduce or avoid significant impacts. The following analysis is based on the Geotechnical Investigation Report (Geotechnical Report) prepared by Geocon Inc. and the Cultural and Paleontological Resources Inventory Report prepared by Dudek. The reports are provided as Appendix G and Appendix E to this EIR, respectively.

5.6.1 Existing Conditions

5.6.1.1 Regulatory Framework

Federal

International Building Code

The International Building Code (IBC) is a model building code developed by the International Code Council that provides the basis for the California Building Code (CBC). The purpose of the IBC is to provide minimum standards for building construction to ensure public safety, health, and welfare. Prior to the creation of the IBC, several different building codes were used; however, by 2000, the IBC had replaced these previous codes. The IBC is updated every 3 years.

Occupational Safety and Health Administration Regulations

The Occupational Safety and Health Administration's Excavation and Trenching standard, Title 29 of the Code of Federal Regulations, Part 1926.650, covers requirements for excavation and trenching operations. The Occupational Safety and Health Administration requires that all excavations where employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (California Public Resources Code Sections 2621–2630) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. The act helps define areas where fault rupture is most likely to occur. The act groups faults into categories of active, potentially active and inactive. Historic and Holocene age faults are considered active. Late Quaternary and Quaternary age faults are considered potentially active and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be sufficiently active and well defined by detailed site-specific geologic explorations to determine whether building setbacks should be established. Cities and counties affected by the zones must regulate certain development projects within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

California Building Code

State regulations protecting structures from geo-seismic hazards are contained in the California Code of Regulations, Title 24, Part 2 (the California Building Code [CBC]). The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The CBC is based on the International Building Code published by the International Code Conference. The CBC contains California amendments based on the American Society of Civil Engineers Minimum Design Standards 7-05, which provides requirements for general structural design and includes means for determining earthquake loads and other loads (such as wind loads) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

California Environmental Quality Act

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state laws and regulations, notably, the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.). This report satisfies project requirements in accordance with CEQA and California Public Resources Code Section 5097.5. This analysis also complies with guidelines and significance criteria specified by the Society of Vertebrate Paleontology (SVP 2010).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the Environmental Checklist Form, which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s]" (14 CCR 15000 et seq.). This provision covers fossils of signal importance—remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group—as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth. Further, CEQA provides that, generally, a resource shall be considered "historically significant" if it has yielded or may be likely to yield information important in prehistory (14 CCR 15064.5 [a][3][D]). Paleontological resources would fall within this category. The California Public Resources Code, Chapter 1.7, Sections 5097.5 and 30244, also regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.

California Geologic Survey

The California Geologic Survey (CGS) provides guidance with regard to seismic hazards. The CGS's Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California provides guidance for evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigation.

State Earthquake Protection Law

The State Earthquake Protection Law (California Health and Safety Code 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in the CBC. The CBC requires a site-specific geotechnical study to address seismic issues and identify seismic factors that must be considered in structural design. Because the project site is not located within an Alquist–Priolo Earthquake Fault Zone (Exhibit 5.8-3, Alquist-Priolo Earthquake Fault Zone Map, in City of Murrieta 2011a), no special provisions would be required for project development related to fault rupture.

Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act of 1990 (SHMA) (California Public Resources Code Section 2690 et seq.) directs the California Department of Conservation, California Geological Survey, to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the SHMA is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards.

The SHMA provides a statewide seismic hazard mapping and technical advisory program to assist cities and counties in fulfilling their responsibilities for protecting public health and safety from the effects of strong ground shaking, liquefaction, landslides, other ground failure, and other seismic hazards caused by earthquakes. Mapping and other information generated pursuant to the SHMA is made available to local governments for planning and development purposes. The state requires local governments to incorporate site-specific geotechnical hazard investigations and associated hazard mitigation as part of the local construction permit approval process, and requires the agent for a property seller, or the seller if acting without an agent, to disclose to any prospective buyer if the property is located within a seismic hazard zone. The state geologist is responsible for compiling seismic hazard zone maps. The SHMA specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

Local

City of Chula Vista General Plan – Environmental Element

Individual project development proposed on property under City of Chula Vista (City) jurisdiction has requirements similar to IBC and CBC requirements, and must comply with Objective E 14 and its three associated policies (E 14.1, E 14.2, and E 14.3) contained in the Environmental Element of the General Plan (Chapter 9, Section 3.1.10) (City of Chula Vista 2005). Implementation of this objective and policies are intended to reduce potential impacts associated with geological hazards and public safety.

- **Objective E 14**: Minimize the risk of injury, loss of life, and property damage associated with geologic hazards.
- **Policy E 14.1**: To the maximum extent practicable, protect against injury, loss of life, and major property damage through engineering analyses of potential seismic hazards, appropriate engineering design, and the stringent enforcement of all applicable regulations and standards.
- **Policy E 14.2**: Prohibit the subdivision, grading, or development of lands subject to potential geologic hazards in the absence of adequate evidence demonstrating that such development would not be adversely affected by such hazards and would not adversely affect surrounding properties.
- **Policy E 14.3**: Require site-specific geotechnical investigations for proposals within areas subject to potential geologic hazards; and ensure implementation of all measures deemed necessary by the City Engineer and/or Building Official to avoid or adequately mitigate such hazards.

Additionally, the City's Environmental Element addresses potential impacts to non-renewable paleontological resources and outlines policies to mitigate negative impacts (City of Chula Vista 2005). The objective and policies protecting paleontological resources are outlined below:

- **Objective E 10**: Protect important paleontological resources and support and encourage public education and awareness of such resources.

- **Policy E 10.1**: Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to paleontological resources in accordance with the California Environmental Quality Act.
- **Policy E 10.2**: Support and encourage public education and awareness of local paleontological resources, including the establishment of museums and educational opportunities accessible to the public.

5.6.1.2 Existing Setting

Geologic Setting

The geology underlying the project site consists of surficial soil (previously placed fill, topsoil, alluvium and colluvium) and the San Diego, Otay, and Sweetwater Formations, which are described in more detail below.

Previously Placed Fill

Compacted fill associated with previous grading operations for Olympic Parkway is present along the northern boundary of the project site. The northern portion of these embankments is underlain by alluvium. However, the potentially compressible portions of this unit were removed or compressed by surcharging during prior grading operations.

Topsoil

Topsoil was encountered in several of the exploratory borings and trenches performed at the site with a maximum thickness of 4 feet. These deposits, in general, consist of unconsolidated, clayey sands to sandy clays with a high expansion potential and will require remedial grading where present within the development area.

Alluvium

Alluvium is present within the three main drainages on the project site and along Olympic Parkway. These deposits vary in thickness from 6 to 12 feet and primarily consist of expansive, silty to sandy clays to clayey sands. The alluvium would require remedial grading where structural improvements are planned.

Colluvium

Colluvial deposits are present along the hillsides above the alluvial drainages. These deposits consist of clayey sands to silty clays with a high expansion potential and vary from 3.5 to 8-feet-thick. Remedial grading will be required where colluvium is located in areas of planned development.

San Diego Formation

The San Diego Formation overlies the Otay Formation and typically consists of dense, fine to medium-grained sandstone with relatively low cohesion and moderate to high permeability. In general, the San Diego Formation exhibits adequate shear strength and “very low” to “low” expansion characteristics in either an undisturbed or properly compacted condition. Due to the potentially friable and higher permeability characteristics of this unit, stability fills would be required where the San Diego Formation is exposed in cut slopes.

Otay Formation

The Otay Formation, which overlies the Sweetwater Formation and underlies the San Diego Formation, is the predominant geologic unit on the project site. This formation consists of dense, silty to clayey, sandstone and hard, siltstone and claystone beds with continuous to discontinuous interbeds of weak, highly plastic bentonitic claystone.

The sandy portions of the Otay Formation typically possess a "very low" to "low" expansion potential and adequate shear strength. The siltstone and claystone portions of the formation can exhibit a "medium" to "very high" expansion potential. With the possible exception of the bentonitic claystone, the Otay Formation is suitable for the support of compacted fill and structural loads. The laterally extensive bentonitic claystone beds, which are well documented in the area, can vary in thickness from several inches up to 7 feet. The beds are typically flat lying to gently dipping (0 to 3 degrees) and possess a very high expansion potential and very low shear strength. A laterally continuous bentonitic claystone bed is mapped across the project site between elevations 341 feet and 371 feet above mean sea level. This unit will require important consideration with respect to slope stability and its expansion potential and will require remedial grading measures.

The Otay Mesa Lateral Spread, commonly referred to as an ancient "intra-formational landslide" by geologists, is mapped within the project site. This ancient landslide, which is over 8 miles wide and approximately 2.5 miles long, is entirely contained within the Otay Formation and terminates along the La Nación Fault to the west. This feature has been observed and mapped during the grading operations for Olympic Parkway and other neighboring residential developments.

The basal surface of the ancient "intra-formational landslide" occurred along a single, continuous, bentonitic clay bed that coincides with the bentonitic clay bed previously mentioned. The slide mass consists of relatively undisturbed consolidated blocks of the Otay Formation that have low to very low compressibility characteristics. Some areas exhibit plastically deformed bentonite which has been squeezed into the overlying mass creating unpredictable diapirs and flame structures that vary in dimension and orientation. If present, these features can create problems for site improvements due to their expansion potential. Although not observed within the exploratory borings and trenches, the potential for these conditions will be evaluated during the grading phase of project development.

Sweetwater Formation

The Sweetwater Formation, commonly referred to as the "gritstone layer" of the Otay Formation, underlies the Otay Formation and is characterized as dense to very dense, gravelly, and fine to coarse sandstone that is locally cemented. The Sweetwater Formation generally has a high shear strength and a low expansive potential.

Expansive Soil

Expansive soils contain minerals, such as clay, that are capable of absorbing water and expanding, and losing water and shrinking. As discussed in the Geotechnical Report, the project site contains soils that are both non-expansive and expansive. Colluvial deposits which are present along the hillsides above the alluvial drainages, consist of clayey sands to silty clays with a high expansion potential. Additionally, alluvium primarily consist of expansive, silty to sandy clays to clayey sands. The sandy portions of the Otay Formation typically possess a "very low" to "low" expansion potential and adequate shear strength. The siltstone and claystone portions of the formation can exhibit a "medium" to "very high" expansion potential. Furthermore, the project site contains topsoil deposits, which in general, consist of unconsolidated, clayey sands to sandy clays with a high expansion potential.

Liquefaction

Liquefaction typically occurs when a site is located in a zone with seismic activity, on-site soils are cohesionless, groundwater is encountered within 50 feet of the surface, and soil densities are less than about 70% of the relative density. The Geotechnical Report states that the potential for liquefaction on the project site is considered negligible due to the dense formational material on the project site, shallow groundwater table, and remedial grading recommendation that will be discussed in Section 5.6.3, Impacts (refer to Appendix E for further details).

Groundwater Seepage

Groundwater was identified on site at depths of 165 and 275 feet, respectively, below the existing ground surface. Minor seepage was observed along the alluvium and bedrock contact approximately 7 feet below existing grade (see Appendix G for further details). The groundwater elevations and seepage conditions are expected to fluctuate seasonally.

Slope

The General Plan designates the majority of the project site as being in a steep slope area (City of Chula Vista 2005). Steep slope areas are classified as areas with slopes 25 degrees or steeper. Such areas are prone to hazards such as slope instability, debris flow, rock falls, erosion, and slope creep (City of Chula Vista 2005). As such, the Geotechnical Report analyzed the stability of the proposed and natural slopes on the project site.

Faulting and Seismicity

The closest known active fault" is the Newport-Inglewood Fault Zone, located approximately 9 miles west of the project site. An active fault is defined by the CGS, as a fault showing evidence of activity roughly within the last 11,000 years (Holocene time). Table 5.6-1 presents active faults in proximity to the project site. In addition, the main strand of the La Nación Fault is mapped approximately 0.3 miles west of the project site and has been classified as potentially active, which is defined by CGS as a fault showing evidence of activity within the last 1.8 million years. Furthermore, published geologic maps depict a north–south-striking fault within the eastern portion of the project site. However, the Geotechnical Report did not identify the origin or activity of the fault.

Table 5.6-1. Principal Active Faults Near Project Site

Fault Name	Distance from Project Site (Miles)	Maximum Earthquake Magnitude (M_{max})
Newport–Inglewood	9	7.5
Rose Canyon	9	6.9
Coronado Bank	17	7.4
Palos Verdes Connected	17	7.7
Elsinore	42	7.9
Earthquake Valley	46	6.8

Source: Appendix G.

Landslides

The Geotechnical Report found no evidence of landslide deposits on the project site, or within the geologic literature review other than the ancient "intra-formational landslide" within the Otay Formation that underlies the region. This ancient landslide, which is more than 8 miles wide and approximately 2.5 miles long, is entirely contained within the Otay Formation and terminates along the La Nación Fault to the west (Appendix E).

Paleontological Resources

Paleontological resources are the fossilized remains or traces of plants and animals that are preserved in the earth's crust, and per the Society of Vertebrate Paleontology guidelines (Appendix E), are older than written history or older than approximately 5,500 years.

Methods

A pedestrian survey of the area of potential effect (APE) for cultural and paleontological resources was conducted on April 11, 2020. Areas throughout the APE were inspected at 10- and 15-meter transects.

Additionally, a paleontological records search from the San Diego Natural History Museum (SDNHM) was conducted on April 9, 2020. The records search request included the project APE and a 1-mile-radius buffer around the proposed project. The purpose of the paleontological records search was to assist in identifying geological units within the proposed project APE and determine if any paleontological localities exist within the proposed project APE and 1-mile-radius buffer (refer to Appendix E for further details).

Results

Archival Review

The results of the archival review found that the project is underlain by Holocene (< 11,700 years ago) to late Pleistocene (approximately 129,000 to 11,700 years ago) young alluvial floodplain deposits (map unit Qya), the late Pliocene to early Pleistocene (approximately 3.6 million years ago to 1.8 million years ago) San Diego Formation (map unit Tsdss), and the late Oligocene (approximately 1 million years ago) Otay Formation (map unit To) (Appendix E).

The San Diego National History Museum (SDNHM) paleontological records results were received on April 14, 2020, and no records were found of fossil localities within the boundaries of the project APE. However, 14 fossil localities are located within a 0.5-mile radius of the study area (Appendix E). Of these, two localities are from the Otay Formation and 12 localities are from the San Diego Formation.

Survey Results

The pedestrian survey of the (APE) conducted April 11, 2020, identified no new paleontological resources within the current APE limits. Visibility was overwhelmingly obscured by vegetation, allowing for less than one-third of the ground surface to be viewed in many areas. In addition, the western-most sector of the proposed project site was inaccessible due to the presence of an active, inhabited homeless camp located within the western portion of the site, where open space/Preserve is proposed.

5.6.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to geology and soils is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (refer to Division of Mines and Geology Special Publication 42).

ii. Strong seismic ground shaking.

iii. Seismic-related ground failure, including liquefaction.

iv. Landslides.

B. Result in substantial soil erosion or the loss of topsoil.

C. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

D. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

E. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater.

F. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

5.6.3 Impacts

A. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (refer to Division of Mines and Geology Special Publication 42).

An active fault is defined by the CGS as a fault showing evidence for activity within the last 11,000 years. According to the Geotechnical Report, the project site is not located on any known active, potentially active, or inactive fault traces or within a State of California Earthquake Special Study Zone or Alquist-Priolo Zone. Additionally, the Geotechnical Report concluded that no active, potentially active, or inactive faults are present underlying or trending toward the site (Appendix G). However, as discussed in Section 5.6.1, Existing Conditions, the Newport–Inglewood and Rose Canyon Fault Zones are located approximately 9 miles from the project site. Newport–Inglewood and Rose Canyon Fault Zones are the nearest known active faults and are the dominant source of potential ground motion. Nonetheless, the proposed project would be constructed in accordance with the City's Grading Ordinance, current seismic design specifications, current CBC standards, and other regulatory requirements, which would reduce the potential for risks related to seismic events. Therefore, since development would not be located within an Alquist-Priolo Zone, and would be in compliance with applicable regulatory requirements, impacts associated with the rupture of a known earthquake fault would be **less than significant**.

ii. Strong seismic ground shaking.

Earthquakes that might occur on the Newport–Inglewood and Rose Canyon Fault Zones or other faults within the Southern California and northern Baja California area are potential generators of significant ground motion at the site. As previously discussed, the Newport–Inglewood and Rose Canyon Fault Zones are both located approximately 9 miles from the project site. Newport–Inglewood and Rose Canyon Fault Zones are the nearest known active faults and are the dominant source of potential ground motion. In the event of a major earthquake on any of the active faults within the Southern California and northern Baja California region, the project site, as with other sites in the general vicinity, could be subject to moderate to severe ground shaking. However, the proposed project would be constructed in accordance with the City's Grading Ordinance, current seismic design specifications, current CBC

standards, and other regulatory requirements, which would reduce the potential for risks related to seismic events. Therefore, impacts associated with strong seismic ground shaking would be **less than significant**.

iii. Seismic-related ground failure, including liquefaction.

As discussed in the Geotechnical Report, the potential for liquefaction at the project site is considered to be negligible due to the dense formational material encountered on the project site, lack of a shallow groundwater condition, and the recommendations for remedial grading. Remedial grading shall be required for areas with expansive soils including topsoil, alluvium, and colluvial deposits (Refer to threshold D in this section for further details). However, seismically induced settlement may occur whether the potential for liquefaction exists or not. Although there is potential for seismic-related ground failure to occur, compliance with the City's Grading Ordinance, current seismic design specifications, current CBC standards, and other regulatory requirements, impacts associated with seismic-related ground failure, including liquefaction would be **less than significant**.

iv. Landslides.

The General Plan designates the majority of the project site as being in a steep slope area. However, the Geotechnical Report found no evidence of landslide deposits on the project site, or within the geologic literature review other than the ancient "intra-formational landslide" within the Otay Formation that underlies the region. Additionally, as discussed in the Geotechnical Report, a slope stability analysis was conducted to evaluate the stability of proposed and natural slopes. The findings indicated that a buttress, two shear keys, and stability fills would be required to achieve surficial stability (for further details, refer to Appendix G). In addition, the project proponent is working with the City, to request an MSCP Minor Amendment to allow off-site temporary project impacts that would encroach 25 feet onto City's property and within this Minor Amendment Area (see Figure 5.3-1, Local Environmental Setting Map, and Figure 5.3-4, Biological Impacts Map). The natural ground along the southwest boundary between project site, and the property owned by the City, is underlain by geologic conditions that are below industry standards with respect to slope stability. Minor excavations are planned in this area as part of the development of the project. To bring this area in compliance with code, a buttress fill will be required which consists of over-excavating weak materials from the natural ground and replacing them with soils of higher strength. The dimension of the over-excavation was calculated during slope stability analysis for the proposed project and resulted in the proposed encroachment into the City's property to construct the buttress (Appendix D, Biological Resources Technical Report). The resulting condition after grading will comply with applicable codes and also improve the existing stability of the City's property. Although the project site and Minor Amendment Area resides in a steep slope area, where there is potential for landslides to occur, compliance with the findings of the Geotechnical Report, the City's Grading Ordinance, current seismic design specifications, current CBC standards, and other regulatory requirements ensures that impacts related to landslides would be **less than significant**.

B. Result in substantial soil erosion or the loss of topsoil.

Construction Impacts

Excavation and ground-disturbing activities during construction of the proposed project could potentially leave loose soil exposed to the erosive forces of rainfall and high winds, which increase the potential for soil erosion and loss of topsoil. As discussed in Section 5.9 of this EIR, Hydrology and Water Quality, construction of the project would result in more than 1 acre of land disturbance; therefore, the project will be required to prepare and implement a site-specific Storm Water Pollution Prevention Plan (SWPPP) in accordance with the State Water Resources Control Board (SWRCB) Order No. 2009-0008-DWQ NPDES General Permit No. CAS00002 (Construction General Permit),

amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. Conditions of these existing regulations would include adherence to sediment and stormwater pollutant control best management practices (BMPs), effluent monitoring and compliance, post-construction-period requirements, worker training, and various other measures designed to minimize potential for soil erosion and loss of top soil.

Furthermore, earth-disturbing activities associated with construction would be temporary. Therefore, with construction activities being temporary and with compliance with the General Construction Permit and BMPs outlined in the SWPPP, impacts related to soil erosion and the loss of topsoil would be **less than significant**.

Operational Impacts

During operation, the project would introduce a new residential use with associated infrastructure, resulting in more impervious area to the site. As such, the proposed area to be developed would be graded and paved, greatly reducing the possibility for soil erosion or loss of topsoil compared to current conditions. However, introducing more impervious area would result in more surface runoff, which could lead to more soil erosion and loss of topsoil. As such, a stormwater quality management plan (SWQMP) has been prepared for the project and is referred to as Appendix I1. The SWQMP has been prepared consistent with the requirements of the City's BMP Design Manual and with the requirements of San Diego RWQCB Order No. R9-2013-0001 (Regional MS4 Permit).

The SWQMP prepared for the proposed project specifies site design BMPs that would be implemented to minimize soil erosion and loss of topsoil. Site design BMPs include conserving natural areas, soils, and vegetation; minimizing impervious areas; and minimizing soil compaction. Therefore, with implementation of the SWPPP and incorporation of the BMPs described in the SWQMP, impacts associated with substantial erosion or siltation on or off site would be **less than significant**.

C. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

According to the Geotechnical Report, the geology of the project site consists of surficial soil (previously placed fill, topsoil, alluvium, and colluvium) and the San Diego, Otay, and Sweetwater Formations. The project site is underlain by compressible surficial deposits (topsoil, alluvium, and colluvium) that are unsuitable in their present condition and would require remedial grading (Appendix G). Remedial grading would include removal of unsuitable soils in areas where improvements are planned and compaction of fill material.

The proposed project site is not located on any known active, potentially active, or inactive fault traces, although cracking or lateral spreading of the ground surface as a result of nearby seismic events is possible (Appendix G). Surface ground cracking or lateral spreading related to shaking from distant events is not considered a significant hazard because the potential for liquefaction and seismically induced settlement occurring within the project site is considered to be very low due to the dense nature of the formational materials and the lack of a shallow groundwater condition (Appendix G).

According to the Geotechnical Report, potentially hazardous expansive and compressible soils are currently present on site. However, the project shall incorporate recommendations in accordance with CBC standards regarding slab and structural design criteria (refer to Appendix G for further details). Additionally, expansive soils that occur within 5 feet of finished grade on cut lots should be removed and replaced with properly compacted fill that possesses a "very low" to "low" expansion potential. In addition, the proposed project would be required to comply with the City's Grading Ordinance, current seismic design specifications, current CBC standards, and other regulatory requirements, in addition to implementation of project design features and BMPs and following recommendations of the Geotechnical Report (Appendix G).

Therefore, compliance with existing regulations and recommendations of the Geotechnical Report would ensure that the proposed project would have **less than significant impacts** associated with unstable geologic units.

D. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

As discussed in Section 5.6.1, the project site contains soils that present characteristics susceptible to expansion. The project would be required to incorporate recommendations of the Geotechnical Report, in accordance with CBC standards regarding slab and structural design criteria (refer to Appendix G for further details). Additionally, per the Geotechnical Report, expansive soils that occur within 5 feet of finish grade on cut lots would be removed and replaced with properly compacted fill that possesses a "very low" to "low" expansion potential. Therefore, with adherence to current CBC standards and the recommendations of the Geotechnical Report, impacts associated with expansive soil would be **less than significant**.

E. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater.

The proposed project would not include septic tanks or other alternative wastewater treatment methods. Therefore, implementation of the proposed project would result in **no impact** associated with soils incapable of supporting septic systems or alternative wastewater treatment methods.

F. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As discussed within the Cultural and Paleontological Resources Report (Appendix E), a review of record search data, geological mapping, geological and paleontological literature, and on-site field survey did not identify any existing paleontological resources within the proposed project APE boundaries. However, the paleontological records search performed by SDNHM revealed there are 14 fossil localities within a 0.5-mile radius of the APE boundaries from the San Diego and Otay Formations, which underlie the majority of the proposed project APE. Based on the records search results and map and literature review, the study area has high potential to produce paleontological resources during planned construction activities. Therefore, the project shall implement Mitigation Measure **(MM) GEO-1** to reduce potential impacts in the event paleontological resources are uncovered during construction activities. **MM-GEO-1** requires that a qualified paleontologist be retained for the proposed project, in accordance with the Society of Vertebrate Paleontology guidelines (Appendix E), and a complete paleontological monitoring program be adopted prior to project-related earthmoving activities. Therefore, impacts would be **potentially significant**, but implementation of **MM-GEO-1** would reduce potentially significant impacts to a **less-than-significant** level.

5.6.4 Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would have potentially significant impacts associated with paleontological resources. Impacts prior to mitigation would be **potentially significant**. The remaining issues addressed in this section would be **less than significant**.

5.6.5 Mitigation Measures

Implementation of the following mitigation measure would reduce identified significant impacts associated with paleontological resources to a **less-than-significant** level.

MM-GEO-1 **Paleontological Monitoring Program.** Prior to the issuance of grading permits, the applicant shall provide written confirmation to the City that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with an MS or PhD in paleontology or geology who is familiar with paleontological procedures and techniques.) A pre-grading meeting shall be held that shall include the paleontologist and the grading and excavation contractors.

A paleontological monitor shall be on site at all times during the original cutting of previously undisturbed sediments of highly sensitive geologic formations (i.e., Otay Formation and San Diego Formation) to inspect cuts for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.) The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall be on site on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive geologic formations (e.g., unnamed river terrace deposits and the Mission Valley Formation) to inspect cuts for contained fossils. However, neither of these rock units have been mapped within the project area of potential effect (APE) and are therefore not anticipated to be impacted during construction.

The monitor shall be on site on at least a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (e.g., Lindavista Formation and Santiago Peak Volcanics [metasedimentary portion only]) to inspect cuts for contained fossils. However, these deposits have not been mapped within the project APE and are therefore not anticipated to be impacted during construction. The monitor shall periodically (every several weeks) inspect original cuts in deposits with an unknown resource sensitivity (i.e., Quaternary alluvium).

In the event that fossils are discovered in unknown, low, or moderately sensitive formations, the Applicant shall increase the per-day field monitoring time. Conversely, if fossils are not discovered, the monitoring, at the discretion of the City's Deputy City Manager/Development Services Director or its designee, shall be reduced. A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics, metavolcanic portion).

When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances and at the discretion of the paleontological monitor to set up a screen-washing operation on the site.

Prepared fossils along with copies of all pertinent field notes, photos, and maps shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed. This report shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.

5.6.6 Level of Significance After Mitigation

Implementation of **MM-GEO-1** would reduce potential impacts associated with geology and soils to a **less-than-significant** level.

5.7 Greenhouse Gas Emissions

This section of the environmental impact report (EIR) addresses potential impacts associated with greenhouse gas emissions resulting from the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). The discussion in this section is based on the Air Quality and Greenhouse Gas Emissions Technical Report prepared for the project by Dudek. The complete report is contained in Appendix C of this EIR.

5.7.1 Existing Conditions

5.7.1.1 Regulatory Framework

Federal

Massachusetts v. EPA

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether greenhouse gas (GHG) emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal CAA:

- The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams/mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200), and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines (76 FR 57106–57513).

In August 2016, EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

Clean Power Plan and New Source Performance Standards for Electric Generating Units. In October 2015, EPA published a final rule (effective December 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, EPA published a final rule in October 2015 establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits; additionally, President Trump has called on EPA to review the Clean Power Plan.

State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

EO S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80% below 1990 levels by 2050.

AB 32 and CARB's Climate Change Scoping Plan. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 also authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons [MMT] CO_2e). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) in accordance with Health and Safety Code Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008a):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard.
6. Creating targeted fees, including a public goods charge on water use, fees on high global warming potential (GWP) gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual"). For

purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants; no further regulatory action would impact vehicle fuel efficiency; and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (CARB 2011a), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the Business-As-Usual conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS; CPUC 2015; 12%–20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the Business-As-Usual conditions.

More recently, in 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014a). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014a). Those six areas are: (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

CARB's research efforts presented in the First Update indicate that it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014a). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the Business-As-Usual conditions.

On January 20, 2017, CARB released the *2017 Climate Change Scoping Plan Update* (Second Update) for public review and comment (CARB 2017a). This update presents CARB's strategy for achieving the state's 2030 GHG target as established in SB 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy; CARB 2017b) and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During

development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the Second Update (CARB 2017a). When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states "achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project's GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA" (CARB 2017a). The Second Update was adopted by CARB's Governing Board on December 14, 2017.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets, make changes to CARB's membership and increase legislative oversight of CARB's climate change–based activities, and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH_4 and HFCs and 50% below 2013 levels by 2030 for anthropogenic black carbon) and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its SLCP Reduction Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully

scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402[d]) and cost effectiveness (California Public Resources Code, Sections 25402[b][2] and [3]). These standards are updated to consider and incorporate new energy-efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2016 Title 24 standards became effective on January 1, 2017. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

The 2019 Standards will continue to improve upon the 2016 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 Standards came into effect on January 1, 2020. Nonresidential buildings built under the 2019 Title 24 Standards would use about 30% less energy than those built under the 2016 Title 24 Standards due mainly to lighting upgrades (CEC 2018).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code is commonly referred to as CALGreen and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards first took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The updated CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (CALGreen 2016):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance.
- 65% of construction and demolition waste must be diverted from landfills.
- Mandatory inspections of energy systems to ensure optimal working efficiency.
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations.
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

CPUC, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include (1) all new residential construction in California will be ZNE by 2020 and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013).[1] As most recently defined by CEC in its 2015 *Integrated Energy Policy Report*, a ZNE code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using CEC's Time Dependent Valuation metric (CEC 2015b).

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1. SB 1 (2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the California Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses within 10 years of adoption and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "GoSolarCalifornia," was previously titled "Million Solar Roofs."

AB 1470. This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

AB 1109. Enacted in 2007, AB 1109 required CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (2002) established the RPS program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010.

[1] It is expected that achievement of the ZNE goal will occur via revisions to the Title 24 standards.

SB 1368. SB 1368 (2006) requires 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 CPUC. This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants for which GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

SB X1 2. SB X1 2 (2011) expanded the RPS by establishing that 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 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. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

SB 350. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal of doubling the energy efficiency savings in electricity and natural gas final end uses (such as 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 CPUC, in consultation with CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% 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% of the retail sales of electricity to California. This bill requires that the achievement of 100% 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.

Mobile Sources

AB 1493. In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

EO S-1-07. Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

SB 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing an SCS within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), an SCS does not: (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for the San Diego Association of Governments (SANDAG) are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011a). To improve air quality, CARB has implemented new emissions standards to reduce smog- forming emissions beginning with 2015 model year vehicles. It is estimated that, in 2025, cars will emit 75% less smog-forming pollution than the average new car sold before 2012. To reduce GHG emissions, CARB, in conjunction with EPA and NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero-Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

EO B-16-12. EO B-16-12 (2012) directs state entities under the governor's direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million ZEVs on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

AB 1236. AB 1236 (2015) as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits, unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact on public health or safety and there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact. The bill provides for appeal of that decision to the planning commission, as specified. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance

by September 30, 2016, that creates an expedited and streamlined permitting process for electric vehicle charging stations, as specified. Prior to this statutory deadline, in August 2016, the County Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to its County Code related to the expedited processing of electric vehicle charging stations permits consistent with AB 1236.

SB 350. In 2015, SB 350—the Clean Energy and Pollution Reduction Act—was enacted into law. 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 achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code, Section 740.12).

Solid Waste

AB 939 and AB 341. 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, which oversees 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% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% 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 has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020.

Water

EO 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% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since 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 has 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.

Other State Regulations and Goals

SB 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 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 (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resources Agency adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA 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 CEQA 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 own thresholds of significance or those developed by other agencies or experts. The California Natural Resources Agency 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]).

EO 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 (CNRA 2009), and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014 (CNRA 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 (CNRA 2016). Currently, a draft of the *Safeguarding California Plan: 2017 Update* is being prepared to communicate current and needed actions that the state government should take to build climate change resiliency (CNRA 2017).

2015 State of the State Address. In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals that would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emissions down to 2 tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding to limit global warming to less than 2°C by 2050. The Global Climate Leadership Memorandum of Understanding agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reach a per capita annual emissions goal of less than 2 MT by 2050. A total of 187 jurisdictions representing 38 countries and 6 continents, including California, have signed or endorsed the Global Climate Leadership Memorandum of Understanding (Under 2 Coalition 2017).

Local

San Diego Association of Governments

2050 Regional Transportation Plan/Sustainable Communities Strategy

SANDAG completed and adopted its 2050 RTP/SCS in October 2011 (SANDAG 2011). In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. The matter is pending before the California Supreme Court (Case No. S223603) for determination of whether an environmental impact report for an RTP must include an analysis of the plan's consistency with the GHG reduction goals reflected in EO S-3-05 to comply with CEQA.

Although the environmental impact report for SANDAG's 2050 RTP/SCS is pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines, and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted the Regional Plan. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

City of Chula Vista

International Council of Environmental Initiatives Local Governments for Sustainability

In 1992, the City of Chula Vista (City) participated in the Cities for Climate Protection Program, which aimed at developing municipal action plans for the reduction of GHGs. This program was sponsored and developed by the International Council of Environmental Initiatives and the United Nations Environment Program in response to the United Nations Framework Convention on Climate Change, while recognizing that all local planning and development has direct consequences on energy consumption, and cities exercise key powers over urban infrastructure, including neighborhood design, and over transportation infrastructure, such as roads, streets, pedestrian areas, bicycle lanes, and public transport.

Chula Vista Carbon Dioxide (CO_2) Reduction Plan

Each participant in the International Council of Environmental Initiatives program was to create local policy measures to ensure multiple benefits to the City and, at the same time, identify a carbon reduction goal through the implementation of those measures. The carbon reduction goal was to fit within the realm of international climate treaty reduction goals.

In its CO_2 Reduction Plan, developed in 1996 and officially adopted in 2000, the City committed to lowering its CO_2 emissions by diversifying its transportation system and using energy more efficiently in all sectors. To focus efforts in this direction, the City adopted the international CO_2 reduction goal of returning to pre-1990 levels by 2010. In order to achieve this goal, eight actions were identified, which when fully implemented, were anticipated to save 100,000 tons of CO_2 each year.

As a result of the 2005 GHG Emissions Inventory Report, in May 2007, staff reported to the City Council that City-wide GHG emissions had increased by 35% (mainly due to residential growth) from 1990 to 2005, while emissions on a per capita basis and from municipal operations decreased by 17% and 18%, respectively. The City Council directed staff to convene a Climate Change Working Group to develop recommendations to reduce the community's GHGs in order to meet the City's 2010 GHG emissions reduction targets.

As a result of the 2012 GHG Emissions Inventory Report, staff reported to the City Council that citywide GHG levels are 1,011,481 MT CO_2e. Compared to 2005, the City's GHG emissions have increased by 8%. However, 2012 per capita emissions are approximately 5% below 2005 levels and 33% below 1990 levels. Unlike the last two inventories, 2009 and 2010, there was a slight increase in City-wide energy consumption over the last couple of years due most likely to local economic recovery. As with past inventories, community transportation activity has continued increasing with 2012 vehicle miles traveled about 29% higher than in 2005. In order to reach the current community emissions reduction goal of 20% below 1990 emission levels, the City will have to reduce its GHG emissions by more than 359,332 MT CO_2e (35%); however, statewide initiatives are expected to help achieve some of these reductions by 2020.

Climate Change Working Group

The Climate Change Working Group, which is composed of residents, businesses, and community organization representatives, helps the City develop climate-related programs and policies. In 2008, the group reviewed more than 90 carbon reduction measures and ultimately chose 7 measures to recommend for adoption to the City Council, which the Council subsequently adopted. The measures were designed to reduce or mitigate climate change impacts by reducing GHG emissions within the City to 20% below 1990 levels, in keeping with its CO_2 Reduction Plan and United Nations Framework Convention on Climate Change goals.

In October 2009, the City Council directed the group to evaluate how the City could adapt to potential climate change impacts. The group met throughout 2011 to develop recommendations based on the City's vulnerabilities and risks to climate change. In May 2011, the group adopted the Climate Adaptation Strategies – Implementation Plans, described below, and in 2014, the group released the 2014 Climate Action Plan Update – Recommendations, described below.

Chula Vista Climate Adaptation Strategies – Implementation Plans. The Climate Adaptation Strategies – Implementation Plans document developed by the Climate Change Working Group includes 11 strategies to facilitate the City's adaptation to the potential impacts of global climate change related to energy and water supply, public health, wildfires, ecosystem management, coastal infrastructure, and local economy sectors. The strategies include cool paving, shade trees, cool roofs, local water supply and reuse, stormwater pollution prevention and reuse, education and wildfires, extreme heat plans, open space management, wetlands preservation, sea-level rise and land development codes, and green economy. For each strategy, the plans outline specific implementation components, critical steps, costs, and timelines. In order to limit the necessary staffing and funding required to implement the strategies, the plans were also designed to build on existing municipal efforts, rather than create new, stand-alone policies or programs. Initial implementation of all 11 strategies were phased over a 3-year period after adoption of the plan in 2011.

Chula Vista Climate Protection Measures. On July 10, 2008, the City Council adopted implementation plans for seven climate protection measures to reduce GHG emissions to 20% below 1990 levels by 2012. The implementation plans outline the detailed strategy for initiating, funding, and tracking the following measures:

1. *Clean Vehicle Replacement Policy for City Fleet:* When City fleet vehicles are retired, they will be replaced through the purchase or lease of alternative fuel or hybrid substitutes. In addition, the City fleet will begin to pursue installing new fuel tanks to allow heavy-duty vehicles to convert to biodiesel fuel immediately.

2. *Clean Vehicle Replacement Policy for City-Contracted Fleets:* As contracts for City-contracted fleet services (such as transit buses, trash haulers and street sweeper trucks) are renewed, the City will encourage contractors to replace their vehicles with alternative fuel or hybrid substitutes through the contract bid process. In addition, the City will pursue implementing two hydrogen vehicle demonstration projects.
3. *Business Energy Evaluations:* Businesses with storefronts or offices need to participate in a no-cost energy assessment of their facilities to help identify opportunities for them to reduce monthly energy costs. The business assessment will be integrated into the existing business licensing process and codified through a new municipal ordinance.
4. *Green Building Standard:* The City will implement a citywide, mandatory green building standard for new residential and non-residential construction projects and major renovations. The standard includes four components: 1) adopting a citywide Green Building Standard, 2) adopting a citywide Enhanced Energy Efficiency Standard, 3) launching a Green Building Awareness program for builders, permit applicants and the general public, and 4) developing design guidelines for sustainable development.
5. *Solar and Energy Efficiency Conversion Program:* The City will create a community program to provide residents and businesses with a streamlined, cost-effective opportunity to implement energy efficiency improvements and to install solar/renewable energy systems on their properties. The City will develop a funding mechanism to allow program participants to voluntarily choose to place the improvement costs on their property's tax rolls, thereby avoiding large upfront capital costs. In addition, the program will promote vocational training, local manufacturing, and retail sales opportunities for environmental products and services. To help stimulate the private-sector renewable market and lower the cost for installing renewable energy systems on new homes, the City will require all new residential buildings to include pre-wiring and pre-plumbing for solar photovoltaic and solar hot water systems, respectively.
6. *Smart Growth Around Trolley Stations:* The City will continue to implement the smart growth design principles, which promote mixed-use and walkable and transit-friendly development, particularly in and around the E, H, and Palomar trolley stations. These principles were emphasized in the revised Chula Vista General Plan and the Urban Core Specific Plan. In particular, the City will initiate site planning, design studies and specific area plan development to further support smart growth development that complements GHG reductions.
7. *Turf Lawn Conversion Program:* The City will create a community program to provide residents and businesses with a streamlined, cost-effective opportunity to replace their turf lawns with water-saving landscaping and irrigation systems. Some municipal turf lawn areas (such as medians, fire stations and non-recreational park areas) will also be converted to act as public demonstration sites and to reduce monthly water costs. The City will establish the model for water-wise landscaping for new development through an update of the Chula Vista Municipal Landscape Ordinance and Water Conservation Plan guidelines.

Chula Vista Climate Protection Measures – 2013 Progress Report. Since 2000, the City has been implementing a "Climate Action Plan" (CO_2 Reduction Plan) to address the threat of climate change to the local community. This original plan has been revised to incorporate new climate mitigation (2008) and adaptation (2011) measures to strengthen the City's climate action efforts and to facilitate the numerous community co-benefits, such as utility savings, better air quality, reduced traffic congestion, local economic development, and improved quality of life. Based on available funding, staff has been implementing the 18 climate-related actions and their 57 associated components. Overall, 70% of the components have been successfully completed and/or are being implemented on an ongoing basis, which represents a 7% increase since the last reporting period. Another 26% are still being actively pursued, while only two components remain on hold (City of Chula Vista 2013).

2014 Climate Action Plan Update – Recommendations by the Climate Change Working Group. The Climate Change Working Group has been evaluating new opportunities to help reach the Chula Vista Climate Action Plan (CAP) GHG gas reduction goal of 30% below 2005 levels. As such, they have identified 12 action areas that could generate up to 166,000 MT in reductions by 2020, while improving local air quality, generating utility savings, reducing traffic congestion, and promoting a healthier community (City of Chula Vista 2014).

2017 Climate Action Plan. The latest version of the CAP was adopted on September 26, 2017, by the City Council and provides updated goals, policies, actions, and the latest City-wide inventory and projections. The CAP is not considered a CEQA "qualified" plan under CEQA Guidelines Section 15183.5, as it has not been adopted in a public process following environmental review. The Climate Change Working Group has been evaluating new opportunities to help reach the CAP's GHG gas reduction goals, which are based on the Second Update goals of 6 MT CO_2e per person by 2030 and 2 MT CO_2e per person by 2050. As such, they have identified the following 11 action areas that could generate up to 208,220 MT in reductions by 2020, while improving local air quality, generating utility savings, reducing traffic congestion, and promoting a healthier community (City of Chula Vista 2017):

Water Conservation & Reuse [Estimated Annual GHG Reductions = 12,357 MT CO_2e]

1. Water Education & Enforcement
   A. Expand education and enforcement [through fines] targeting landscape water waste
2. Water Efficiency Upgrades
   A. Update the City's Landscape Water Conservation Ordinance to promote more water-wise landscaping designs
   B. Require water-savings retrofits in existing buildings at a specific point in time (not point of sale)
3. Water Reuse Plan & System Installations
   A. Develop a Water Reuse Master Plan to maximize the use of storm water, graywater [recycled water] and onsite water reclamation
   B. Facilitate simple graywater systems for laundry-to-landscape applications
   C. Streamline complex graywater systems' permit review

Waste Reduction [Estimated Annual GHG Reductions = 38,126 MT CO_2e]

1. Zero Waste Plan
   A. Develop a Zero Waste Plan to supplement statewide green waste, recycling and plastic bag ban efforts

Renewable & Efficient Energy [Estimated Annual GHG Reductions = 70,763 MT CO_2e]

1. Energy Education & Enforcement
   A. Expand education targeting key community segments [e.g., do-it-yourselfers and Millennials] and facilitating energy performance disclosure (e.g., Green Leases, benchmarking and Home Energy Ratings)
   B. Leverage the building inspection process to distribute energy-related information and to deter unpermitted, low performing energy improvements
2. Clean Energy Sources
   A. Incorporate solar photovoltaic into all new residential and commercial buildings [on a project-level basis]
   B. Provide more grid-delivered clean energy (up to 100%) through Community Choice Aggregation or other mechanism

3. Energy Efficiency Upgrades
   A. Expand the City's "cool roof" standards to include re-roofs and western areas
   B. Facilitate more energy upgrades in the community through incentives [e.g., tax breaks and rebates), permit streamlining (where possible) and education [e.g., more local energy efficiency programming]
   C. Require energy-savings retrofits in existing buildings at a specific point in time (not at point of sale)
4. Robust Urban Forests
   A. Plant more shade trees to save energy, address heat island issues and improve air quality

Smart Growth & Transportation [Estimated Annual GHG Reductions = 86,974 MT CO_2e]

1. Complete Streets & Neighborhoods
   A. Incorporate "Complete Streets" principles into municipal capital projects and plans [e.g., the Bicycle and Pedestrian Master Plans and Capital Improvement Program]
   B. Encourage higher density and mixed-use development in Smart Growth areas, especially around trolley stations and other transit nodes
2. Transportation Demand Management
   A. Utilize bike facilities, transit access/passes and other Transportation Demand Management and congestion management offerings
   B. Expand bike-sharing, car-sharing and other "lastmile" transportation options
3. Alternative Fuel Vehicle Readiness
   A. Support the installation of more local alternative fueling stations
   B. Designate preferred parking for alternative fuel vehicles
   C. Design all new residential and commercial buildings to be "Electric Vehicle Ready"

Chula Vista Green Building Standards. Consistent with Measure 4 of the Chula Vista Climate Protection Measures, the City Council adopted the Green Building Standards Ordinance (Ordinance No. 3140) on October 6, 2009, which became effective November 5, 2009. The Green Building Standards Ordinance includes standards for energy efficiency, pollutant controls, interior moisture control, improved indoor air quality and exhaust, indoor water conservation, stormwater management, and construction waste reduction and recycling.

Building permit applications are required to indicate on project construction plans and specifications the Green Building Standards measures that comply with the ordinance. Prior to final building approval or issuance of a certificate of occupancy, the Building Official reviews the information submitted by the applicant and determines whether the applicant has constructed the project in accordance with the permitted plans and documents, and whether the plans are in compliance with the Green Building Standards. In 2013, Chula Vista adopted CALGreen for residential and non-residential development effective January 1, 2014.

Chapter 15.12 Green Building Standards. Title 24, Part 11 (CALGreen), was adopted as the Green Building Code of the City for enhancing the design and construction of buildings, building additions, and alterations through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices, excepting such portions as are hereinafter deleted, modified, or amended.

Chula Vista Increased Energy Efficiency Standards. On January 26, 2010, the City Council adopted the Increased Energy Efficiency Standards Ordinance (Ordinance No. 3149). This ordinance became effective February 26, 2010, as Section 15.26 of the Municipal Code. Permit applications are required to comply with these energy efficiency standards.

Chula Vista Municipal Code (CVMC) Section 15.26.030 requires permit applications to comply with increased energy efficiency standards that achieve 15% to 20% greater efficiency than the requirements of the Title 24 2008 standards, depending on climate zone. The City falls within two climate zones, Zone 7 and Zone 10. The project site is within Zone 7. For Zone 7, the code requires the following:

- All new low-rise residential building or additions, remodels or alterations to existing low-rise residential buildings where the additions, remodels or alterations are greater than 1,000 square feet of conditional floor area, shall use at least 15% less energy than the 2008 Title 24 Building Energy Efficiency Standards allow.
- All new non-residential, high-rise residential or hotel/motel buildings, or additions, remodels or alterations to existing non-residential, high-rise residential or hotel/motel buildings where the additions, remodels or alterations are greater than 10,000 square feet of conditioned floor area, shall use at least 15% less energy than the 2008 Title 24 Building Energy Efficiency Standards.
- No city building permit shall be issued unless the permit application demonstrates to the Building Official compliance with the requirements of Section 15.26.030. Compliance is to be demonstrated based on a performance approach, using a CEC-approved energy compliance software program, as specified in the Title 24 2008 Building Energy Efficiency Standards.

In 2013, the City adopted the Energy Code for Residential and Non-Residential development, effective July 1, 2014. Energy efficiency measures adopted by the CVMC are as follows:

- *Section 15.26.010 – California Energy Code.* The California Energy Code is adopted as the energy code of the City for the purpose of regulating building design and construction standards to increase efficiency in the use of energy for new residential and nonresidential buildings.
- *Section 15.26.020 – Outdoor Lighting Zones.* The City has adopted an outdoor lighting zones map amending state default lighting zones as applied to certain areas of the City. The location of outdoor lighting zones in the City are per the adopted Outdoor Lighting Zones Map, dated September 2, 2005, and kept on file with the City Planning and Building Department.
- *Section 15.28.015 Solar Water Heater Pre-Plumbing (specific to the City).* All new residential units shall include plumbing specifically designed to allow the later installation of a system that utilizes solar energy as the primary means of heating domestic potable water. No building permit shall be issued unless the requirements of this section and the Chula Vista Solar Water Heater Pre-Plumbing Installation Requirements are incorporated into the approved building plans.
- *Section 15.24.065 Pre-Wiring for Photovoltaic (specific to the City).* All new residential units shall include electrical conduit specifically designed to allow the later installation of a photovoltaic system that utilizes solar energy as a means to provide electricity. No building permit shall be issued unless the requirements of this section and the Chula Vista Photovoltaic Pre-Wiring Installation Requirements are incorporated into the approved building plans.
- *Section 15.28.020 Residential Graywater Stub-out (specific to the City).* All new detached single-family dwellings and duplexes shall include a single-source clothes washer graywater outlet and an outside stub-out to allow the later installation of a clothes washer graywater irrigation system that complies with the requirements of Section 1602.1.1 of the 2013 California Plumbing Code. The outlet and stub-out shall be installed in accordance with the Chula Vista Clothes Washer Graywater Pre-Plumbing and Stub-Out for New Residential Construction or an equivalent alternate method and/or material approved by the Building Official.

City of Chula Vista Mandatory Construction and Demolition Debris Recycling Ordinance. Section 8.25.095 of the Chula Vista Municipal Code requires that 90% of inert materials and a minimum of 50% of all other materials be recycled and/or reused from certain covered projects. Covered projects include the following:

- Any project requiring a permit for demolition or construction, which has a project valuation of $20,000 or more
- Housing subdivision construction or demolition and/or any sequenced development will be considered a project in its entirety and not a series of individual projects
- Tenant improvements greater than 1,000 square feet but less than 10,000 square feet and individual single-family home construction, remodel, addition or renovation, shall submit a Waste Management Report only (no deposit required)
- All City projects

Covered projects must submit a waste management plan to the Chula Vista Public Works Department, Environmental Services Division, which must be reviewed and approved prior to the issuance of a demolition or building permit. The waste management plan will indicate how the applicant will recycle and/or reuse 90% of inert materials and at least 50% of the remaining construction and demolition debris generated from the project.

City of Chula Vista Clean Transportation *Energy Roadmap (2012).* The Clean Transportation Energy Roadmap (Roadmap) can serve as a resource for the City as it continues to promote clean transportation measures, both in its municipal operations and in the community. The Roadmap identifies petroleum reduction measures and tools specific to the City that generally result in cost savings and benefits to the environment, including the following:

- An assessment of alternative fuel vehicles and fuel availability for the City's vehicle fleet
- Commuter programs, including vanpools, carpools, and teleworking that the City could promote to its employees
- Online tools to establish a baseline of petroleum consumed and GHGs emitted from employee commutes, as well as annual tracking tools
- Smart growth and active transportation policies that enhance local walking and biking options
- Outreach materials on Clean Transportation programs that can be shared with local residents, schools, and businesses

The Roadmap also recognizes the significant steps that the City has taken already. Since 2000, Chula Vista has been implementing a "Climate Action Plan" (CO_2 Reduction Plan) that includes measures to reduce energy and fuel use at municipal facilities and throughout the community.

City of Chula Vista General Plan

The General Plan (City of Chula Vista 2005) includes various policies related to reducing GHG emissions (both directly and indirectly). Applicable policies include the following:

Land Use and Transportation Element

- *Policy LUT-23.1:* Encourage the use of bicycles and walking as alternatives to driving.
- *Policy LUT-23.2:* Foster the development of a system of inter-connecting bicycle routes throughout the City and region.

- *Policy LUT-23.5:* Provide linkages between bicycle facilities that utilize circulation element alignments and open space corridors.
- *Policy LUT-23.8:* Provide and maintain a safe and efficient system of sidewalks, trails, and pedestrian crossings.
- *Policy LUT-23.14:* Require new development projects to provide internal bikeway systems with connections to the citywide bicycle networks.

Environmental Element

- *Policy E-6.1:* Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.
- *Policy E-6.5:* Ensure that plans developed to meet the City's energy demand use the least polluting strategies, wherever practical. Conservation, clean renewables, and clean distributed generation should be considered as part of the City's energy plan, along with larger natural gas-fired plants.
- *Policy E-6.7:* Encourage innovative energy conservation practices and air quality improvements in new development and redevelopment projects consistent with the City's Air Quality Improvement Plan Guidelines or its equivalent, pursuant to the City's Growth Management Program.
- *Policy E-6.8:* Support the use of alternative fuel transit, City fleet and private vehicles in Chula Vista.
- *Policy E-7.1:* Promote development of regulations and building design standards that maximize energy efficiency through appropriate site and building design and through the use of energy-efficient materials, equipment, and appliances.
- *Policy E-7.6:* Encourage the construction and operation of green buildings, considering such programs as the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.
- *Policy E-7.8:* Ensure that residential and non-residential construction complies with all applicable City energy efficiency measures and other green building measures that are in effect at the time of discretionary permit review and approval or building permit issuance, whichever is applicable.
- *Policy E-8.1:* Promote efforts to reduce waste, minimize the need for additional landfills, and provide economically and environmentally sound resource recovery, management, and disposal facilities.
- *Policy E-8.3:* Implement source reduction strategies, including curbside recycling, use of small collection facilities for recycling, and composting.

5.7.1.2 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and buildup of heat in the atmosphere near the Earth's surface (the troposphere). The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature

and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus contributing substantially to the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. However, recent climate changes, in particular the warming observed over the past century, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and that they are the most significant driver of observed climate change (IPCC 2013; EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Appendix C.

5.7.1.3 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[2] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text. Also included is a discussion of other climate-forcing substances.

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 involve the combustion of fuels, such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure

[2] California Health and Safety Code 38505 identifies seven GHGs that CARB is responsible for monitoring and regulating to reduce emissions: CO_2, CH_4, N_2O, SF_6, HFCs, PFCs, and nitrogen trifluoride (NF_3).

management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, race cars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic, powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric O_3-depleting substances (e.g., chlorofluorocarbons [CFCs], HCFCs, and halons). The most prevalent fluorinated gases include the following:

- *Hydrofluorocarbons:* HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O_3-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as byproducts of industrial processes and are used in manufacturing.
- *Perfluorocarbons:* PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O_3-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- *Sulfur Hexafluoride:* SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- *Nitrogen Trifluoride:* NF_3 is used in the manufacture of a variety of electronics, including semiconductors, and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds with a structure very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter ($PM_{2.5}$), which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the GWP. DPM emissions are a major source of black carbon and are TACs that have been regulated and controlled in California for several decades to protect public health. In relation to declining DPM from CARB's regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014b).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

5.7.1.4 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016). The Intergovernmental Panel on Climate Change (IPCC) developed the Global Warming Potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of carbon dioxide equivalent (CO_2e).

The current version of CalEEMod (version 2016.3.2) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

5.7.1.5 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2006). The effects of climate change are discussed in detail in Appendix C.

5.7.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts associated with greenhouse gas emissions is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
B. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established

thresholds for assessing whether the GHG emissions of a project, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project level under CEQA.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009). The State of California has not adopted emissions-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory "CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review" states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project -by- project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

Neither the State of California, nor the City, nor SDAPCD has adopted emission-based thresholds of significance for GHG emissions under CEQA.

An efficiency threshold sets a per capita emissions limit. The total emissions from a given project are summed and divided by a project's service population (SP) to determine emissions per capita and are compared to the efficiency threshold.[3] Efficiency thresholds have been proposed by various agencies and air districts, including both the Bay Area Air Quality Management District and South Coast Air Quality Management District (SCAQMD). The Bay Area Air Quality Management District and SCAQMD have each developed an efficiency threshold of 6.6 MT CO_2e/SP for plan level developments. Additionally, the Bay Area Air Quality Management District suggested a project-level efficiency threshold of 4.6 MT CO_2e per SP, while SCAQMD suggested a project-level efficiency threshold of 4.8 MT CO_2e per SP. The fault in these proposed thresholds is that they rely on CARB's Scoping Plan reduction goal and statewide population for 2020. The California Supreme Court's decision on the Center for Biological Diversity vs. California Department of Fish and Wildlife determined that project-level analyses should not rely on statewide data. A more localized efficiency threshold must be developed based on the population at the city level. These thresholds were developed assuming compliance with AB 32's 2020 goals.

To develop an efficiency threshold that would satisfy the requirements of *Center for Biological Diversity vs. California Department of Fish and Wildlife* and EO B-30-15, the City's 1990 emissions inventory, less 40%, must be divided by the City's 2030 SP (residents and employees). Project level emissions can then be directly evaluated against a threshold based on local emission reduction goals and local population densities in accordance with the Court's decision on *Center for Biological Diversity vs. California Department of Fish and Wildlife*. It should be noted that the downward trajectory

[3] Service population is defined as the number of residents plus the number of employees within the City.

from AB 32 to SB 32 is greater than that from AB 32 to EO S-3-05, of 80% below 1990 by 2050 (CARB 2017a). By analyzing the project against the quantitative efficiency metric thresholds for the buildout year and for the milestone year for the next legislatively adopted target (2030), this analysis demonstrates that the project would demonstrate progress toward, and be on the trajectory toward, helping the state comply with its long- term targets in EO S-3-05. Developing community-wide mass reduction goals using this approach is consistent with CARB recommendations to determine the targets "based on local emissions sectors" and to "develop community- wide GHG emissions reduction goals necessary to reach 2030 and 2050 climate goals" (CARB 2017a, pp. 100–101).

As provided in the City's 2012 Greenhouse Gas Emissions Inventory, the City's 1990 GHG emissions inventory totals approximately 847,166 MT CO_2e. Based on the 1990 US Census (U.S. Census Bureau 1992), the City's SP in 1990 was 235,344 (135,243 residents + 100,101 employees). Dividing the City's 1990 GHG emissions of 847,166 MT CO_2e by the 1990 SP gives an efficiency metric of 3.60 MT CO_2e per SP.

Consistent with EO B-30-15, the City's 2030 goal is 508,300 MT CO_2e (847,166 × [1−0.40]). Based on the SANDAG Series 13 model (SANDAG 2013), the City's SP in 2030 is estimated at 407,524 (313,474 residents + 94,050 employees).[4] Dividing the City's 2030 GHG emissions goal by the City's 2030 population results in an efficiency metric of 1.25 MT CO_2e per SP.

To develop an efficiency metric for the project's buildout year of 2028, it is necessary to interpolate between the efficiency metrics in 1990 and 2030. Table 5.7-1 shows the calculated efficiency metric for 2028, which is consistent with EO B-30-15.

Table 5.7-1. 2028 Interpolated Efficiency Metric

1990 Efficiency Metric (MT/SP/yr)	2030 Efficiency Metric (MT/SP/yr)	2028 Efficiency Metric[a] (MT/SP/yr)
3.60	1.25	1.37

Source: Appendix C
Notes: MT = metric tons; SP = service population; yr = year.

[a] The 2028 efficiency metric was calculated as follows: {[(2030 Efficiency Metric − 1990 Efficiency Metric) ÷ (2030 − 1990)] × (2028 − 1990)} + (1990 Efficiency Metric).

As shown in Table 5.7-1, the calculated efficiency metric for 2028 based on the City's emissions inventory in 2012 and GHG emissions reduction goal for 2030 was 1.37 MT CO_2e per SP, based on the statewide targets. If the project achieves the 2028 efficiency metric, it would not interfere with attainment of the 2030 and 2050 statewide emission reduction targets and therefore would not interfere with the state's and the City's ability to achieve the mid-term and long-term GHG reduction targets in the CAP.

5.7.3 Impacts

A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction Impacts

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. GHG emissions

[4] The SANDAG Series 13 model provides forecasts for years 2020 and 2035. The forecast for year 2030 was interpolated using the forecasts for 2020 and 2035.

associated with temporary construction activity were quantified using CalEEMod. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Appendix C.

Table 5.7-2 shows the estimated annual GHG construction emissions associated with the project, as well as the amortized construction emissions over a 30-year project life.

Total construction-related GHG emissions for the project were 12,928 MT CO_2e. Estimated 30-year amortized project- generated construction emissions would be approximately 431 MT CO_2e per year. However, because there is no separate GHG threshold for construction emissions alone, the evaluation of significance is discussed in the operational emissions analysis below.

Table 5.7-2. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons			
2021	557.82	0.16	0.00	561.77
2022	2,235.46	0.22	0.00	2,240.93
2023	1,970.91	0.15	0.00	1,974.59
2024	1,945.56	0.14	0.00	1,949.18
2025	1,898.52	0.14	0.00	1,902.07
2026	1,863.72	0.14	0.00	1,867.21
2027	1,832.90	0.14	0.00	1,836.35
2028	595.08	0.05	0.00	596.21
			Total emissions	**12,928.31**
30-year amortized emissions				430.94

Source: Appendix C.
Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix A of Appendix C for complete results.

Operational Emissions

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Appendix C. Although GHG emission reductions from implementation of **PDF-TRA-1** (see Section 4.4.8, Project Design Features) were not quantified, implementation of the following strategies would further reduce the project's vehicle miles traveled, which include providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks.

The estimated operational (year 2028) project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown Table 5.7-3.

Table 5.7-3. Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	8.74	0.01	0.00	8.95
Energy	1,150.05	0.04	0.01	1,155.24
Mobile	3,448.08	0.18	0.00	3,452.51
Solid waste	33.62	1.99	0.00	83.28
Water supply and wastewater	178.62	1.54	0.04	228.13
			Total	4,928.10
Amortized Construction Emissions				430.94
			Operation + Amortized Construction Total	5,359.05

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix A for detailed results.
These emissions reflect CalEEMod "mitigated" output and operational year 2028.

As shown in Table 5.7-3, estimated annual project-generated GHG emissions in 2028 would be approximately 4,928 MT CO_2e per year as a result of project operations. Estimated annual project -generated emissions in 2028 from area, energy, mobile, solid waste, water/wastewater, and amortized project construction emissions would be approximately 5,359 MT CO_2e per year.

City-Specific Efficiency Metric

As discussed in Section 5.7.2, Thresholds of Significance, a quantitative analysis using a City-specific efficiency metric threshold for a post-2020 year (i.e., 2028) was developed. The efficiency metric calculated for 2028 (as shown in Section 5.7.2) is 1.37 MT CO_2e per SP.

The proposed project is anticipated to generate 2,321 residents.[5] Using the estimated operational plus amortized construction emissions of 5,359 MT CO_2e and SP of 2,321, the project would have a GHG efficiency metric of 2.31 MT CO_2e per SP. The project's efficiency metric would exceed the significance threshold efficiency metric of 1.37 MT CO_2e per SP. Therefore, impacts related to GHG emissions associated with the project would be **potentially significant**. Therefore, **Mitigation Measure (MM) GHG-1**, outlined in Section 5.7.5, Mitigation Measures, would be implemented and would minimize GHG emissions associated with project operations. However, approximately 64% of the proposed project's annual GHG emissions are from mobile sources; therefore, to reduce GHG emissions to a less-than-significant level, the project would need to reduce its total GHG emissions by approximately 65% to reduce the project-generated GHG emissions below the City's efficiency threshold. Because the project's SP-based emissions would be more than the City's efficiency metric of 1.37 MT CO_2e per SP, potential GHG emissions impacts associated with exceedance of the City's efficiency metric would be considered **significant and unavoidable** (see Section 5.7.6, Level of Significance After Mitigation, for more details).

B. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The project's consistency with the CAP, SANDAG's Regional Plan, and CARB's Scoping Plan is discussed below.

[5] Note that, while the proposed project would result in construction of 718 residential units, the Air Quality and Greenhouse Gas Emissions Technical Report (Appendix C) assumed 720 proposed residential units for a conservative analysis.

Consistency with the CAP

The CAP is not considered a qualified GHG reduction plan in accordance with CEQA Guidelines Section 15183.5, as it has not been adopted in a public process following environmental review. Therefore, this consistency analysis is included for informational purposes only and will not be used to determine significance.

The project includes several design features that will help reduce its GHG emissions in line with the CAP. Table 5.7-4 identifies the measures and goals within the CAP and the project's consistency with them.

Table 5.7-4. City of Chula Vista Climate Action Plan Consistency Analysis

Category	*Policy Objective or Strategy*	*Consistency Analysis*
Water Conservation & Reuse		
Water Education & Enforcement	Expand education and enforcement [through fines] targeting landscape water waste	Consistent. The project would not impair the ability of the City to expand education and enforcement targeting landscape water waste. Furthermore, as implemented by **MM-GHG-1,** native species and drought-tolerant species shall be used for a minimum of 50% of the ornamental plant palette in non-turf areas to minimize the project's water demand. The project would install purple pipes to use reclaimed water for irrigation.
Water Efficiency Upgrades	Update the City's Landscape Water Conservation Ordinance to promote more water-wise landscaping designs	Consistent. The project would be consistent with the City's Landscape Water Conservation Ordinance. Furthermore, as implemented by **MM-GHG-1,** native species and drought-tolerant species shall be used for a minimum of 50% of the ornamental plant palette in non-turf areas to minimize the project's water demand. The project would install purple pipes to use reclaimed water for irrigation.
	Require water-savings retrofits in existing buildings at a specific point in time (not point of sale)	Not applicable. The project would not impair the ability of the City to require water-savings retrofits for existing buildings.
Water Reuse Plan & System Installations	Develop a Water Reuse Master Plan to maximize the use of storm water, graywater [recycled water] and onsite water reclamation	Consistent. The project would not impair the ability of the City to develop a Water Reuse Master Plan. As implemented by **MM-GHG-1,** the project would install purple pipes to use reclaimed water for irrigation.
	Facilitate simple graywater systems for laundry-to-landscape applications	Consistent. As implemented by **MM-GHG-1,** the project would install purple pipes to use reclaimed water for irrigation.
	Streamline complex graywater systems' permit review	Not applicable. The project would not impair the ability of the City to streamline complex graywater systems permit review.
Waste Reduction		
Zero Waste Plan	Develop a Zero Waste Plan to supplement statewide green waste, recycling and plastic bag ban efforts	Consistent. The project would not impair the ability of the City to develop a Zero Waste Plan. During both construction and operation of the project, the project would comply with all state regulations related to solid waste generation, storage, and

Table 5.7-4. City of Chula Vista Climate Action Plan Consistency Analysis

Category	*Policy Objective or Strategy*	*Consistency Analysis*
		disposal, including the California Integrated Waste Management Act, as amended. As implemented by **MM-GHG-1**, during construction, all wastes would be recycled to the maximum extent possible and exceed the City of Chula Vista's Construction and Demolition Debris Waste Management Plan's 65% diversion of construction and demolition waste.
Renewable & Energy Efficiency		
Energy Education & Enforcement	Expand education targeting key community segments [e.g., do-it-yourselfers and Millennials] and facilitating energy performance disclosure (e.g., Green Leases, benchmarking and Home Energy Ratings)	Not applicable. The project would not impair the ability of the City to expand energy education.
	Leverage the building inspection process to distribute energy-related information and to deter unpermitted, low performing energy improvements	Not applicable. The project would not impair the ability of the City to distribute energy-related information during the building inspection process.
Clean Energy Sources	Incorporate solar photovoltaic into all new residential and commercial buildings [on a project-level basis]	Consistent. The project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.
	Provide more grid-delivered clean energy (up to 100%) through Community Choice Aggregation or other mechanism	Not applicable. The project would not impair the ability of the City to provide a Community Choice Aggregation of clean energy.
Energy Efficiency Upgrades	Expand the City's "cool roof" standards to include re-roofs and western areas	Consistent. The project would install cool roof material, as implemented under **MM-GHG-1,** with a greater solar reflectivity to help conserve energy.
	Facilitate more energy upgrades in the community through incentives [e.g., tax breaks and rebates], permit streamlining (where possible) and education [e.g., more local energy efficiency programming]	Not applicable. The project would not impair the ability of the City to incentivize additional energy upgrades in the community.
	Require energy-savings retrofits in existing buildings at a specific point in time (not at point of sale)	Not applicable. The project would not impair the ability of the City to require energy-savings retrofits for existing buildings.
Robust Urban Forests	Plant more shade trees to save energy, address heat island issues and improve air quality	Consistent. The project would plant 600 shade trees on site to save energy and reduce heat island issues, consistent with the City's Shade Tree Policy No. 576-19.
Smart Growth & Transportation		
Complete Streets & Neighborhoods	Incorporate "Complete Streets" principles into municipal capital projects and plans [e.g., the Bicycle and Pedestrian Master Plans and Capital Improvement Program]	Not applicable. The project would not impair the ability of the City to incorporate Complete Streets principles into the Bicycle and Pedestrian Master Plans and Capital Improvement Program. Furthermore, the Project would install bicycle racks.

Table 5.7-4. City of Chula Vista Climate Action Plan Consistency Analysis

Category	*Policy Objective or Strategy*	*Consistency Analysis*
	Encourage higher density and mixed-use development in Smart Growth areas, especially around trolley stations and other transit nodes	Consistent. The Project would be building on a site within the City and is located close to public transit and I-805 and install bicycle racks. The East Palomar Transit Station is located approximately one mile from the project site. Furthermore, the project is located near commercial and employment centers in an urban setting.
Transportation Demand Management	Utilize bike facilities, transit access/passes and other Transportation Demand Management and congestion management offerings	Consistent. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks.
	Expand bike-sharing, car-sharing and other "last mile" transportation options	Consistent. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks.
Alternative Fuel Vehicle Readiness	Support the installation of more local alternative fueling stations	Consistent. The project would be in compliance with the current building standards. As implemented under **MM-GHG-1,** the project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable. Furthermore, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles.
	Designate preferred parking for alternative fuel vehicles	Consistent. As implemented under **MM-GHG-1**, the project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable. Furthermore, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles.
	Design all new residential and commercial buildings to be "Electric Vehicle Ready"	Consistent. As implemented under **MM-GHG-1**, the project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable.

Source: City of Chula Vista 2017.
Notes: City = City of Chula Vista; project = Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project.

As shown in Table 5.7-4, the project would be consistent with the applicable measures within the CAP.

Consistency with San Diego Forward: The Regional Plan

Regarding consistency with SANDAG's Regional Plan, the project would include site design elements and project design features (PDFs) (see Section 4.4.8, Project Design Features) developed to support the policy objectives of the RTP and SB 375.

Table 5.7-5 illustrates the project's consistency with all applicable goals and policies of the Regional Plan (SANDAG 2015).

Table 5.7-5. San Diego Forward: The Regional Plan Consistency Analysis

Category	*Policy Objective or Strategy*	*Consistency Analysis*
The Regional Plan – Policy Objectives		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	Consistent. The project would provide pedestrian and bicycle connectivity to the neighborhood. Furthermore, the project would be located near MTS bus route~~s 703 and~~ 704 and I-805. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks.
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	Not applicable. The project would not impair SANDAG's ability to employ new technologies to make travel more reliable and convenient.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	Consistent. The project would be located close to major urban centers, and the project would provide housing to the area, while preserving adjacent open space as part of the Chula Vista MSCP Subarea Plan. Furthermore, the project is located near commercial and employment centers in an urban setting.
Habitat and Open Space Preservation	Protect and restore our region's urban canyons, coastlines, beaches, and water resources.	Not applicable. The project would not impair the ability of SANDAG to protect and restore urban canyons, coastlines, beaches, and water resources.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	Not applicable. The project would not impair SANDAG's ability to invest in transportation projects available to all members of the community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	Not applicable. The project does not propose regional freight movement, nor would it impair SANDAG's ability to preserve and expand options for regional freight movement.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a	Not applicable. The project would not impair SANDAG's ability to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations.

Table 5.7-5. San Diego Forward: The Regional Plan Consistency Analysis

Category	*Policy Objective or Strategy*	*Consistency Analysis*
	transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all.	
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	Not applicable. The project would not impair SANDAG's ability to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	Consistent. The project would provide pedestrian and bicycle connectivity to the neighborhood and install bicycle racks. Furthermore, the project would be located near MTS bus route~~s 703 and~~ 704 and I-805. The East Palomar Transit Station is located approximately one mile from the project site. Furthermore, the project is located near commercial and employment centers in an urban setting.
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	Consistent. The project would provide pedestrian and bicycle connectivity to the neighborhood and install bicycle racks. Furthermore, the project would install bicycle racks and be located near MTS bus route~~s 703 and~~ 704 and I-805. The East Palomar Transit Station is located approximately one mile from the project site. Furthermore, the project is located near commercial and employment centers in an urban setting.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	Consistent. The project would provide pedestrian and bicycle connectivity to the neighborhood and install bicycle racks. Furthermore, the project would be located near MTS bus route~~s 703 and~~ 704 and I-805. The East Palomar Transit Station is located approximately one mile from the project site. Furthermore, the project is located near commercial and employment centers in an urban setting. As implemented under ~~MM-GHG-1~~, the project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable. Furthermore, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles.
Environmental Stewardship	Support energy programs that promote sustainability.	Consistent. The project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.
Sustainable Communities Strategy – Strategies		
Strategy No. 1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	Consistent. The project would be located close to major urban centers, existing MTS transit service and the project would provide housing to the area. The East Palomar Transit Station is located approximately one mile from the project site. Furthermore, the project is located near commercial and employment centers in an urban setting.

Table 5.7-5. San Diego Forward: The Regional Plan Consistency Analysis

Category	*Policy Objective or Strategy*	*Consistency Analysis*
Strategy No. 2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	Consistent. The project would be located close to major urban centers, and the project would provide housing to the area, while preserving on-site open space at part of the Chula Vista MSCP Subarea Plan. Furthermore, the project is located near commercial and employment centers in an urban setting.
Strategy No. 3	Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.	Consistent. The project would provide pedestrian and bicycle connectivity to the neighborhood. Furthermore, the project would be located near MTS bus route~~s 703 and~~ 704 and I-805. The East Palomar Transit Station is located approximately one mile from the project site. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks. As implemented under **MM-GHG-1**, the project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable. Furthermore, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles.
Strategy No. 4	Address the housing needs of all economic segments of the population.	Consistent. The project would provide multifamily residential units that would expand the housing choices in the region.
Strategy No. 5	Implement the Regional Plan through incentives and collaboration.	Not applicable. The project would not impair SANDAG's ability to implement the Regional Plan through incentives and collaboration.

Source: SANDAG 2015.
Notes: MTS = San Diego Metropolitan Transit System; project = Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project; SANDAG = San Diego Association of Governments; MSCP = Multiple Species Conservation Program.

As shown in Table 5.7-5, the project is consistent with all applicable Regional Plan policy objectives or strategies.

Consistency with CARB's Scoping Plan

The Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. In the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the California Natural Resources Agency observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009). However, under the Scoping Plan, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted

many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. The project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 5.7-6 highlights measures that have been developed under the Scoping Plan, including the recommended approaches for interim GHG thresholds under CEQA (CARB 2008b), and the project's consistency with Scoping Plan measures. The table also includes measures in the 2017 Scoping Plan Update. To the extent that these regulations are applicable to the project and its inhabitants or uses, the project would comply with all applicable regulations adopted in furtherance of the Scoping Plan.

Table 5.7-6 illustrates the project's consistency with all applicable measures of the CARB Scoping Plan.

Table 5.7-6. Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies

Scoping Plan Measure	*Measure Number*	*Project Consistency*
Transportation Sector		
Advanced Clean Cars	T-1	The project's residents would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
1.5 Million Zero-Emission and Plug-In Hybrid Light-Duty Electric Vehicles by 2025 (4.2 Million Zero-Emissions Vehicles by 2030)	N/A	As implemented under **MM-GHG-1**, the project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable. Furthermore, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles.
Low Carbon Fuel Standard	T-2	Motor vehicles driven by the project's residents would use compliant fuels.
Low Carbon Fuel Standard (18% reduction in carbon intensity by 2030)	N/A	Motor vehicles driven by the project's residents would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	The project would provide pedestrian and bicycle connectivity to the neighborhood. Further, the project would be located near MTS bus route~~s 703 and~~ 704 and I-805. The East Palomar Transit Station is located approximately one mile from the project site. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features), which includes the following strategies that would further reduce the project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks. Furthermore, the project is located near commercial and employment centers in an urban setting.
Advanced Clean Transit	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 5.7-6. Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies

Scoping Plan Measure	*Measure Number*	*Project Consistency*
Last Mile Delivery	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction in Vehicle Miles Traveled	N/A	The project would provide pedestrian and bicycle connectivity to the neighborhood and install bicycle racks. Further, the project site is located near MTS bus routes ~~703 and~~ 704 and I-805. The East Palomar Transit Station is located approximately one mile from the project site. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the project's vehicle miles traveled. Furthermore, the project is located near commercial and employment centers in an urban setting.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil Solar-Reflective Automotive Paint and Window Glazing	T-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Ship Electrification at Ports (Shore Power)	T-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti- Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
California Sustainable Freight Action Plan	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas	T-7	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 5.7-6. Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies

Scoping Plan Measure	*Measure Number*	*Project Consistency*
Standards for New Vehicle and Engines (Phase I)		
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive project	T-8	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Medium and Heavy-Duty GHG Phase 2	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
High-Speed Rail	T-9	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	The project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction. As implemented by **MM-GHG-1**, the project would install energy-efficient lighting for all street, parking, and area lighting associated with the Project. Furthermore, energy-efficient design practices, such as high-performance glazing, Energy Star compliant systems and appliances, radiant heat roof barriers, insulation on all pipes, programmable thermostats, and sealed ducts, shall be implemented. The project would install cool roof material with a greater solar reflectivity to help conserve energy. In addition, the project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.
Energy Efficiency (Natural Gas)	CR-1	The project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	The project would not employ solar water heating. However, the project would comply with the energy-efficient requirements of the current building codes.
Combined Heat and Power	E-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Renewables Portfolio Standard (33% by 2020)	E-3	The project would use energy supplied by SDG&E, which is in compliance with the Renewables Portfolio Standard. In addition, the project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.
Renewables Portfolio Standard (50% by 2050)	N/A	The project would use energy supplied by SDG&E, which is in compliance with the Renewables Portfolio Standard. In addition, the project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.

Table 5.7-6. Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies

Scoping Plan Measure	*Measure Number*	*Project Consistency*
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	The project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.
Water Sector		
Water Use Efficiency	W-1	The project's buildings would meet water use efficiency standards that are in effect at the time of construction. Furthermore, as implemented by **MM-GHG-1**, the project shall install low-flow water fixtures such as low-flow toilets, faucets, showers, etc.
Water Recycling	W-2	As implemented by **MM-GHG-1,** The project would install purple pipes to use reclaimed water for irrigation.
Water System Energy Efficiency	W-3	This is applicable for the transmission and treatment of water, but it is not applicable for the project.
Reuse Urban Runoff	W-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Renewable Energy Production	W-5	Applicable for wastewater treatment systems. Not applicable for the project.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	The project would be constructed in compliance with state or local green building standards in effect at the time of building construction.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	The project's buildings would meet green building standards that are in effect at the time of construction. As implemented by **MM-GHG-1**, the project would install energy-efficient lighting for all street, parking, and area lighting associated with the Project. Furthermore, energy-efficient design practices, such as high-performance glazing, Energy Star compliant systems and appliances, radiant heat roof barriers, insulation on all pipes, programmable thermostats, and sealed ducts, shall be implemented. In addition, the project would install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	The project would be constructed in compliance with local green building standards in effect at the time of building construction. As implemented by **MM-GHG-1**, the project would install energy-efficient lighting for all street, parking, and area lighting associated with the Project. Furthermore, energy-efficient design practices, such as high-performance glazing, Energy Star compliant systems and appliances, radiant heat roof barriers, insulation on all pipes, programmable thermostats, and sealed ducts, shall be implemented. In addition, the project would

Table 5.7-6. Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies

Scoping Plan Measure	*Measure Number*	*Project Consistency*
		install a 1,462-kW solar photovoltaic system meeting the minimum 2019 Title 24 requirement.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan Measure.
Refinery Flare Recovery Process Improvements	I-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan Measure.
Work with the Local Air Districts to Evaluate Amendments to Their Existing Leak Detection and Repair Rules for Industrial Facilities to Include Methane Leaks	I-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Mandatory Commercial Recycling	RW-3	During both construction and operation of the project, the project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. As implemented by **MM-GHG-1**, during construction, all wastes would be recycled to the maximum extent possible and exceed the City of Chula Vista's Construction and Demolition Debris Waste Management Plan's 65% diversion of construction and demolition waste.
Increase Production and Markets for Compost and Other Organics	RW-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 5.7-6. Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies

Scoping Plan Measure	*Measure Number*	*Project Consistency*
Anaerobic/Aerobic Digestion	RW-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Extended Producer Responsibility	RW-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Environmentally Preferable Purchasing	RW-7	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Forests Sector		
Sustainable Forest Target	F-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
High Global Warming Potential Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Limit High Global Warming Potential Use in Consumer Products	H-4	The project's residents would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
40% Reduction in Methane and Hydrofluorocarbon Emissions	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 5.7-6. Project Consistency with Scoping Plan Greenhouse Gas Emissions Reduction Strategies

Scoping Plan Measure	*Measure Number*	*Project Consistency*
50% reduction in black carbon emissions	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Source: CARB 2008a, 2008b, 2017a.
Notes: project = Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project; CARB = California Air Resources Board; N/A = not applicable; GHG = greenhouse gas; MTS = San Diego Metropolitan Transit System; SDG&E = San Diego Gas & Electric Company; SF_6 = sulfur hexafluoride.

As shown in Table 5.7-6, the project would be consistent with the applicable measures and policy goals of CARB's Scoping Plan. Because the proposed project is consistent with the applicable plans, policies, and regulations adopted for regulation of GHG emissions, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

However, as discussed in Threshold A., above, because project's SP-based emissions would be more than the City's efficiency metric of 1.37 MT CO_2e per SP, the proposed project would potentially conflict with the state's ability to meet future GHG emission reductions. Therefore, the project's GHG emissions impact would be **potentially significant.** Although GHG emission reductions from implementation of **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR) were not quantified, implementation of the following strategies would further reduce the project's vehicle miles traveled, which include providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks. The project would provide pedestrian and bicycle connectivity to the neighborhood due to proximity to bicycle routes, provide pedestrian sidewalk connections. Furthermore, the Project would be located near MTS bus route~~s 703 and~~ 704 and I-805. These Project characteristics would promote pedestrian and bicycle activity and alternate forms of transportation. GHG emissions associated with project would be minimize to the extent feasible with implementation of **MM-GHG-1,** which include installation of low-flow water fixtures, use of reclaimed water, pre-wiring for EV capable, installing energy-efficient appliances and design practices, installing cool roofs, and planting 600 trees and 40 acres of shrubs. However, since the specific path to compliance for the state with regard to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the proposed project would be speculative and cannot be identified at this time. The proposed project's GHG emissions would therefore result in a **significant and unavoidable impact** (see Section 5.7.6 for more details)**.**

5.7.4 Level of Significance Prior to Mitigation

The Project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the Project's vehicle miles traveled, including providing ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks. Furthermore, the project would provide pedestrian and bicycle connectivity to the neighborhood due to proximity to bicycle routes, provide pedestrian sidewalk connections. Furthermore, the project would be located near MTS bus route~~s 703 and~~

704 and I-805, and the East Palomar Transit Station is located approximately one mile from the project site. The project is located near commercial and employment centers in an urban setting. These project characteristics would promote pedestrian and bicycle activity and encourage alternate forms of transportation. Prior to mitigation, the proposed project would have potentially significant impacts associated with project's efficiency metric and the state's ability to meet future GHG emission reductions. Impacts prior to mitigation would be **potentially significant**.

5.7.5 Mitigation Measures

The following mitigation measure would be implemented to reduce identified significant impacts associated with climate change:

MM-GHG-1 **Greenhouse Gas Emissions Reduction Measures.** The following GHG emissions reduction measures shall be implemented:

- Off-road construction equipment with engines rated at 75 horsepower or greater shall meet at a minimum Tier 3 standard.
- Install purple pipes to provide reclaimed water for outdoor water use.
- Install low-flow water fixtures such as low-flow toilets, faucets, showers, etc.
- Two parking spaces shall be pre-wired for electric vehicle (EV) capable and designated as preferential parking spaces shall be provided for carpool, shared, electric, and hydrogen vehicles.
- 718 parking garages shall be pre-wired to be EV capable.
- Energy-efficient lighting shall be used for all street, parking, and area lighting associated with the proposed project, including all on-site and off-site lighting.
- Energy-efficient design practices, such as high-performance glazing, Energy Star compliant systems and appliances, radiant heat roof barriers, insulation on all pipes, programmable thermostats, and sealed ducts, shall be implemented.
- Native species and drought-tolerant species shall be used for a minimum of 50% of the ornamental plant palette in non-turf areas to minimize water demand.
- Recycling of construction debris and waste shall be ensured through administration by an on-site recycling coordinator and presence of recycling/separation areas. Exceed the City of Chula Vista's Construction and Demolition Debris Waste Management Plan's 65% diversion of construction and demolition waste.
- Install cool roofs that meet the U.S. Green Building Council standards with a greater solar reflectivity to help conserve energy.
- Install 1,462-kilowatt solar photovoltaic system meeting the minimum 2019 Title 24 standards.
- Install bicycle racks.
- The project shall plant 600 trees and 40 acres of shrubs.

5.7.6 Level of Significance After Mitigation

Implementation of **MM-GHG-1** would minimize GHG emissions associated with project construction and operations to the extent feasible. The project would implement **PDF-TRA-1** (see Section 4.4.8, Project Design Features, of the EIR), which includes the following strategies that would further reduce the project's vehicle miles traveled, including providing

ride share coordination services, coordinating with nearby schools to carpool to/from school, provide on-site transit opportunities information, and encourage bicycling by providing on-site bicycle infrastructure such as bike racks. Furthermore, the project would provide pedestrian and bicycle connectivity to the neighborhood due to proximity to bicycle routes, provide pedestrian sidewalk connections. Furthermore, the project would be located near MTS bus routes ~~703 and~~ 704 and I-805, and the East Palomar Transit Station is located approximately one mile from the project site. The project is located near commercial and employment centers in an urban setting. The project would pre-wire two parking spots and the project's 718 parking garages to be electric vehicle capable. In addition, the two pre-wired parking spots would be designated for carpool, shared, electric, and hydrogen vehicles. These project characteristics would promote pedestrian and bicycle activity and encourage alternate forms of transportation. However, approximately 64% of the project's annual GHG emissions are from mobile sources; therefore, to reduce GHG emissions to a less-than-significant level, the project would need to reduce its total GHG emissions by approximately 65% to reduce the project-generated GHG emissions below the City's efficiency threshold. Because the project's SP-based emissions would be more than the City's efficiency metric of 1.37 MT CO_2e per SP, potential GHG emissions impacts would be considered **significant and unavoidable**.

In addition, since the specific path to compliance for the state with regard to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the proposed project would be speculative and cannot be identified at this time. While implementation of **MM-GHG-1** would help reduce the GHG emissions of the proposed project, many measures are not quantifiable and/or the extent to which some measures that may be developed in the future would apply to the project is unknown. The proposed project's GHG emissions would therefore result in a **significant and unavoidable impact.**

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5.8 Hazards and Hazardous Materials

This section of the environmental impact report (EIR) addresses hazardous materials, airport hazards, wildland fire, and emergency response and evacuation plan issues associated with the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). This analysis provides information on the existing conditions of the project site, the locations of potentially hazardous materials sites, and the potential for the proposed project to expose the public or the environment to hazards or hazardous materials. Information provided in this section is based on the Phase 1 Environmental Site Assessment (ESA) and Soil Vapor Investigation Memorandum (Memo) prepared by Geosyntec and included in Appendix H1 and Appendix H2, respectively; the Fire Protection Plan (FPP), prepared by Dudek and included in Appendix H3 of this EIR; and other sources are as cited throughout this section.

5.8.1 Existing Conditions

5.8.1.1 Regulatory Framework

Federal

Federal Toxic Substances Control Act of 1976

The Federal Toxic Substances Control Act of 1976 tasked the U.S. Environmental Protection Agency (EPA) with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. The Federal Toxic Substances Control Act addresses the production, importation, use, and disposal of specific chemicals including PCBs, asbestos, radon, and lead-based paint (EPA 2020a).

Resource Conservation and Recovery Act of 1976

The objectives of the Resource Conservation and Recovery Act of 1976 are to protect human health and the environment from the potential hazards of waste disposal, conserve energy and natural resources, reduce the amount of waste generated, and ensure that wastes are managed in an environmentally sound manner. The Resource Conservation and Recovery Act affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act. The Hazardous and Solid Waste Amendments of 1984 also added Subtitle I, which governs underground storage tanks (EPA 2020b).

Comprehensive Environmental Response, Compensation, and Liability Act of 1980

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priorities List, which is a list of contaminated sites warranting further investigation by EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986 (EPA 2018a).

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act amended CERCLA on October 17, 1986. The Superfund Amendments and Reauthorization Act had several changes and additions, including the following:

- Stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites
- Required Superfund actions to consider the standards and requirements found in other state and federal environmental laws and regulations
- Provided new enforcement authorities and settlement tools
- Increased state involvement in every phase of the Superfund program
- Increased the focus on human health problems posed by hazardous waste sites
- Encouraged greater citizen participation in making decisions on how sites should be cleaned up
- Increased the size of the trust fund to $8.5 billion

The Superfund Amendments and Reauthorization Act also required the EPA to revise the Hazard Ranking System to ensure that it accurately assessed the relative degree of risk to human health and the environment posed by uncontrolled hazardous waste sites that may be placed on the National Priorities List (EPA 2018b).

Hazardous Materials Transportation Act

The U.S. Department of Transportation regulates hazardous materials transportation between states under the Code of Federal Regulations, Title 49, Chapter 1, Parts 100–185. In California, the California Department of Transportation (Caltrans) and the California Highway Patrol enforce federal law related to the transport of hazardous materials. Together, these agencies determine driver training requirements, load labelling procedures, and specifications for container types.

Occupational Safety and Health Act of 1970 and Occupational Safety and Health Administration

The Occupational Safety and Health Act of 1970 was passed to prevent workers from being killed or seriously harmed at work. The Occupational Safety and Health Act created the Occupational Safety and Health Administration (OSHA), which sets and enforces protective workplace safety and health standards. OSHA also provides information, training, and assistance to employers and workers. Under the Occupational Safety and Health Act, employers have the responsibility to provide a safe workplace (OSHA 2014).

Federal Aviation Administration Functions

The Federal Aviation Administration (FAA) has primary responsibility for the safety of civil aviation. The FAA's major functions regarding hazards include (1) developing and operating a common system of air traffic control and navigation for both civil and military aircraft, (2) developing and implementing programs to control aircraft noise and other environmental effects of civil aviation, (3) regulating U.S. commercial space transportation, (4) researching and developing the National Airspace System and civil aeronautics, (5) regulating civil aviation to promote safety, and (6) encouraging and developing civil aeronautics, including new aviation technology (FAA 2019).

Federal Response Plan

The Federal Response Plan of 1999 (FEMA 1999) is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

State

Hazardous Materials Management Act

Requires that businesses handling or storing certain amounts of hazardous materials prepare a hazardous materials business plan, which includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program.

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

Requires the governor to publish and update, at least annually, a list of chemicals known to the state to cause cancer, birth defects, or other reproductive harm and to inform citizens about exposures to such chemicals.

Hazardous Waste Management Planning and Facility Siting, also known as the Tanner Act (Assembly Bill 2948, 1986)

Requires counties to prepare, for California Department of Toxic Substance Control (DTSC) approval, hazardous waste management plans and prescribes specific public participation activities, which must be carried out during the local land use permit process for siting new or expanding off-site commercial treatment, storage, and disposal facilities.

California Environmental Protection Agency

The boards, departments, and offices that make up the California Environmental Protection Agency (CalEPA) include the California Air Resources Board, the Department of Pesticide Regulation, the Department of Resources Recycling and Recovery, DTSC, the Office of Environmental Health Hazard Assessment, and the State Water Resources Control Board. These boards, departments, and offices were placed within the CalEPA "umbrella" to create a cabinet-level voice for the protection of human health and the environment (such as clean air, clean water, clean soil, safe pesticides, and waste recycling and reduction) to assure the coordinated deployment of state resources (CalEPA 2020a).

Cortese List/Government Code Section 65962.5

Pursuant to Government Code, Section 65962.5, environmental regulatory database lists are compiled to identify and locate properties with known hazardous substance contamination (California Government Code, Section 65960 et seq.). Four state agencies are required to provide lists of facilities that have contributed to, harbor, or are responsible for environmental contamination within their jurisdiction. The four state agencies that are required to provide these lists to the Secretary for Environmental Protection include DTSC, the State Department for Health Services, the State Water Resources Control Board, and the California Integrated Waste Management Board. The Secretary for Environmental Protection then takes each of the four respective agency lists and forms one list, referred to as the Hazardous Waste and Substances Site List – Site Cleanup (Cortese List), which is made available to every city and/or county in California (CalEPA 2020b).

California Occupational Safety and Health Administration

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 California Code of Regulations [CCR], Sections 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

California Hazardous Waste Control Law

The California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) is administered by CalEPA to regulate the management of hazardous wastes. While the California Hazardous Waste Control Law is generally more stringent than the Resource Conservation and Recovery Act, until EPA approves the California Hazardous Waste Control Program (which is charged with regulating the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The Hazardous Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

California Accidental Release Prevention Program

Similar to the Federal Risk Management Program, the California Accidental Release Prevention Program includes additional state requirements and an additional list of regulated substances and thresholds. The regulations of the program are contained in California Code of Regulations Title 19, Division 2, Chapter 4.5. The intent of the California Accidental Release Prevention Program is to prevent accidental releases of substances that can cause serious harm to the public and the environment, minimize the damage if releases do occur, and satisfy community right-to-know laws.

California Health and Safety Code

The handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95, of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a hazardous materials business plan. Hazardous materials business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state. Chapter 6.95 of the California Health and Safety Code establishes minimum statewide standards for hazardous materials business plans.

In addition, in the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by the California Health and Safety Code, facilities are also required to prepare a risk management plan and California accidental release plan. The risk management plan and California accidental release plan provide information on the potential impact zone of a worst-case release and require plans and programs designed to minimize the probability of a release and mitigate potential impacts (California Health and Safety Code, Chapter 6.95).

Title 24 California Building Standards Code

California Building Code

California Building Standards Code Title 24, Part 2 contains the California Building Code. California Building Code Chapter 7A regulates building materials, systems, and/or assemblies used in the exterior design and construction of

new buildings located within a fire hazard area. Fire hazard areas as defined by the California Building Code include areas identified as a Fire Hazard Severity Zone (FHSZ) within a State Responsibility Area or a wildland–urban interface fire area. The purpose of Chapter 7A is to establish minimum standards for the protection of life and property by increasing the ability of structures located in a fire hazard area to resist the intrusion of flames or burning embers projected by a wildfire, and to contribute to a systematic reduction in structural losses from a wildfire. New buildings located in such areas must comply with the ignition-resistant construction standards outlined in Chapter 7A.

California Fire Code

California Building Standards Code Title 24, Part 9 contains the California Fire Code (CFC), which incorporates by adoption the International Fire Code with necessary California amendments. The purpose of the CFC is to establish the minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. CFC, Chapter 49 contains minimum standards for development in the wildland–urban interface and fire hazard areas.

The CFC and Office of the State Fire Marshal provide regulations and guidance for local agencies in the development and enforcement of fire safety standards. The CFC is updated and published every 3 years by the California Building Standards Commission. The 2016 CFC took effect on January 1, 2017, and the 2019 CFC took effect on January 1, 2020. The City adopted the 2016 CFC with local amendments in August 2018.

California Code of Regulations, Title 14, Division 1.5

California Code of Regulations Title 14, Division 1.5, establishes the regulations for the California Department of Forestry and Fire Protection (CAL FIRE) and is applicable in all State Responsibility Areas—areas where CAL FIRE is responsible for wildfire protection. Most of the unincorporated area of San Diego County is a State Responsibility Area, and any development in State Responsibility Areas must comply with these regulations. Among other things, Title 14 Section 1270, et seq. establishes minimum standards for emergency access, fuel modification, setback to property line, signage, and water supply. The County of San Diego's (County) most recent adoption of the Consolidated Fire Code (2014) was certified by the State Board of Forestry, indicating that its code requirements meet or exceed Title 14 Section 1270 et seq., and with that certification, the County Consolidated Fire Code supersedes Title 14 Section 1270 et seq. in the unincorporated areas of the County.

California Emergency Services Act

Under the Emergency Services Act (California Government Code, Section 8550 et seq.), the State of California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered by the Governor's Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the EPA, California Highway Patrol, Regional Water Quality Control Boards (RWQCBs), air quality management districts, and county disaster response offices.

California Code of Regulations Title 5, Division 1, Chapter 13, Subchapter 1 – School Facilities Construction

California Code of Regulations Title 5, Division 1, Chapter 13, Subchapter 1 establishes minimum standards for siting of schools and school construction to provide safety for students and staff. The regulation establishes minimum distances that schools can be located from potential hazards such as power line easements and sets screening distances for other hazards that would require a safety study, such as a railroad track easement. Section

14010(h) states that schools shall not be located near an above-ground water or fuel storage tank or within 1,500 feet of the easement of an above-ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study. Section 14010(t) states that if the proposed site is on or within 2,000 feet of a significant disposal of hazardous waste, the school district shall contact DTSC for a determination of whether the property should be considered a hazardous waste property or border zone property and unsuitable for school development.

South Coast Air Quality Management District – Rule 1403

The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials (ACWM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

Local

San Diego County Department of Environmental Health

The San Diego County Department of Environmental Health (DEH) serves to protect the environment and enhance public health by preventing disease, promoting environmental responsibility and, when necessary enforcing environmental and public health laws. Within DEH, the Hazardous Materials Division (HMD) protects human health and the environment by ensuring that hazardous materials, hazardous waste, medical waste and underground storage tanks are properly managed. To accomplish this goal, HMD regulates facilities that handle or store hazardous materials, are part of the California Accidental Release Prevention Program, generate or treat hazardous wastes or medical waste, store at least 1320 gallons of aboveground petroleum, and own or operate underground storage tanks. DEH identifies disposal locations for household hazardous waste as well as scheduled household waste collection events (DEH 2020).

Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB) implements the California Water Code, which regulates waste discharges to land. If a discharge of waste threatens a water of the state, a report of waste discharge or an application for a waiver of a report of waste discharge must be filed with the RWQCB. The RWQCB accomplishes its permitting responsibility by issuing either a general or site-specific permit (Waste Discharge Permit) or a waiver of a permit.

San Diego County Emergency Operations Plan

The San Diego County Emergency Operations Plan is a comprehensive emergency management system that provides for a planned response to disaster situations associated with natural disasters, technological incidents, and nuclear defense operations. The Emergency Plan includes operational concepts relating to various emergency situations, identifies components of the Emergency Management Organization and describes the overall responsibilities for protecting life and property and assuring the overall well-being of the population. The plan also identifies the sources of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies, and the private sector (County of San Diego 2018).

County of San Diego, Consolidated Fire Code

The County, in collaboration with the local fire protection districts, created the first Consolidated Fire Code in 2001. The Consolidated Fire Code contains the County and fire protection districts amendments to the California Fire Code. The purpose of consolidation of the County and local fire districts' adoptive ordinances is to promote consistency in the interpretation and enforcement of the fire code for the protection of the public health and safety. The ordinances include permit requirements for the installation, alteration, or repair of new and existing fire protection systems, and penalties for violations of the Consolidated Fire Code. The Consolidated Fire Code provides the minimum requirements for access, water supply and distribution, construction type, fire protection systems, and vegetation management. Additionally, the Consolidated Fire Code regulates hazardous materials and associated measures to ensure that public health and safety are protected from incidents relating to hazardous substance releases. San Diego County's 2020 Consolidated Fire Code (the most recent adoption) was certified by the State Board of Forestry, resulting in its superseding California Code of Regulations Title 14, Section 1270 et seq., as it would otherwise apply within San Diego County (County of San Diego 2020).

San Diego County Multi-Jurisdiction Hazard Mitigation Plan

The San Diego County Multi-Jurisdiction Hazard Mitigation Plan was originally prepared in July 2010 and updated in October 2017 to meet federal and state requirements for disaster preparedness to make the County eligible for funding and technical assistance from state and federal hazard mitigation programs. The plan includes a risk assessment to enable local jurisdictions to identify and prioritize appropriate mitigation actions to reduce losses from potential hazards, including flooding, earthquakes, fires, and man-made hazards. To address potential hazards, the plan then incorporates mitigation goals and objectives, mitigation actions and priorities, an implementation plan, and documentation of the mitigation planning process for each of the 22 participating jurisdictions, including Chula Vista (County of San Diego 2017).

California Disaster and Civil Defense Master Mutual Aid Agreement

As provided for in the California Emergency Services Act, the California Disaster and Civil Defense Master Mutual Aid Agreement was developed in 1950 and adopted by all 58 California counties. This statewide mutual aid system is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation. San Diego County is located in Mutual Aid Region 6 of the state system, which also includes Imperial, Riverside, San Bernardino, Inyo, and Mono Counties (OES 2017).

Community Emergency Response Team Program

The City of Chula Vista provides a Community Emergency Response Team (CERT) program that offers citizens training on how to effectively and efficiently respond to emergency situations without placing themselves or others in unnecessary danger. CERT training includes lessons on managing utilities, putting out small fires, providing basic emergency medical aid, searching for and rescuing victims safely, effectively organizing volunteers, and collecting disaster information to support first responders (City of Chula Vista 2020).

Airport Land Use Compatibility Plan–Brown Field

The San Diego County Regional Airport Authority, designated as the Airport Land Use Commission for all public airports in the County of San Diego, adopted the Brown Field Airport Land Use Compatibility Plan (ALUCP) in September 1981 (last updated in December 2010). The ALUCP assists in achieving compatible land use

development in the area surrounding Brown Field airport located in Otay Mesa on Heritage Road, east of Interstate (I) 805. Brown Field is a general aviation airport accommodating both propeller- and jet-powered aircraft and serves as a port of entry for private aircraft coming into the United States from Mexico. Brown Field is also heavily used by military and law enforcement agencies and is classified as a "reliever airport" by the Federal Aviation Administration (SDCRAA 2010). The ALUCP designates the airport influence area and contains projected noise contours, flight activity zones, a land use compatibility matrix, and plan recommendations for areas surrounding Brown Field. The airport influence area is delineated by using the projected 60-decibel (dB) community noise equivalency level (CNEL) contour and is generally the area in which current and future airport-related noise, overflight, safety, and/or airspace protection factors may affect land uses or necessitate restrictions on uses. The airport influence area is divided into Review Area 1 and Review Area 2.

The composition of each area is determined as follows (SDCRAA 2010):

- Review Area 1 consists of locations where noise or safety concerns may necessitate limitations on the types of land use actions. Specifically, Review Area 1 encompasses locations exposed to aircraft noise levels of 60 dB CNEL or greater together with all of the safety zones identified in the ALUCP.
- Review Area 2 consists of locations beyond Review Area 1 but within the airspace protection and/or overflight notification areas. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2.

A portion of the project site is within the Brown Field Airport Influence Area Review Area 2 and the entire project site is within the FAA Height Notification Boundary (SDCRAA 2010).

City of Chula Vista General Plan

The goal of the General Plan to remediate future development sites in accordance with applicable state and federal standards to manage household hazardous waste and to minimize the risk of injury and property damage associated with wildland fire hazards (Objective E 16) and ensure that adequate remediation of contaminated sites as redevelopment occurs to protect public health and safety (Objective E 17) and ways to minimize damage due to flooding (Objective E 15) (City of Chula Vista 2005).

5.8.1.2 Regulatory Databases

Government Code Section 65962.5, referred to as the Cortese List, was originally enacted in 1985. Provisions set forth in Section 65962.5 require that the DTSC compile and update a list of the following:

- All hazardous waste facilities subject to corrective action
- All land designated as hazardous waste property or border zone property
- All information received by the Depart of Toxic Substances Control on hazardous waste disposals on public lands
- All sites listed pursuant to Section 25356 of the Health and Safety Code (hazardous substance release sites)
- All sites included in the Abandoned Site Assessment Program

As part of the Phase I ESA (Appendix H1), a database search report was obtained from Environmental Data Resources, Inc. (EDR). The report documents findings of various federal, state, and local regulatory database searches regarding properties with known or suspected releases of hazardous materials or petroleum

hydrocarbons. The results of the search found that the project site was not identified by EDR; however, several adjoining and nearby properties were identified by EDR and are included in Table 5.8-1.

Table 5.8-1. Database Search Report Findings

Site Name	Location	Site History	Distance from Project Site*
Hernandez Custom Paints	599 Portsmouth Drive	The site is listed within the Resource Conservation and Recovery Act (RCRA) small-quantity generator (SQG) database for handling ignitable waste. No violations were noted for this facility, and based on the benign nature of the listing, it is unlikely this site has adversely affected the project site.	The site is approximately 164 feet west of the project site.
Otay Sanitary Landfill and Appropriate Technologies II	1700 Maxwell Road	The site consists of the closed Otay Class I Landfill adjacent to the active Otay Sanitary Annex Class landfill (Class III). The Otay Class I Landfill is listed within the California Waste Management Unit Database/Solid Waste Assessment Testing (WMUDS/SWAT) and Historical Cortese databases. Appropriate Technologies is also listed at 1700 Maxwell Road, and is listed as a hazardous waste facility that accepted hazardous and non-hazardous liquid sludge and slurry wastes in bulk, hazardous liquid/solid waste in drums or other approved containers, as well as polychlorinated biphenyls (PCBs) and explosive and radioactive materials. It appears that a washout pit and unlined effluent pipes also existed at or near this facility, which were closed under the DTSC in 1995 after a remedial feasibility investigation (RFI) concluded that there is no further investigation necessary for the washout pit and pipes, and the facility was closed under the DTSC in 1996.	This site is directly south of the project site.
A&W Smelter and Refinery	Silver Queen Road	The site is identified as A&W smelter and refinery (A&W) on Silver Queen Road. However, A&W attempted to send seven truckloads across the Mexico border to dispose of unusable ore containing lead and considered hazardous waste (Appendix H1). These trucks were detained and temporarily impounded at the Appropriate Technologies II facility by U.S. Customs. Soil discussed in this listing was not present at the site and therefore is not likely to have adversely affected the project site.	The site is reportedly located approximately 0.4 miles southeast of the project site; however, the actual refinery is not located near the project site.
Ecology Auto Parks	825 Energy Way	Two closed leaking underground storage tank (LUST) sites are mapped at this location; one LUST received NFA from the RWQCB in July 2019 and no information is provided about the second LUST with the exception of a monitoring report from 2006; it is suggested these were part of the same investigation. Based on the closure of the cases at this facility, the distance from the project site of 0.5 mile, and orientation hydraulically down gradient to the project site, it is not likely that this facility has adversely impacted the project site.	The site is within 0.5 mile of the project site.

Table 5.8-1. Database Search Report Findings

Site Name	Location	Site History	Distance from Project Site*
Omar Rendering Facility	1886 Auto Park Place	The site housed six Class I waste ponds, the contents of which were removed in 1980. The impacted soils beneath the pond were excavated and placed in a lined cell in the northwest corner of the project site, which is currently capped and used as a parking lot accessed from Auto Park Place. One Leaking Underground Storage Tank (LUST) is also reported at this facility; however, the impacted soil was excavated, and the release received closure from the Department of Environmental Health in 1993 with residual contamination below method detection limits (MDLs). As stated in the GeoTracker database, a "no further action (NFA)" statement was released. Based on this facility's distance from the project site and its orientation hydraulically down gradient from the project site, it is unlikely this facility has adversely impacted the project site.	The site is approximately 0.7 miles southeast of the project site.
Nakano Farms	4501 Otay Valley Road	The site (4501 Otay Valley Road) and is listed under Nakano Farms and within the EnviroStor, Cleanup Program Sites – Spills, Leaks, Investigations, and Cleanups (CPS-SLIC), Statewide Environmental Evaluation and Planning System (SWEEPS), Historical UST, and HMMD databases. One underground storage tank is reported at this property, and the cleanup is reported to have been completed and closed as of May 1996.	The site is located approximately 0.8 miles southwest of the project site.
Apache Services	4551 Otay Valley Road	The site (4551 Otay Valley Road) is listed under the EnviroStor and Bond Expenditure Plan databases under Apache Services. This property was used as a salvage yard that may have received materials from nearby naval facilities. The property is impacted with metals, petroleum products, and solvents and is located on fill material. No further information was provided; however, based on distance from the project site and nature of surficial impacts, it is not likely this property has adversely impacted the project site.	The site is located approximately 0.8 miles south of the project site.
Proposed Otay Ranch Village 3 Elementary School	Camino Prado	Proposed Otay Ranch Village 3 Elementary School on Camino Prado is listed under the Envirostor and School databases. The potential school site is being investigated for potential methane mitigation and is being evaluated for suitability for school use under the Department of Toxic Substance Control (DTSC). Based on the nature of the listing, it is not likely this property has adversely affected the project site.	The site is within 1 mile of the project site.

Source: Appendix H1.

* Distance when measured from the proposed residences on-site will vary from the distance measured from the project site boundary.

5.8.1.3 Historical Aerial Photographs and Topographic Maps

A combination of historical aerial photographs and U.S. Geological Survey topographic maps of the project site, from a variety of years (1949 being the earliest and 2020 the most recent), were observed. Key observations from the aerial photographs and topographic maps include:

- The oldest available topographic maps indicate the Poggi Canyon Creek flowed through the northern portion of the project site. The Otay River is shown south of the project site, south of a road with several small structures. Telegraph Canyon and several additional roads are shown to the north of the project site.
- A 1949 aerial indicates a pit mine with benched side walls visible south of the project site, as well as a property that may have been agricultural located south of the pit mine. An unpaved access road traverses through this property to the pit mine. The surrounding area appears to be largely undeveloped native land.
- A 1953 topographic map depicted a "borrow pit" in the area south of the project site, alluding to mining of bentonite that occurred in this area prior to landfill use. The 1953 aerial confirmed the presence of the borrow pit and the agricultural property south of the borrow pit appeared to be a dairy or cattle feed lot. By 1964, it appears the borrow pit was converted to its landfill use and surrounding operations, including the rendering landfill and other industrial facilities located further south. It appears borrowing or surveying for an expansion of the Class I landfill took place around this time, based on a cleared grid around the existing boundaries of the landfill, and what appears to be a sludge or liquid treatment area with six beds is visible within the landfill footprint. By 1966, the water tower on the top of the hill south of the project site had been constructed. The project site remained undeveloped.
- The 1970 aerial indicated the landfill had been expanded to the south, and a second water tower had been constructed southwest of the project site. Grading activities are visible in the aerial to the north and appear to be pre-construction or agriculture. The project site remained undeveloped.
- The 1975 topographic map shows the areas west, northwest, and southwest of the project site had been developed with residential subdivisions and schools. The 1979 aerial showed subdivisions constructed adjoining the project site to the southwest and west, and construction of the existing medical facility and ancillary structures has begun approximately 0.5 miles north of the project site. The landfill operations in the areas south of the project site, likely indicating the Class III landfill had begun operating. It appears soil was borrowed from the eastern portion of the project site around this time, for landfill use or some other purpose. By 1985, landfill operations had expanded to the east. The project site remained undeveloped.
- The 1991 topographic map depicted the landfill area to the south as a "Gravel Pit," but the aerial appears to indicate the area south of the project site was primarily used for landfilling. By 1994, the extent of the Class III landfill appeared similar to its current footprint.
- By 2005, Olympic Parkway had been constructed north of the project site, and the area north of Olympic Parkway had been developed with residences. The project site remained vacant and undeveloped, with access points to the Site from Olympic Parkway. By 2006, a third larger water tower had been constructed south of the project site. Landfill operations at the Class III landfill appeared similar.
- The 2018 aerial indicated the project site remained undeveloped, and landfill activities continued on the adjoining property southeast of the project site. The adjoining areas southeast and east of the landfills had either been developed with residences or were undergoing residential development.

5.8.1.4 City Directories

In preparation of the Phase I ESA, City directories were searched by EDR for available years from 1971 to 2014 to assess occupancy at the project site and adjoining properties (Appendix H1). The project site was not listed in the City Directory. Properties within the vicinity of the project site along Olympic Parkway, Brandywine Avenue, East Palomar Street, and Maxwell Road included listings from 1965 to 2014 for various residential, commercial, and light industrial properties. Based on city directory listings obtained, no evidence of additional recognized environmental conditions were identified. Refer to Appendix H1 for further details regarding surrounding properties.

5.8.1.5 Existing Setting

The project site is situated on a hillside and slopes steeply from the south to a permitted wetland along the northern boundary of the project site. The project site is directly underlain by the San Diego Formation, followed by the Otay Formation and the Mission Valley Formation. The elevation of the site ranges from approximately 220 to 450 feet above mean sea level. The project site has been historically known to be vacant and undeveloped. However, properties surrounding the project site have been used for bentonite (clay mining), landfilling, and other industrial, commercial, and residential purposes. While the project site remains undeveloped, the site contains seven gas probes, three vadose monitoring wells, and two monitoring wells. Additionally, monuments and vaults labeled "CP Test," believed to be associated with a recycled water pipeline, traverse the project site.

The project site is bounded to the north by Olympic Parkway; directly north of this is an undeveloped hillside, followed by residential subdivisions. Portions of the Otay Annex Sanitary Landfill adjoin the project site to the southeast, and the property directly east of the project site is vacant and undeveloped. The Otay Annex Sanitary Landfill, also known as the Otay Class III landfill, extends west and also adjoins the project site to the south and surrounds the adjoining Otay Class I Landfill. Residential developments are situated southwest and directly west of the project site, and east and south of the Otay Class III landfill. Both the Class I and Class III landfills have groundwater monitoring networks which are monitored semiannually under orders issued by the San Diego Regional Water Quality Control Board. Groundwater flow at both landfills is generally to the south-southwest away from the project site, and there are no indications of groundwater impacts beneath the site attributable to the two adjoining landfills. The Class III landfill is equipped with a landfill gas control system (LFGCS) and a perimeter probe monitoring network which is routinely monitored under the direction of the County of San Diego Local Enforcement Agency. Methane has not been detected above 1% by volume at the perimeter probes closest to the project site.

Hazardous Risk

A Phase I ESA was prepared for the project site in January 2020, which revealed no evidence of recognized environmental conditions (RECs) in connection with the project site. However, historical investigations performed in the 1990s to assess potential impacts to the project site from the adjoining landfill properties identified subsurface methane which had migrated beneath the project site from the Class III landfill adjacent to the project site. Methane concentration was reported to be up to 3,300 parts per million (ppm), which is more than an order of magnitude lower than the lower explosive limit (LEL) of methane (50,000 ppm, or 5% by volume). As required by California Code of Regulations Title 27, the landfill owner is required to install and operate an LFGCS and install and monitor a network of perimeter monitoring probes. Operation of the LFGCS at the Class III landfill is ongoing and methane has not been detected above 1% by volume at perimeter probes closest to the project site. Therefore, the engineering controls on the adjoining Class III landfill appear to be effectively controlling subsurface methane migration from the landfill to the project site (refer to Appendix H1).

The absence of recent soil vapor data for the project site was noted as a data gap in the Phase I ESA (Appendix H1). Available data for the Class III landfill perimeter monitoring network indicates that gas concentrations at the landfill boundary adjoining the project site are below regulatory thresholds, and historical data collected at the site in the 1990s indicated that the methane LEL in the subsurface was not exceeded. However, recent data regarding the potential presence of volatile organic compounds (VOCs; e.g., benzene, tetrachloroethene, trichloroethene) commonly associated with landfill gas are not available to evaluate potential vapor intrusion concerns for future structures planned for construction at the site. Therefore, a Soil Vapor Investigation Memo (referred to as Appendix H2 in this EIR) was prepared separately from the Phase I ESA to address this data gap by conducting a soil vapor survey at the project site to evaluate current on-site subsurface soil vapor conditions and potential subsurface impacts attributable to the adjoining Otay Class III landfill.

Additionally, the conditions identified on the project site included debris and several pieces of discarded furniture, including a couch and a mattress (refer to Appendix H1). However, these environmental conditions do not present a threat to human health or the environment and would not be subject to an enforcement action if brought to the attention of the appropriate governmental agencies.

Wildfire Risk

The project site is within a wildland–urban interface location that is in an area statutorily designated a Local Responsibility Area Non-FHSZ by the City and CAL FIRE. The project site is within a Supplemental Fire Hazard Zone as designated by the City. As seen in Figure 9-9, Wildland Fire Hazards Map, of the General Plan, the project site is designated as a High Hazard area (City of Chula Vista 2005).

As discussed in the Fire Protection Plan (FPP) prepared for the project, the project site has been subject to one wildfire during the recorded fire history period. The Maxwell Fire in 1984 burned along the southern portion of the project site. In addition to the one fire burning on the project site, the majority of other large wildfires historically start east of the proposed project site area and are typically contained east of Lower Otay Lake.

The lack of recent fire history does not indicate that a fire cannot occur in the vegetation that would be adjacent to the proposed site. It is expected that fires have not consistently spread into the proposed project site area due to three factors: the position of the surrounding urban developments which are newer, ignition resistant construction; the position of lower Otay Lake to the east, presenting a very wide firebreak; and the effective wildland fire fighting capabilities of the Chula Vista Fire Department (CVFD). Refer to Appendix H3 for more details.

Airports

The nearest airport to the project site is the Brown Field Municipal Airport, which is located approximately 2.6 miles south of the project site. A portion of the project site is located in the Brown Field Airport Influence Area, Review Area 2, but the entire project site is located outside of safety and noise zones for Brown Field Airport (SDCRAA 2010). The entire project site is also located within the FAA Height Notification Boundary. The project applicant would be required to notify the FAA of the proposed project. However, no conflicts with the Brown Field ALUCP would occur.

5.8.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to hazards and hazardous materials is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Create a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials.

B. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

C. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

D. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment is created.

E. Be 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 and would result in a safety hazard or excessive noise for people residing or working in the project area.

F. Impair implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan.

G. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

5.8.3 Impacts

A. Create a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials.

Construction Impacts

Construction of the proposed project would involve the transport of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, grease, and solvents. All such uses of these substances would be subject to applicable and required regulatory controls as described above under Regulatory Framework. Specifically, this would include conformance with applicable federal, state, and local standards related to hazardous materials and wastes, such as controls on use, handling, storage, transportation, and disposal.

Consequently, use of these materials for their intended purpose would not pose a significant risk to the public or environment. Per regulatory ordinances adopted in the City of Chula Vista Municipal Code (CVMC) Chapter 8.34, persons handling hazardous materials shall disclose such information to the department of health services of the county in a manner required by the department. Additionally, a second ordinance would establish a permit system, using the fees generally therefrom to carry out an enforcement and surveillance program (CVMC 2020a). Furthermore, construction is temporary and use of these materials would cease upon completion. Therefore, impacts would be **less than significant impact**.

Operational Impacts

Once project construction is complete, the transport, use, or disposal of hazardous materials would be limited to consumer products such as household cleaning products, landscaping chemicals and fertilizers, and other substances associated with household and recreation (community purpose facility) uses. As mentioned in the General Plan, household hazardous waste generated by the City residents cannot be disposed of at the local and regional landfills serving the City and is therefore handled separately from non-hazardous solid waste. As such, the City's Household Hazardous Waste Program, initiated in 1997, includes a temporary storage facility to accommodate waste from the South Bay area, including areas outside the City limits. Although the proposed project would result in the increase in

routine transport, use and disposal of hazardous materials and/or wastes generated by future growth, all hazardous materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Therefore, impacts would be **less than significant**.

B. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Construction Impacts

As discussed under Threshold A, construction of the proposed project would involve the transport of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, grease, and solvents. As stated in the Phase I ESA, the project site has been historically vacant as early as 1943 (Appendix H1). Though there have been historic agriculture operations in the surrounding area, the Phase I ESA does not identify any potential issues resulting from hazardous materials associated with such uses. Additionally, properties within the vicinity of the project site have been historically used for bentonite (clay) mining, landfilling, and other uses such as industrial, commercial, and residential (Refer to Appendix H1). As discussed in the Phase I ESA, soils on the project may contain potentially harmful levels of fixed gases or volatile organic compounds (VOCs; e.g., benzene, tetrachloroethene, trichloroethene) that could be exposed during construction activities.

As described in Section 5.8.1.5, Existing Setting, recent data regarding the potential presence of VOCs is not available to evaluate potential vapor intrusion concerns for future structures planned for construction at the site. At worst, vapor intrusion can present a safety hazard when flammables are involved and result in an explosion. Therefore, a Soil Vapor Investigation Memo (Appendix H2) was prepared to address this data gap by conducting a soil vapor survey at the project site to evaluate current on-site subsurface soil vapor conditions and potential subsurface impacts attributable to the adjoining Otay Class III landfill. To determine the level of existing soil vapor, five soil vapor probes (SVPs) were constructed near the perimeter of the project site, where the project site adjoins the Otay Landfill. The SVPs were sampled on January 27, 2020 and sent for laboratory testing to be analyzed for fixed gases (methane, carbon dioxide, nitrogen, etc.) and VOCs. The Soil Vapor Investigation Memo found that methane was not detected in the soil samples, indicating that the LFGCS is effectively controlling the migration of methane from the adjoining Class III landfill.

Low-level concentrations of VOCs were detected from the soil samples, including four analytes (benzene, bromodichloromethane, chloroform, and vinyl chloride) detected in one or more samples at concentrations above their respective Tier 1 environmental screening levels or EPA regional screening levels for a residential site scenario. However, none of these analyte concentrations exceeded calculated DTSC screening levels for future residential construction. Therefore, with the understanding that the adjoining Class III landfill owner/operator will continue to operate the LFGCS in accordance with Title 27 requirements, future earth-moving activities in preparation for site development and construction would likely result in dissipation of residual VOC concentrations in shallow soil vapor, and future structures would be constructed using modern building practices with competent concrete slabs.

Furthermore, as discussed under Threshold A, construction materials would be used and stored in designated construction staging areas within the project site boundaries and materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use. Therefore, impacts associated with reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during construction of the project would be **less than significant**.

Operational Impacts

As discussed under Threshold A, once project construction is complete, the transport, use, or disposal of hazardous materials would be limited to consumer products such as household cleaning products, landscaping chemicals and fertilizers, and other substances associated with household and recreation (community purpose facility) uses. As previously discussed, a soil vapor survey (Refer to Appendix H2, Soil Vapor Investigation Memo) was conducted to evaluate current on-site subsurface soil vapor conditions and potential subsurface impacts attributable to the adjoining Otay Class III landfill. The Soil Vapor Investigation Memo found that methane was not detected in the soil samples, indicating that the LFGCS, owned and operated by the Otay Landfill owner/operator, is effectively controlling the migration of methane from the adjoining Class III landfill. While low-level concentrations of VOCs were detected in soil vapor samples collected at the site, concentrations would not exceed calculated DTSC screening levels for future residential construction. Furthermore, it is anticipated that the Otay Landfill will cease operation in 2030 (CalRecycle 2020). Thus, there is no apparent unacceptable risk to future residential site occupants due to methane and/or VOC impacted soil vapor during operations.

Furthermore, as discussed under Threshold A, all hazardous materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Therefore, impacts associated with reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during operation of the project would be **less than significant**.

C. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The only existing school located within one-quarter mile of the site is Valle Lindo Elementary School, located approximately 0.25 miles west of the project site. Other existing schools near the project site include Hedenkamp Elementary School, located approximately 0.38 miles north of the project site; Saburo Muraoka Elementary School, located approximately 0.39 miles east of the project site; Parkview Elementary School, located approximately 0.45 miles north of the project site; Otay Ranch High School, located approximately 0.6 miles east of the project site; Palomar Elementary School, located approximately 1 mile west of the project site; and Fred H Rohr Elementary School, located approximately 0.9 miles west of the project site.

As discussed under Threshold A, construction materials would be used and stored in designated construction staging areas within the project site boundaries and materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use. Additionally, all hazardous materials used during operation of the project would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Furthermore, the findings from the Soil Vapor Investigation Memo determined that methane was not detected in the soil samples, indicating that the LFGCS, owned and operated by the Otay Landfill owner/operator, is effectively controlling the migration of methane from the adjoining Class III landfill. While low-level concentrations of VOCs were detected in soil vapor samples collected at the site, concentrations would not exceed calculated DTSC screening levels for future residential construction. Furthermore, it is anticipated that the Otay Landfill will cease operation in 2030 (CalRecycle 2020).

As such, the use of hazardous materials during construction and operation of the proposed project as well as the presence of potential vapor intrusion would not result in a significant hazardous risk to the project site or surrounding area. Therefore, impacts to schools within one-quarter mile of the project site would be **less than significant**.

D. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment is created.

As outlined in Section 5.8.1.2, Regulatory Databases, a database search report was obtained from EDR. The report documents findings of various federal, state, and local regulatory database searches regarding properties with known or suspected releases of hazardous materials or petroleum hydrocarbons. The results of the search found that the project site was not identified by EDR on any government list of hazardous materials; however, several adjoining and nearby properties were identified by EDR and are included in Table 5.8-1. Representatives from RWQCB and DTSC were contacted to confirm whether hazardous materials sites identified through the EnviroStor or GeoTracker databases were present within the project site. It was confirmed through RWQCB and DTSC that no sites listed within either database were recorded on the project site. However, a document reporting the closure of a listed facility adjacent to the project site was identified in the EnviroStor database. The listed facility, Appropriate Technologies II, was closed in accordance with an approved closure plan on October 29, 1998. The facility included a tank farm and chemical mixing plant to treat liquid waste prior to disposal at the landfill. However, disposal did not occur at the facility and based on the ongoing monitor of the surrounding Class I landfill, it is unlikely the facility has adversely impacted the project site.

Additionally, the RWQCB's GeoTracker Database identified four listed sites within the vicinity of the project site. The sites are listed in the following paragraphs.

Otay Class I Landfill: This site is located adjacent to the project site. This closed landfill accepted hazardous waste from 1963 to 1980. This landfill does not have a liner and therefore has no leachate collection system. A groundwater monitoring network exists at the landfill and is monitored on a semiannual basis. Based on the results of groundwater monitoring at the facility, no VOCs were detected in the monitoring wells closest to the project site at this facility. Additionally, groundwater within this facility flows away from the project site; thus, it is not likely that this facility has adversely impacted the project site. Methane monitoring is discussed under the Otay Annex Sanitary Landfill which is another listed facility located adjacent to the Otay Class I Landfill.

Otay Annex Sanitary Landfill (Class III): This site is located adjacent to the Class I Landfill and adjoining the project site to the southwest. The Class III landfill detached from the Class I unit in 1997 and is now operated by San Diego Landfill Systems. The most recent semiannual groundwater monitoring report, dated October 2019, indicated that VOCs were detected in monitoring wells in the southern portion of the project site, and no VOCs were detected in the monitoring wells closest to the project site. VOCs were detected in wells down gradient of a subsurface slurry wall and the extraction wells that remove groundwater and pump it to a tank used for dust control as part of the corrective action program. Groundwater flow depicted in the October report indicates that groundwater in the Class III landfill is to the west in the eastern portion of the landfill and to the northwest in the western portion of the landfill, both toward the project site. The lack of detections of VOCs in the down gradient wells closest to the project site indicate impacts have not migrated onto the project site within the intermediate aquifer, and detections at the Class I landfill in the perched zone in the southeastern corner of the Class I landfill indicate VOCs are most likely confined to the southern portions of each landfill. In addition to the groundwater monitoring network and corrective action program, an LFGCS also operates at the Class III landfill, and the landfill is monitored by a network of perimeter probes. Review of several methane monitoring reports indicate methane has not been detected in the perimeter probes closest to the project site, indicating the LFGCS is effectively controlling landfill gas migration from the landfill.

Ecology Auto Parts (825 Energy Way): This site is located approximately 0-5-mile south of the project site. Two closed leaking underground storage tank (LUST) sites are mapped at this location; one LUST received NFA from the RWQCB in July 2019 and no information is provided about the second LUST with the exception of a monitoring

report from 2006; it is suggested these were part of the same investigation. Based on the closure of the cases at this facility, the distance from the project site of 0.5 mile, and orientation hydraulically down gradient to the project site, it is not likely that this facility has adversely impacted the project site.

Former Omar Rendering Facility: Refer to Table 5.8-1 in Section 5.8.1.2.

As described above, the proposed project is not located on a site included in the Cortese List, or pursuant to Government Code Section 65962.5. Although some facilities located near the project site have been previously included in government databases related to hazardous materials, as discussed above, these facilities would not have adverse impacts on the project (for further information regarding databases refer to Appendix H1). Therefore, impacts associated with the project being located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be **less than significant**.

E. Be 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 and would result in a safety hazard or excessive noise for people residing or working in the project area.

As described in Section 5.8.1.5, the nearest airport to the project site is the Brown Field Municipal Airport, which is located approximately 2.6 miles south of the project site. A portion of the project site is located in the Brown Field Airport Influence Area, Review Area 2, but the entire project site is located outside of safety and noise zones for Brown Field Airport. The entire project site is also located within the FAA Height Notification Boundary. The project applicant would be required to notify the FAA of the proposed project. However, no conflicts with the Brown Field ALUCP would occur. Therefore, impacts would be **less than significant**.

F. Impair implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan.

The proposed project may result in a temporary increase in traffic on roadways surrounding the project site due to increased truck loads or the transport of construction equipment to and from the project site during the construction period. All construction activities including staging would occur in accordance with City requirements (such as CVMC Chapter 12.12, which prohibits street obstructions), which would ensure that adequate emergency access would be provided during construction of the project (CVMC 2020b). Additionally, the proposed project is incorporated into the City's existing emergency disaster programs, including all fire and emergency services and mutual aid agreements. Emergency response to the project site would be serviced by the City of Chula Vista Fire Department, Police Department, and other responsible agencies. Furthermore, the City is part of the San Diego County Emergency Operations Plan, which includes a detailed evacuation response plan in the event of an emergency. As stated in the Emergency Operations Plan, major ground transportation corridors shall be used as primary evacuation routes in the event of an emergency. As such, Olympic Parkway would be the closest evacuation route to the project site. As previously stated, all construction activities including staging would occur in accordance with City requirements, which would ensure that adequate emergency access would be provided during construction of the project. Thus, construction of the proposed project is not anticipated to interfere with an adopted emergency response plan or evacuation plan, nor would it substantially impede public access or roadway circulation.

Direct access to the project site would be provided by two proposed public streets, Street 'A' and Street 'B' (Streets A and B). Street A would extend south from Olympic Parkway, through the project site, and curve to the east to connect with Street B. Street B would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figure 4-6, Illustrative Concept Plan, and Figure 4-9, Vehicular Circulation Plan). The proposed driveways and roadways

providing access to the project site would comply with the requirements of the Chula Vista Fire Code (including 2019 Fire Code and 2018 Urban–Wildland Interface Code), and would be reviewed and approved by Chula Vista Fire Department (CVFD). Additionally, all on-site roads would be constructed to current Fire Codes and City of Chula Vista Standards for public and private roads, including minimum 24-foot-wide unobstructed road widths.

Therefore, the proposed project would not interfere with an adopted emergency response or emergency evacuation plan during construction or operation activities; impacts would be **less than significant**.

G. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

As discussed in Chapter 5.17, Wildfire, of this EIR, the project could result in an impact related to exacerbating wildfire risk that exposes project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of a wildfire if it would increase the risk of a wildfire occurring and the climatic, topographic, vegetation, weather conditions, and other factors that aid in increasing the severity of such an occurrence. The project site is within a wildland–urban interface location that is in an area statutorily designated a Local Responsibility Area Non-FHSZ by the City and CAL FIRE. The project site is within a Supplemental Fire Hazard Zone as designated by the City. As seen in Figure 9-9, Wildland Fire Hazards Map, of the General Plan, the project site is designated as a High Hazard area (City of Chula Vista 2005).

Construction

Construction of the project would introduce potential ignition sources to the project site, including the use of heavy machinery and the potential for sparks during welding activities or other hot work. However, the project would be required to comply with City and state requirements for activities in hazardous fire areas, including fire safety practices, to reduce the possibility of fires during construction activities. As discussed in the FPP prepared for the project, pre-construction requirements would be adhered to in order to reduce the potential of fire caused by construction-related activities. These requirements include establishing perimeter fuel modification areas that are approved by the CVFD prior to combustible materials being brought on site; reducing existing flammable vegetation by 50% on vacant lots upon commencement of construction; removing dead fuel, ladder fuel (fuel which can spread fire from ground to trees), and downed fuel; and ensuring that on-site trees/shrubs shall be properly limbed, pruned, and spaced. While vegetation management would not be required on vacant lots until constriction begins, perimeter fuel modification zones (FMZs) must be implemented prior to commencement of construction utilizing combustible materials. In addition, vacant lots adjacent to active construction areas/lots would be required to implement vegetation management if they are within 50 feet of the active construction area. Prior to issuance of a permit for any construction, grading, digging, installation of fences, etc., on a vacant lot, the 50 feet at the perimeter of the lot shall be maintained as a vegetation management zone.

Operational

As mentioned previously, the project site is located in an area statutorily designated as an LRA Non-FHSZ. However, the project site is within a Supplemental Fire Hazard Zone as designated by the City. The General Plan designates the project site as a High Hazard area (City of Chula Vista 2005). Thus, the project includes fire resistance-related measures that shall lessen the potential impact of the project exacerbating wildfire risk.

All new structures within the project site would be in accordance with the enhanced ignition-resistant construction standards of the 2019 CBC (Chapter 7A) and the Urban–Wildland Interface code Chapter 5, except where buildings require enhanced ignition resistance as part of an alternative material and method proposal. These requirements

address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires. Buildings that include higher occupancies shall meet all California Fire and Building requirements for higher occupancy structures. Included in the high occupancy category are multi-family residences over three units, attached condominiums, and attached townhomes up to three stories, but less than 30 feet overall height. In addition, the project would include fire protection systems including fire hydrants, automatic fire sprinkler system, and fire alarm systems and residential hazard detectors (see Appendix H3 for further details).

Per CVMC Chapter 15.36 , the City shall incorporate vegetation management and clearance standards set by the California Fire Code (CVMC 2020c). As such, all non-maintained combustible vegetation, and or other such accumulations of combustible vegetation materials in open space areas, as determined by the Fire Code Official, shall not be located within one hundred feet of any building or structure designated or intended for occupancy by humans or animals. As described in the FPP, FMZs shall be implemented to provide vegetation buffers that gradually reduce fire intensity and flame lengths from advancing fire by strategically placing thinning zones, restricted vegetation zones, and irrigated zones adjacent to each other. FMZs would be located on the perimeter of all structures and along both ingress/egress roadways to and from Olympic Parkway. Typical fuel modification includes establishment of a minimum 50-foot-wide irrigated zone (Zone 1) and a 50-foot-wide thinned zone (Zone 2) on the periphery of the project site, beginning from the rear or side yard lot line (For further details regarding Zone 1 and Zone 2 criteria refer to Appendix H3). As discussed in the FPP, FMZ areas experience a significant reduction in flame length and intensity. Reduction of flame lengths and intensities are assumed to occur within the full 100 feet of fuel modification (a combination of Zones 1 and 2). However, due to site constraints, it is not feasible to achieve a 100-foot FMZ width on the south side of the project site. As such, to potential structure fire exposure related to the provided FMZs for buildings along the southern edge of the project site would be **potentially significant. Mitigation Measure (MM)-WF-1** would be incorporated, applying only to the walls of the structures that face the open space areas adjacent to the project site, to ensure impacts would be **less than significant**.

5.8.4 Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would have **potentially significant** impacts associated with wildfire. The remaining issues addressed in this section would be **less than significant**.

5.8.5 Mitigation Measures

The following mitigation measure would reduce identified significant impacts associated with wildfire to a less than significant level.

MM-WF-1 Site Access

Site access, including fire lane, driveway, and entrance road widths, primary and secondary access, gates, turnarounds, dead end lengths, signage, aerial fire apparatus access, surface, and other requirements will comply with the requirements of the 2019 California Fire Code and the Chula Vista Fire Department (CVFD) Standards. Fire access will be reviewed and approved by CVFD prior to construction (see the FPP, Appendix H3, for additional details).

The developer will provide information illustrating the new roads, in a format acceptable to the City, for updating of City maps.

Ignition Resistant Construction

All new structures within the Proposed Project will be constructed to at least the California Fire Code standard. Each of the proposed buildings will comply with the enhanced ignition-resistant construction standards of the 2019 CBC (Chapter 7A) and Chapter 5 of the Urban-Wildland Interface code, except where buildings require enhanced ignition resistance as part of an alternative material and method proposal. These requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires (see the FPP, Appendix H3, for additional details).

Fire Protection Systems

1. Water supply requirements specified in the California Fire Code (see FPP, Appendix H3, for additional details) including for hydrants and interior sprinklers will be provided for the proposed project.
2. Hydrants shall be located along fire access roadways and cul-de-sacs as determined by the CVFD Fire Marshal to meet operational needs. Hydrants will be consistent with CVFD Design Standards and provided every 500 feet (on-center).
3. All structures within the Proposed Project will include interior sprinklers, per code requirements (see FPP, Appendix H3, for additional details). Sprinklers will be specific to each occupancy type and based on the most recent National Fire Protection Association (NFPA) 13, 13R, or 13D, requirements.
4. All residential units shall have a fire alarm system be installed in accordance with NFPA 72, *Fire Protection Signaling System* and CVFD requirements. The fire alarm system will be supervised by a third-party alarm company. The system will be tested annually, or as needed, with test results provided to CVFD.

Additionally, all residences will be equipped with residential smoke detectors and carbon monoxide detectors and comply with current CBC, CFC, and California Residential Code standards.

All residential dwelling units shall have electric-powered, hard-wired smoke detectors with battery backup per CVFD.

Defensible Space and Vegetation Management

Fuel Modification Zones (FMZs) would be located on the perimeter of all structures and along both ingress/egress roadways to and from Olympic Parkway. All brush management zones and related fuel modification activities shall occur outside of the Preserve. FMZs shall be a minimum of 100 feet in width. A 100-foot-wide FMZ will be installed for lots abutting designated Preserve Lands to the north and west of the Project Site. To ensure long-term identification and maintenance, each respective FMZ shall be identified by a permanent marker system meeting the approval of CVFD.

Other Vegetation Management

1. New roads will be subject to fuel modification zones with Zone 1 and/or Zone 2 standards described above. The combustible vegetation will be modified within 30 feet from each side of

Streets A and B. Roadway-adjacent fuel modification does not preclude the planting of street trees in these fuel modification zones, as long as they are not found on the Prohibited Plant List (Appendix D of the FPP) and are included in the Approved Plant Palette (Appendix C of the FPP).

2. Pre-Construction Requirements:
   - Perimeter fuel modification areas must be implemented and approved by the CVFD prior to combustible materials being brought on site.
   - Existing flammable vegetation shall be reduced by 50% on vacant lots upon commencement of construction.
   - Dead fuel, ladder fuel (fuel which can spread fire from ground to trees), and downed fuel shall be removed, and trees/shrubs shall be properly limbed, pruned, and spaced per this plan.
3. Undesirable Plants. Certain plants are considered to be undesirable in the landscape due to characteristics that make them highly flammable. These characteristics can be physical (structure promotes ignition or combustion) or chemical (volatile chemicals increase flammability or combustion characteristics). The plants included in the Prohibited Plant List (Appendix D of Appendix H3, FPP) are unacceptable from a fire safety standpoint and will not be planted on the site or allowed to establish opportunistically within fuel modification zones or landscaped areas. No fuel modification zones are proposed within the MSCP areas, thus no vegetation within the MSCP will be removed.

Tree Notes for Publicly Owned Areas.

The project shall maintain all trees in publicly owned areas, per the project's FPP. These requirements include, but are not limited to (see Appendix H3 for additional details):

- All standard form (single trunk) trees to include a single strong central leader with no branches extending at an angle narrower than 30 degrees from the main trunk. If the tree does not display a single strong central leader, a tree may be approved if the Developer's arborist or landscape architect of record can demonstrate that a single strong central leader can be achieved through structural pruning.
- No grafted species that sucker from the base stock will be allowed as a street tree.

Vacant Parcels and Lots

The project shall comply with requirements of the project's FPP related to vacant parcels and lots. These requirements include, but are not limited to:

- Vegetation management would not be required on vacant lots until construction begins. However, perimeter FMZs must be implemented prior to commencement of construction utilizing combustible materials.
- Vacant lots adjacent to active construction areas/lots would be required to implement vegetation management if they are within 50 feet of the active construction area. Perimeter areas of the vacant lot would be maintained as a vegetation management zone extending 50 feet from roadways and adjacent construction areas.

- Prior to issuance of a permit for any construction, grading, digging, installation of fences, etc., on a vacant lot, the 50 feet at the perimeter of the lot is to be maintained as a vegetation management zone.
- FMZ on slope L&I does not have to be completed prior to construction starting, but all flammable vegetation and plants found on the Prohibited Plant List, needs to grubbed and graded or mowed prior to any construction.

Fuel Modification Area Vegetation Maintenance

All fuel modification area vegetation management shall be completed annually by May 1 of each year and more often as needed for fire safety, as determined by the CVFD.

Annual Fuel Modification Area Vegetation Maintenance

The property owner would obtain an FMZ inspection and report from a qualified CVFD-approved 3rd party inspector in May of each year certifying that vegetation management activities throughout the Project Site have been performed pursuant to this FPP. A copy of the annual inspection report would be provided to the proposed project homeowner association (HOA) and a copy made available to CVFD, if requested.

Reduced Fuel Modification Zone Discussion

Due to site constraints, it is not feasible to achieve a 100-foot FMZ width on the south side of the proposed development. This FPP incorporates additional fire protection measures as described in this mitigation measure that shall be implemented to compensate for potential fire related threats. These measures ~~are~~ were customized for this site based on the analysis results and focus on providing functional equivalency for reduced defensible space.

Landscape and Building Hardening.

1. Provide exterior glazing in windows (and sliding glass doors, garage doors, or decorative or leaded glass doors) facing the open space areas to be dual pane with both panes tempered glass, exceeding the fire-building code requirement.
2. Ensure no eave overhangs and combustible construction in portion of yards facing natural open space areas.
3. Install 1-hour rated walls (Type X- 5/8-inch thickness of gypsum) behind non-combustible covering (stucco, fiber cement siding) for a façade facing the open space areas to the east and south.
4. Conduct a formal landscaping plan review for structures with a façade facing open space area. Landscape plans shall be reviewed and approved by the Chula Vista Fire Department.
5. Annually hire a third-party inspector to evaluate whether designated fuel modification zone areas meet the requirements of the project Fire Protection Plan.
6. Provide a non-combustible fire-rated 6-foot-tall masonry block or view wall at the property line on the south and east sides of the proposed project to provide a physical, non-combustible barrier that would deflect heat and flame and would capture ground-blowing embers before they reached the proposed project's developed areas.

The proposed project's slopes to the south provide an opportunity to place a non-combustible, 6-foot-tall, heat-deflecting wall (or view wall with lower 1 to 2 feet block wall and upper 4 to 5 feet dual-pane, one pane tempered glazing) to provide additional deflection for these lots to compensate for the reduced fuel modification zones. The wall shall meet any of the following specifications:

- Be constructed of multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
- Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or
- Be tested to meet the performance requirements of SFM Standard 12-7A-2.

Homeowner's Wildfire Education Program

Per the FPP, the proposed project's residents shall be provided a proactive educational component disclosing the potential wildfire risk and this report's requirements as part of their purchase documents. Property owners shall be required to sign notice of receiving this information during escrow. This educational information must include maintaining the landscape and structural components according to the appropriate standards and embracing a "Ready, Set, Go" stance on evacuation.

5.8.6 Level of Significance After Mitigation

Implementation of **MM-WF-1** would reduce potential impacts associated wildfire to a **less-than-significant** level.

5.9 Hydrology and Water Quality

This section of the environmental impact report (EIR) describes the hydrologic setting within the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project) site, and evaluates the potential for changes in drainage, runoff, and water quality resulting from implementation of the proposed project. The discussion in this section is based on the Stormwater Quality Management Plan (SWQMP) and the Drainage Study for the project, which were prepared by Hunsaker and Associates. The complete reports are provided in Appendices I1 and I2 of this EIR.

5.9.1 Existing Conditions

5.9.1.1 Regulatory Framework

Federal

Clean Water Act

The federal Clean Water Act (CWA) was enacted with the primary purpose of restoring and maintaining the chemical, physical, and biological integrity of the nation's navigable waters. The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) are responsible for enforcing water quality standards within the state. As mandated by Section 303(d) of the CWA, the SWRCB maintains and updates a list of "impaired water bodies" (i.e., water bodies that do not meet state and federal water quality standards). This list is known as the Section 303(d) list of impaired water bodies. The state is required to prioritize waters/watersheds for development of total maximum daily load (TMDL) regulations. Section 303(d) of the CWA bridges the technology-based and water-quality-based approaches for managing water quality and requires each state to make a list of waters that are not attaining standards after implementation of the technology-based limits. For waters on this list (and where the U.S. Environmental Protection Agency [EPA] administrator deems it appropriate), the states develop TMDLs that are established at the level necessary to implement applicable water quality standards. A TMDL must account for all sources of pollutants that cause the water to be listed. Federal regulations require that TMDLs, at a minimum, account for contributions from point sources and nonpoint sources. This information is compiled in a list and submitted to the EPA for review and approval. Section 303(c)(2)(b) of the CWA requires states to update the TMDLs every 3 years (SWRCB 2019).

Section 319 of the CWA mandates specific actions for the control of pollution from nonpoint sources. The EPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and programs such as the National Pollutant Discharge Elimination System (NPDES) program, to the SWRCB and the RWQCBs.

National Pollutant Discharge Elimination System Permit

The NPDES permit system was established by the CWA to regulate both point-source discharges and nonpoint-source discharges. Nonpoint pollution often enters receiving waters in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the EPA must consider in setting effluent limits for priority pollutants.

A detailed discussion of the NPDES program is provided under the discussion of state regulations in this section, since the authority to implement the NPDES program has been delegated to the SWRCB and RWQCBs.

Federal Antidegradation Policy

The federal Antidegradation Policy (40 CFR 131.12) requires states to develop statewide antidegradation policies and identify methods for implementing them. Pursuant to this policy, state antidegradation policies and implementation methods will, at a minimum, protect and maintain (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource. State permitting actions must be consistent with the federal Antidegradation Policy.

National and State Safe Drinking Water Acts

The federal Safe Drinking Water Act, established in 1974, is administered by the EPA and sets drinking water standards throughout the country. The drinking water standards established in the act, as set forth in the Code of Federal Regulations (CFR), are referred to as the National Primary Drinking Water Regulations (Primary Standards; 40 CFR 141), and the National Secondary Drinking Water Regulations (Secondary Standards; 40 CFR 143). According to the EPA, the Primary Standards are legally enforceable standards that apply to public water systems. The Secondary Standards are non-enforceable guidelines regulating contaminants that may cause cosmetic or aesthetic effects in drinking water. The EPA recommends the Secondary Standards for water systems but does not require systems to comply. California passed its own Safe Drinking Water Act in 1986 that authorizes the state's Department of Health Services to protect the public from contaminants in drinking water by establishing maximum contaminant levels (as set forth in the California Code of Regulations (CCR), Title 22, Division 4, Chapter 15) that are at least as stringent as those developed by the EPA, as required by the federal Safe Drinking Water Act.

State

Responsibility for the protection of water quality in California rests with the SWRCB and nine RWQCBs. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The RWQCBs develop and implement water quality control plans that consider regional beneficial uses, water quality characteristics, and water quality problems. The project site is located within the jurisdiction of the San Diego RWQCB.

All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and are required to obtain approval of waste discharge requirements (WDRs) by the RWQCBs. WDRs related to land and groundwater (i.e., non-NPDES WDRs) regulate discharges of privately or publicly treated domestic wastewater and process/wash-down wastewater. WDRs for discharges to surface water also serve as NPDES permits, which are further described in this section.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including surface water and groundwater) and directs the RWQCBs to develop regional water quality control plans. Section 13170 of the California Water Code authorizes the SWRCB to adopt water quality control plans on its own initiative.

Waste Discharge Requirements

All dischargers of waste to waters of the state are subject to regulation under the Porter-Cologne Water Quality Control Act, and the requirements for WDRs are incorporated into the California Water Code. This includes point-source and nonpoint-source dischargers. All current and proposed nonpoint-source discharges to land must be regulated under WDRs, waivers of WDRs, a water quality control plan prohibition, or some combination of these administrative tools. Discharges of waste directly to state waters are subject to an individual or general NPDES permit, which also serves as WDRs. The RWQCBs have primary responsibility for issuing WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders or Cease and Desist Orders, assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief.

National Pollutant Discharge Elimination System Permits

The NPDES permit system was established by the CWA to regulate both point-source discharges and nonpoint-source discharges. Nonpoint pollution often enters receiving waters in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the EPA must consider in setting effluent limits for priority pollutants.

A detailed discussion of the NPDES program is provided under the discussion of state regulations in this section, since the authority to implement the NPDES program has been delegated to the SWRCB and RWQCBs.

Construction General Permit

The SWRCB permits all regulated construction activities under Order No. 2009-009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ. The order requires that, prior to beginning any construction activity, the permit applicant obtain coverage under the Construction General Permit by preparing and submitting to the SWRCB a Permit Registration Document that includes a Notice of Intent and appropriate fee. The SWRCB may issue a Construction General Permit or an Individual Construction Permit that would contain more specific permit provisions. Individual Construction Permits replace Construction General Permit regulations and provisions, if issued. Additionally, coverage would not occur until an adequate stormwater pollution prevention plan (SWPPP) has been prepared. A separate Notice of Intent is submitted to the SWRCB for each construction site.

SWRCB adopted the Construction General Permit on September 2, 2009, and it became effective on July 1, 2011. In addition, 2010-0014-DWQ was adopted on November 16, 2010, and became effective on February 14, 2011. The amendment provided text changes to the fact sheet, Conditions for Permit Coverage, Special Provisions, Electronic Signature, and Certification Requirements of Order No. 2009-009-DWQ. Similarly, 2012-0006-DWQ was adopted on July 17, 2012. The amendment provided updated text changes to the Fact Sheet, primarily with respect to replacing numeric effluent limitations with narrative effluent limitations for Risk Level 3 and Linear Underground/Overhead Project Type 3 construction sites (with the exception of Active Treatment Systems).

Construction activities subject to the NPDES Construction General Permit include clearing, grading, and disturbances to the ground (e.g., stockpiling or excavating), which result in soil disturbances of at least 1 acre of total land area. Because construction of the project would cumulatively disturb more than 1 acre, all improvements and development activities would be subject to these permit requirements, and the project would be required to prepare a SWPPP. The SWPPP has two main objectives: to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges, and to describe and ensure the implementation of best management practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharges.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package—Assembly Bill 1739 (Dickinson), Senate Bill 1168 (Pavley), and Senate Bill 1319 (Pavley)—collectively known as the Sustainable Groundwater Management Act (SGMA). SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically overdrafted basins, sustainability should be achieved by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through SGMA, the California Department of Water Resources provides ongoing support to local agencies through guidance, financial assistance, and technical assistance. SGMA empowers local agencies to form Groundwater Sustainability Agencies to manage basins sustainably and requires those Groundwater Sustainability Agencies to adopt Groundwater Sustainability Plans for crucial groundwater basins in California.

California Water Code, Section 12924

The California Department of Water Resources, in conjunction with other public agencies, conducts investigations of the state's groundwater basins. The Department of Water Resources identifies the state's groundwater basins on the basis of geological and hydrologic conditions and with consideration of political boundary lines whenever practical. The Department of Water Resources also investigates existing general patterns of groundwater extraction and groundwater recharge within those basins to the extent necessary to identify basins that are subject to critical conditions of overdraft (DWR 2016).

Local

San Diego Basin Plan

The Water Quality Control Plan for the San Diego Basin (Basin Plan) is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan: (1) designates beneficial uses for surface and ground waters; (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy; (3) describes implementation programs to protect the beneficial uses of all waters in the Region; and (4) describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan (California Water Code Sections 13240–13244 and Section 13050[j]) (SDRWQCB 2018).

Chula Vista BMP Design Manual

In May 2013, the California Regional Water Quality Control Board for the San Diego Region reissued a municipal stormwater NPDES permit (Municipal Separate Storm Sewer Systems [MS4] Permit; SDRWQCB 2013) that covered its region. The San Diego Region is composed of San Diego, Orange, and Riverside County Copermittees. The MS4

Permit reissuance to the San Diego County Copermittees went into effect in 2013 (Order No. R9- 2013-0001 and as amended by Order Nos. R9-2015-0001 and R9-2015-0100) (City of Chula Vista 2015).

The reissued MS4 Permit updates and expands storm water requirements for new developments and redevelopments. In February 2015, the MS4 Permit was amended by Order R9-2015-0001, and again in November 2015 by Order R9-2015-0100. As required by the reissued MS4 Permit, the Copermittees have prepared the Model Best Management Practices (BMP) Design Manual to replace the current Countywide Model Standard Urban Stormwater Mitigation Plan (SUSMP), dated March 25, 2011, which was based on the requirements of the 2007 MS4 Permit (City of Chula Vista 2015).

The BMP Design Manual addresses updated on-site post-construction stormwater requirements for Standard Projects and Priority Development Projects (PDPs), and provides updated procedures for planning, preliminary design, selection, and design of permanent storm water BMPs based on the performance standards presented in the MS4 Permit (City of Chula Vista 2015).

Chula Vista Municipal Code Section 14.20, Storm Water Management and Discharge Control

The purpose of this ordinance is to promote the health, safety, and general welfare of the citizens of Chula Vista by prohibiting non-stormwater discharges to the stormwater conveyance system, preventing discharges to the stormwater conveyance system from disposal of materials other than stormwater, reducing pollutants in stormwater discharges to the maximum extent practicable, and reducing pollutants in stormwater discharges to achieve applicable water quality objectives for surface waters in San Diego County (Chula Vista Municipal Code Section 14.20, Storm Water Management and Discharge Control). This ordinance states that it is unlawful for any person to cause either individually or jointly, any discharge into or from the stormwater conveyance system that results in or contributes to a violation of any NPDES permit. Any person engaged in activities that may result in pollutants entering the stormwater conveyance system shall, to the maximum extent practical, undertake all measures to reduce the risk of illegal discharges. The following requirements apply (CVMC Section 14.20):

- **Best Management Practices Implementation.** It is unlawful for any person not to comply with the BMPs and pollution control requirements established by the city or other responsible agency to eliminate or reduce pollutants entering the City stormwater conveyance system. BMPs shall be complied with throughout the life of the activity.
- **Stormwater Pollution Prevention Plan.** When the enforcement official determines that a business or business-related activity causes or may cause an illegal discharge to the stormwater conveyance system then the enforcement official may require the business to develop and implement a SWPPP. Businesses which may be required to prepare and implement a SWPPP include, but are not limited to, those which perform maintenance, storage, manufacturing, assembly, equipment operations, vehicle loading and/or cleanup activities partially or wholly out of doors.
- **Coordination with Hazardous Materials Response Plans and Inventory.** Any activity subject to the hazardous materials inventory and response program, pursuant to Chapter 6.95 of the California Health and Safety Code, shall include provisions for compliance with this chapter in its hazardous materials response plan, including prohibitions of unlawful non-stormwater discharges and illegal discharges and provisions requiring the use of BMPs to reduce the discharge of pollutants in stormwater.
- **Impervious Surfaces**. Persons owning or operating a parking lot or an impervious surface (including, but not limited to, service station pavements or paved private streets and roads) used for automobile-related or similar purposes shall clean those surfaces as frequently and as thoroughly as is necessary, in

accordance with BMPs, to prevent the discharge of pollutants to the city stormwater conveyance system. Sweepings or cleaning residue from parking lots or impervious surfaces shall not be swept or otherwise made or allowed to go into any stormwater conveyance, gutter or roadway, but must be disposed of in accordance with regional solid waste procedures and practices.

- **Compliance with NPDES Permit for Storm Water Discharges**. Each discharger subject to any NPDES permit for stormwater discharges shall comply with all requirements of such permit.

The BMP Design Manual is incorporated into this ordinance by reference. The ordinance states that no landowner or development project proponent in Chula Vista shall receive any City permit or approval for land development activity or significant redevelopment activity unless the project meets or would meet the requirements of the Development Storm Water Manual (CVMC Section 14.20).

City of Chula Vista General Plan

The Public Facilities and Services and Environmental Elements of the City of Chula Vista General Plan address reliable drainage facilities and the protection of water quality. The Public Facilities and Services Element includes objectives to increase efficiencies in handling stormwater runoff through use of alternative technologies (Objective PFS 2). Objective E 2 in the Environmental Element is to protect and improve water quality within surface water bodies and groundwater resources within and downstream of Chula Vista (City of Chula Vista 2005).

Zoning Code and Growth Management Ordinance

In accordance with Chula Vista Municipal Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade stormwater collection systems below acceptable standards. Similarly, Section 19.09, Growth Management, provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09(F) specifically requires that (1) stormwater flows and volumes shall not exceed City engineering standards as set forth in the subdivision manual and (2) the Growth Management Oversight Commission shall annually review the performance of the City's storm drain system to determine its ability to meet the goals and objectives for drainage. Section 19.09 also requires a Public Facilities Financing Plan (PFFP) and the demonstration that public services, such as police services, meet the Growth Management Oversight Commission quality of life threshold standards. The analysis of storm drain systems provided in this section, along with the PFFP to ensure funding for any needed expansion of services, would ensure that storm drain systems are provided commensurate with development and demand.

5.9.1.2 Existing Setting

Under existing conditions, the project site is undeveloped and consists of natural grades and hills covered by native vegetation and shrubs. The highest point of the project site is located on the southern boundary adjacent to the Otay Landfill and makes the overall on-site surface flow pattern run from south to north. The Poggi Canyon Creek is located downstream of the project site to the north and receives storm runoff from the surrounding area including the project site.

5.9.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to hydrology and water quality is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.

B. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin.

C. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or though the addition of impervious surfaces, in a manner, which would result in

   i. substantial erosion or siltation on- or off-site;

   ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

   iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

   iv. Impede or redirect flood flows.

D. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

E. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5.9.3 Impacts

A. Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.

Construction activities associated with the proposed project could result in wind and water erosion of the disturbed area leading to sediment discharges. Additionally, construction would involve the use of oil, lubricants, and other chemicals that could be discharged from leaks or accidental spills. These potential sediment and chemical discharges during construction would have the potential to impact water quality in receiving water bodies. Construction of the project would result in more than 1 acre of land disturbance; therefore, the project would be required to prepare and implement a SWPPP in accordance with the Statewide Construction General Permit. This requires implementation of construction BMPs such as silt fences, inlet protection, and site stabilization techniques to ensure that stormwater runoff from the construction work areas does not cause degradation of water quality in receiving water bodies.

During operation, the project would introduce a 67.5-acre development area consisting of 44.2 acres of residential uses, a 0.9-acre Community Purpose Facility (CPF), 5.9 acres of public streets, and 16.5 acres of manufactured slopes and drainage basins, resulting in more impervious area to the site. The increase in impervious area would result in reduced percolation and groundwater recharge as well as more surface runoff. An increase in surface runoff would increase the potential for violation of water quality standards or waste discharge requirements. As

discussed in Section 5.9.1, Existing Conditions, the project is located within the San Diego RWQCB jurisdiction that oversees water quality in the San Diego region. The RWQCB has adopted the Water Quality Control Plan (WQCP) for the San Diego Basin Plan that designates beneficial uses of the region's surface water and groundwater, identifies water quality objectives for the reasonable protection of those uses, and establishes an implementation plan to achieve the objectives. The RWQCB also regulates discharges from municipal separate storm sewer systems in the San Diego region under an NPDES MS4 Permit, which expired on June 27, 2018, but remains in effect under an administrative extension until it is reissued by the RWQCB. The permit requires the development and implementation of BMPs in planning and construction of private and public development projects. Development projects are also required to include BMPs to reduce pollutant discharges from the project site in the permanent design. As discussed in the SWQMP prepared for the project, the project would incorporate source control and site design BMPs to reduce water quality impacts (Appendix I1). Source control BMPs include prevention of illicit discharges into the MS4; storm drain stenciling or signage; protecting trash storage areas from rainfall, run-on, runoff, and wind dispersal; on-site storm drain inlets; interior floor drains and sump pumps; interior parking garages; refuse area; and other miscellaneous drains. Site design BMPs include conserving natural areas, soils, and vegetation; minimizing impervious areas; minimizing soil compaction; runoff collection; and landscaping with native or drought-tolerant species. The structural BMPs would involve the installation of two biofiltration basins. Biofiltration basin 1 would be located in the northeastern area of the project site and biofiltration basin 2 would be located in the northwestern area of the project site. Both biofiltration basins would work for combined pollutant control by collecting and treating runoff through a pre-treatment and biofiltration chamber filtering system. Additionally, the structural BMPs would include three compact proprietary (CP) biofiltration units (i.e. Modular Wetland Unit). These CP biofiltration units would be located along the proposed streets that would connect to Olympic Parkway, one on the proposed street to the west and two on the proposed street to the east. These CP biofiltration units would provide additional aide in pollutant control for the project site.

Therefore, with implementation of the SWPPP and SWQMP, impacts to water quality or waste discharge requirements would be **less than significant**.

B. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin.

As stated in the Geotechnical Investigation Report (Appendix G to this EIR), it is expected that groundwater is approximately 20 feet or greater below the existing grade. While the project would introduce new impervious area by developing approximately 67.5 acres of land on a 135.7-acre site, approximately 50% of the project would be open space and remain undeveloped. Thus, the undeveloped portion of the project site would allow for potential groundwater recharge and infiltration. While the development area of the project would result in more impervious area and reduce percolation and groundwater recharge, the general drainage pattern of the site that ultimately flows into the Poggi Canyon Creek would remain the same (Appendix I2). Further, the proposed project would not use groundwater during construction and would not have components that would withdraw groundwater during operation. The Otay Water District (OWD) would serve the project's water needs. The OWD is one of 23 member water agencies and districts that make up the San Diego County California Water Authority (CWA). The CWA generally imports 75% to 95% of its water from the Metropolitan Water District of Southern California. Water imported to the region comes from two primary sources: the Colorado River, through the Colorado River Aqueduct; and the State Water Project from Northern California, through the Sacramento–San Joaquin River Delta and the California Aqueduct. As such, the proposed project would not rely on groundwater supplies.

Therefore, because the project would not withdraw groundwater during construction or operation activities, the majority of the project site would remain undeveloped, and the general drainage pattern would remain the same, impacts associated with depletion of groundwater supplies would be **less than significant**.

C. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or though the addition of impervious surfaces, in a manner, which would result in

i. Substantial erosion or siltation on- or off-site.

Project construction would involve earth-disturbing activities, including grading, that could expose on-site soils to erosion and surface water runoff. Additionally, construction would involve the use of oil, lubricants, and other chemicals that could be discharged from leaks or accidental spills. These potential sediment and chemical discharges during construction would have the potential to impact water quality in receiving water bodies such as the Poggi Canyon Creek. Construction of the project would result in more than 1 acre of land disturbance; therefore, the project would be required to prepare and implement a SWPPP in accordance with the Statewide Construction General Permit. This requires implementation of BMPs to ensure that water quality standards are met and that stormwater runoff from the construction work areas does not cause degradation of water quality in receiving water bodies. Specific BMPs that address erosion impacts include erosion control blankets, watering of site, and sediment filters.

During operation, the project would introduce 67.5-acre development area composed of 44.2 acres of residential uses, a 0.9-acre Community Purpose Facility (CPF), 5.9 acres of public streets, and 16.5 acres of manufactured slopes and drainage basins. As such, the proposed area to be developed would be graded and paved, greatly reducing the possibility for soil erosion and siltation compared to current conditions. However, introducing more impervious area would result in more surface runoff, which could lead to more soil erosion and siltation. As such, a SWQMP has been prepared for the project. The SWQMP has been prepared consistent with the requirements of the City's BMP Design Manual and with the requirements of San Diego RWQCB Order No. R9-2013-0001 (Regional MS4 Permit). The SWQMP specifies site design BMPs that would be implemented to minimize soil erosion. Site design BMPs include conserving natural areas, soils, and vegetation; minimizing impervious areas; and minimizing soil compaction (Appendix I1). Therefore, with implementation of the SWPPP and incorporation of the BMPs described in the SWQMP, impacts associated with substantial erosion or siltation on- or off-site would be **less than significant**.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

The project would introduce a 67.5-acre development area composed of 44.2 acres of residential uses, a 0.9-acre Community Purpose Facility (CPF), 5.9 acres of public streets, and 16.5 acres of manufactured slopes and drainage basins, resulting in more impervious area to the site, which would result in an increase of surface runoff. The increase in surface runoff would present a potential increase to flooding on- or off-site in the event of heavy rainfall.

To analyze whether the project would create adverse impacts related to flooding, the Drainage Report prepared for the project (Appendix I2) evaluates the existing and proposed peak flows from the project site, assuming the proposed project incorporates the aforementioned attenuation measures. The findings determined that the runoff generated by the project would not exceed pre-project peak flow rates, and runoff velocities would be dissipated by rock riprap at storm drain outfalls. Refer to Appendix I2 for further details. Additionally, the project site is located in

Zone X, an area of minimal flood hazard per FEMA FIRM panel 06073C1914G effective May 16, 2012 (FEMA 2020). This area is higher in elevation than the 0.2% annual chance flood (i.e., 500-year flood). Furthermore, the SWQMP prepared for the project evaluated the existing and peak flows from the project site in the event of a 100-year flow event (Appendix I1). Because the project would increase impervious area that could generate significantly more surface runoff, the development of the project site would include adding storm drains, curb inlets, cleanouts along the proposed on-site private roads and parking spaces to collect stormwater runoff (refer to Appendix I2). Stormwater would be conveyed to the two proposed detention and water quality control basins located at northeast and northwest part of the development area (see Figure 4-15, Proposed Storm Drain System). With incorporation of the drainage improvements, the project would not exceed pre-project flow rates and would be designed to meet projected 100-year flows (refer to Appendix I2 for further details). After the majority of the on-site runoff is treated and detained by the biofiltration basin, the outflow will confluence with the bypass storm drain and discharge into the Poggi Canyon Creek. Therefore, through improvements of stormwater infrastructure on site, impacts associated with the project substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on- or off-site would be **less than significant**.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage system or provide substantial additional sources of polluted runoff.

The project would introduce a 67.5-acre development area composed of 44.2 acres of residential uses, a 0.9-acre Community Purpose Facility (CPF), 5.9 acres of public streets, and 16.5 acres of manufactured slopes and drainage basins, resulting in more impervious area to the site, which would result in an increase of surface runoff. An increase in surface runoff could potentially exceed the capacity of the existing or planned stormwater drainage system or provide substantial additional sources of polluted runoff.

The proposed storm drain system and layout (see Figure 4-11, Streets 'A' and 'B' – Typical Street Sections) would be designed to address peak flows and to integrate water quality features needed to comply with the City's Standard Urban Stormwater Mitigation Plan requirements for water quality. Development of the project site would include adding storm drains, curb inlets, cleanouts along the proposed on-site private roads and parking spaces to collect storm runoff (refer to Appendix I2). Stormwater would be conveyed to the two proposed detention and water quality control basins located at the northeast and northwest part of the development area (see Figure 4-15). After the majority of the on-site runoff is treated and detained by the biofiltration basin, the outflow will confluence with the bypass storm drain and discharge into the Poggi Canyon Creek. For small amount of runoff generated from the north portion of proposed public roads which would be connecting with Olympic Parkway, only the water quality control measurements are proposed, i.e., multiple Modular Wetland structures would be installed to control the water quality. The outflow from Modular Wetlands then discharges into Poggi Canyon Creek without detention. With incorporation of the drainage improvements, the project would not exceed pre-project flow rates and would be designed to meet projected 100-year flows (refer to Appendix I2 for further details). Therefore, impacts associated with the creation or contribution of water runoff which would exceed the capacity of existing or planned stormwater drainage system or provide substantial additional sources of polluted runoff would be **less than significant**.

iv. Impede or redirect flood flows.

As discussed previously, the project site is located in Zone X, an area of minimal flood hazard per FEMA FIRM panel 06073C1914G effective May 16, 2012 (FEMA 2020). This area is higher in elevation than the 0.2% annual chance flood (i.e., 500-year flood). As previously discussed, the project would introduce impervious area to the project site, which would increase surface runoff that could result in increased on- or off-site flooding. The evaluation of the

existing and proposed flow rates showed that with incorporation of drainage improvements (adding storm drains, curb inlets, cleanouts along the proposed on-site private roads and parking spaces to collect storm runoff) the project site would maintain adequate stormwater conveyance as to not result in significant flooding on- or off-site associated with the 100-year, 24-hour storm event (refer to Appendix I2 for further details). Therefore, impacts associated with impeding or redirecting flood flows would be **less than significant**.

D. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

Seiche is generally associated with oscillation of enclosed bodies of water typically caused by ground shaking associated with a seismic event; however, the project site is not located near an enclosed body of water. The closest body of water to the project site is the San Diego Bay, located approximately 4.4 miles west of the project site. Thus, the probability of inundation by seiche or tsunamis is considered negligible. Additionally, flooding from tsunami conditions is not expected because the project site is located approximately 6.3 miles inland from the Pacific Ocean. As discussed under Threshold C(ii), the project site is located in Zone X, an area of minimal flood hazard per FEMA FIRM panel 06073C1914G effective May 16, 2012 (FEMA 2020). This area is higher in elevation than the 0.2% annual chance flood (i.e., 500-year flood). As previously discussed, although internal drainage patterns would be somewhat altered as a result of project development, the project would maintain adequate stormwater conveyance and therefore not result in an increase of surface runoff that would result in flooding on- or off-site associated with the 100-year, 24-hour storm event. Furthermore, as discussed in the SWQMP prepared for the project, the project would incorporate source control and site design BMPs to reduce water quality impacts (Appendix I1). In the event of a flood, appropriate source control BMPs that would reduce the risk of releasing pollutants would include protecting trash storage areas from rainfall, run-on, runoff, and wind dispersal; on-site storm drain inlets; interior floor drains and sump pumps; interior parking garages; refuse area; and other miscellaneous drains. The structural BMPs would involve the installation of two biofiltration basins. Both biofiltration basins would work for combined pollutant control by collecting and treating runoff through a pre-treatment and biofiltration chamber filtering system. Additionally, the structural BMPs would include three CP biofiltration units (i.e., Modular Wetland Unit). These CP biofiltration units would be located along the proposed streets that would connect to Olympic Parkway, one on Street A and two on Street B. These CP biofiltration units would provide augment pollutant control for the project site.

Therefore, impacts associated with flood hazard, tsunami, or seiche zones, and risk release of pollutants due to project inundation would be **less than significant**.

E. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The San Diego Basin underlies a small western portion of the project site; however, the majority of the project site would not be located within the San Diego Basin (DWR 2020). As discussed in Section 5.9.1, the San Diego RWQCB jurisdiction oversees water quality in the San Diego region. The RWQCB has adopted the WQCP for the San Diego Basin Plan that designates beneficial uses of the region's surface water and groundwater, identifies water quality objectives for the reasonable protection of those uses, and establishes an implementation plan to achieve the objectives (SDRWQCB. 2018). The project would be required to comply with applicable regulations and permit requirements intended to support the objectives and policies of the WQCP regarding water quality and erosion and sediment control. Implementation of measures identified in the SWQMP would include source control and site design BMPs to reduce water quality impacts (Appendix I1). Source control BMPs include prevention of illicit discharges into the MS4; storm drain stenciling or signage; protecting trash storage areas from rainfall, run-on, runoff, and wind dispersal; on-site storm drain inlets; interior floor drains and sump pumps; interior parking garages; refuse area; and other miscellaneous drains. Site design BMPs include conserving natural areas, soils, and vegetation;

minimizing impervious areas; minimizing soil compaction; runoff collection; and landscaping with native or drought tolerant species. The structural BMPs would involve the installation of two biofiltration basins. Biofiltration basin 1 would be located in the northeastern area of the project site and biofiltration basin 2 would be located in the northwestern area of the project site. Both biofiltration basins would work for combined pollutant control by collecting and treating runoff through a pre-treatment and biofiltration chamber filtering system. Additionally, the structural BMPs would include three CP biofiltration units (i.e., Modular Wetland Unit). These CP biofiltration units would be located along the proposed streets that would connect to Olympic Parkway, one on Street A and two on Street B. These CP biofiltration units would provide additional aide in pollutant control for the project site. Thus, the BMPs would reduce project impacts associated with water quality and soil erosion and would allow for the project to be consistent with objectives and policies identified in the WQCP. Projects that are consistent with the objectives and policies of the WQCP would not conflict with the WQCP. However, while the project site partially overlies the San Diego Basin, the area overlying the San Diego Basin is proposed for open space and would remain undeveloped.

Furthermore, the project site is not located within a Sustainable Groundwater Management Act (SGMA) mandated basin (County of San Diego 2020). SGMA requires that basins with medium and high-level priority to develop sustainable groundwater sustainability plans and manage groundwater for long-term sustainability. The western portion of the project site is located in the Coastal Plain of the San Diego Groundwater Basin; however, it is not designated as medium or high priority and thus does not require a groundwater management plan (County of San Diego 2020). Therefore, the project would not obstruct implementation of a water quality plan or sustainable groundwater management plan; thus, impacts would be **less than significant**.

5.9.4 Level of Significance Prior to Mitigation

The proposed project would have a **less-than-significant impact** on hydrology and water quality.

5.9.5 Mitigation Measures

No mitigation measures would be required.

5.9.6 Level of Significance After Mitigation

No mitigation measures would be required. Impacts to hydrology and water quality would be **less than significant**.

5.10 Land Use and Planning

This section of the environmental impact report (EIR) provides an overview of the land uses within the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (proposed project) site and surrounding region, the regulatory framework, and an analysis of potential conflicts with existing land use plans that would result from implementation of the proposed project.

According to the California Environmental Quality Act (CEQA), a proposed project's land use effects fall into two main categories: (1) conflicts with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect; and (2) physically dividing an established community. This section of the EIR addresses potential environmental impacts associated with land use conflicts resulting from the proposed project. Other environmental issues associated with land use decisions include aesthetics, noise, and resource conservation. These issues are separately addressed in their respective sections of this EIR.

5.10.1 Existing Conditions

5.10.1.1 Regulatory Framework

Local

2050 Regional Transportation Plan/Sustainable Communities Strategy

SANDAG adopted the 2050 Regional Transportation Plan (RTP) in October 2011. The 2050 RTP provides a vision of the San Diego region's transportation system over the next 40 years. The document contains a robust transportation network, with a diversity of projects that will provide residents and visitors with a variety of travel choices (SANDAG 2011). As part of the 2050 RTP, SANDAG adopted the Sustainable Communities Strategy (SCS), which details how the region will reduce greenhouse gas (GHG) emissions to state-mandated levels as required by Senate Bill 375. The goal of the SCS is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. The GHG reduction targets to be achieved through the adoption of SANDAG's SCS are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035. The 2050 RTP and SCS seek to guide the San Diego region toward a more sustainable future by integrating land use, housing, and transportation planning to create communities that are more sustainable, walkable, transit-oriented, and compact (SANDAG 2011). On October 9, 2015, SANDAG adopted "San Diego Forward" a Regional Plan that merged its Regional Comprehensive Plan (RCP) with the 2050 RTP/SCS (Regional Plan). The RCP served as the long-term planning framework for the San Diego region prior to adoption of the Regional Plan. It provided a broad context within which local and regional land use decisions could be made with respect to anticipated regional growth, and its effect on housing, economics, transportation, environmental planning, and overall quality of life needs. Now, the Regional Plan serves as the blueprint for how the San Diego region will grow and how SANDAG will invest in transportation infrastructure to provide more choices, strengthen the economy, promote a healthy environment, and support thriving communities. The Regional Plan sets forth the following six general objectives: Habitat and Open Space Preservation, Regional Economic Prosperity, Environmental Stewardship, Providing Mobility Choices, Partnerships/Collaboration with neighboring entities and creating Healthy and Complete Communities (SANDAG 2015).

At the core of the Regional Plan is an SCS that charts a course toward lowering GHG emissions and includes the following five building blocks (SANDAG 2015):

- A land use pattern that accommodates our region's future employment and housing needs, and protects sensitive habitats, cultural resources, and resource areas.
- A transportation network of public transit, Managed Lanes and highways, local streets, bikeways, and walkways built and maintained with reasonably expected funding.
- Managing demands on our transportation system (also known as Transportation Demand Management, or TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand.
- Managing our transportation system (also known as Transportation System Management, or TSM) through measures that maximize the overall efficiency of the transportation network.
- Innovative pricing policies and other measures designed to reduce the number of miles people travel in their vehicles, as well as traffic congestion during peak periods of demand.

The Regional Plan includes the following set of principles that will guide the development of the region's future transportation network (SANDAG 2015):

- The SANDAG investment plan will be built with financial resources that are reasonably expected to be available between now and 2050.
- A more efficient transportation network will be achieved through two key strategies: effectively managing the overall system (TSM) and effectively managing demands on the system (TDM) with innovative technologies integrated into both. The result will be maximized efficiency in the transportation network, which ultimately can lower greenhouse gas emissions.
- Managing parts of the network, such as adding Managed Lanes and transit only lanes on freeways, which encourage people to carpool and use public transit to bypass bottlenecks.
- The road toward a more sustainable San Diego region should include vehicles that use cleaner, alternative sources of energy with SANDAG playing an important role in promoting this transition.

SANDAG also prepared a 2019 Federal Regional Transportation Plan (2019 Federal RTP), which was adopted on October 25, 2019. The 2019 Federal RTP builds on the 2015 Regional Plan with updated project costs and revenues and a new regional growth forecast. The 2019 Federal RTP is consistent with the Final EIR approved in conjunction with the 2015 Regional Plan on October 9, 2015. State legislation (Assembly Bill 1730), was signed into law on October 8, 2019, which ensures the 2015 Regional Plan remains valid for state funding eligibility and other consistency purposes until the 2021 Regional Plan is adopted in late 2021. Preparation of the 2021 Regional Plan is currently underway. In fall 2020, key policies and programs to be considered as part of the vision will be presented to SANDAG policymakers. The draft 2021 Regional Plan and its draft Environmental Impact Report are expected to be released for public and policymaker review in spring 2021 (SANDAG 2020).

City of Chula Vista General Plan

The City of Chula Vista General Plan was updated by the City on December 13, 2005, and most recently amended in 2020. The General Plan provides a long-term strategy to address planning issues for the growth and development of the City, and is composed of the following six elements: land use and transportation, economic development, public facilities and services, growth management, environmental, and housing (City of Chula Vista 2005). A large portion of the project site's existing General Plan land use designation is Open Space Preserve

with small sections designated as Open Space. The southeast portion of the project site is designated as Limited Industrial in the General Plan (see Figure 3-1, Existing General Plan Land Use). The proposed project is located in the Sunbow subarea of the General Plan. Sunbow is identified as a master planned community in the General Plan (City of Chula Vista 2005).

Land Use and Transportation Element

The Land Use and Transportation Element establishes the land use categories, roadway classifications, and generalized land use patterns for City development and focuses on themes that (1) support strong community character and image, (2) support strong and safe neighborhoods, and (3) improve mobility. This element establishes plans and policies to identify the general distribution of housing, businesses, industry, open space (including parks), education facilities, and public buildings. Standards for population density and building intensity in each land use classification are also provided (City of Chula Vista 2005).

Economic Development Element

The Economic Development Element establishes policies to ensure the long-term vitality of the local economy and to help develop, guide, and encourage appropriate employment and business ownership in the City. It promotes a sustainable local economy to benefit present and future generations without detrimentally affecting resources. Employment land, or land designated for commercial, industrial and other non-residential, or open space use, is concentrated in three principal areas: the tideland area, the Montgomery area, and the Otay Ranch area (City of Chula Vista 2005).

Public Facilities and Services Element

The Public Facilities and Services Element establishes the plan to provide and maintain infrastructure and public services for future growth, without diminishing services to existing development within the City. The overall goal of this element is to provide and maintain public facilities and services within the City through abundant public infrastructure and community services that support and enhance the well-being of the City and its residents (City of Chula Vista 2005).

Growth Management Element

The purpose of the Growth Management Element is to guide future development in the City based on the principles that (1) rapid population growth and development have the potential to cause a variety of problems and impact the well-being of a city and its residents, and (2) impacts can be mitigated by balancing competing demands for growth and development through the adoption of comprehensive objectives and policies. This element serves as the assurance that the vision described within the General Plan is achieved without sacrificing the quality of life enjoyed in the community, and establishes a framework for directing new development, redevelopment, and community enhancement, and provides the guidance to realize the vision for the City (City of Chula Vista 2005).

Environmental Element

The Environmental Element establishes the policy framework for improving sustainability through the City's stewardship of natural and cultural resources, promotion of environmental health, and protection of persons and property from environmental hazards and noise. Sustainable development is identified as a means of balancing current growth and economic progress with protection of future resources (City of Chula Vista 2005).

Housing Element

The Housing Element details a 5-year strategy for enhancement and preservation of the City character, identifies strategies for expanding housing opportunities for the various economic segments of the City, and provides policy guidance for local decision-making related to housing. The focus of this element is to (1) maintain and enhance the quality of housing and residential neighborhoods in the City, (2) support housing opportunities to meet the City's diverse needs, and (3) fund and implement services that provide vital community resources for lower-income residents. The City of Chula Vista adopted a Balanced Communities Policy (Policy), commonly referred to as Inclusionary Housing, in 1981 as part of its Housing Element of the General Plan. The City Council's purpose of the Policy is to increase the diversity of housing prices/rents throughout the community and ensure that the range of prices/rents continues over time. Inclusionary policies of this element require 10% affordable (inclusionary) housing, including 5% low-income and 5% moderate-income units, for projects consisting of 50 or more dwelling units (City of Chula Vista 2005). The Guidelines to the Balanced Communities Policy, were established to supplement and support the Inclusionary Housing Policy of Chula Vista which are read in conjunction with the Policy. Pursuant to the Guidelines, the City may approve alternatives to the construction of new inclusionary units where the proposed alternative provides a more effective and feasible means of satisfying this requirement or provides a greater public benefit. Guidelines to the Balanced Communities Policy (2015). Currently, the City is updating the General Plan Housing Element to account for housing needs and establish clear goals and objectives to inform future housing decisions for the 2021 to 2029 housing cycle.

City of Chula Vista Multiple Species Conservation Program Subarea Plan

The City's Multiple Species Conservation Program (MSCP) is a subregional plan under the California Natural Community Conservation Planning Act (California Fish and Game Code Sections 2800–2835). The MSCP covers an area encompassing 12 jurisdictions and 582,243 acres. The MSCP addresses the potential impacts of urban growth, loss of natural habitat, and species endangerment, and creates a plan to mitigate for the potential loss of covered species and their habitat due to the direct, indirect, and cumulative impacts of future development of both public and private lands within the MSCP area. The MSCP Subregional Plan is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple sensitive plant and animal species and the preservation of natural vegetation communities in southern San Diego County. The MSCP Subregional Plan is implemented through local subarea plans prepared by participating jurisdictions (City of Chula Vista 2003). The City of Chula Vista MSCP Subarea Plan was approved in 2003, and it provides for conservation of covered species and their associated habitats by establishing a Preserve of interconnected conservation lands. The combination of the MSCP Subregional Plan and subarea plans, including the City's MSCP Subarea Plan, serves as a Multiple-Species Habitat Conservation Plan pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act and as Natural Community Conservation Plan and associated permit under the Natural Community Conservation Planning Act. The MSCP Subregional Plan is being implemented in phases as participating jurisdictions and special districts submit their subarea plans for approval to the U.S. Fish and Wildlife service (USFWS) and the California Department of Fish and Wildlife (CDFW). Upon approval, USFWS and CDFW authorize the take of listed species and other species of concern, subject to the terms of the MSCP Subarea Plan and the MSCP Subregional Plan. Conservation and management responsibilities and implementation guarantees for each subarea plan are set forth in implementing agreements between the entity responsible for each subarea plan and USFWS and CDFW (City of Chula Vista 2003).

The City's MSCP Subarea Plan was approved in 2003, the City's Implementation Agreement with USFWS and CDFW was entered into in February 2003. The City's MSCP Subarea Plan was prepared pursuant to a general outline developed by USFWS and CDFW to meet the requirements of the Natural Community Conservation Planning Act.

The City's MSCP Subarea Plan is consistent with the MSCP Subregional Plan and contributes to its implementation. In addition, the City's MSCP Subarea Plan is a stand-alone document for purposes of implementing portions of the MSCP Preserve (City of Chula Vista 2003).

The City's MSCP Preserve was created in cooperation with USFWS and CDFW, property owners, developers, and environmental groups. The majority of the City's Preserve consists of hardline areas designated for 100% conservation, and these areas are either already in public ownership or will be dedicated into the Preserve as part of the City's development approval process for covered projects. Preserve boundaries for covered projects were established on a project-by-project basis after evaluation of habitat and species data and/or surveys conducted as part of project entitlement processing, evaluation by USFWS and CDFW, and consideration of how such mitigation could best contribute to the overall MSCP Subregional Plan (City of Chula Vista 2003).

Although the proposed project is not considered a "Covered Project" under the Chula Vista MSCP Subarea Plan, a large portion of the project site (47%) is designated as Open Space Preserve. Land uses designated as Open Space Preserve are areas within the City's MSCP Subarea Plan that provide for the permanent conservation of biological resources (City of Chula Vista 2005).

Sunbow General Development Plan

The Sunbow General Development Plan (GDP), which originally included 604.8 acres in the eastern portion of the City, was adopted on December 5, 1989, with the primary objective to create an efficient, self-contained village with a mix of residential, commercial, community recreation, industrial park, and open space/trails land uses. The principal objective of the GDP was to develop an efficient self-contained village (City of Chula Vista 1989).

The GDP is implemented through the adoption of a more detailed SPA Plan, tentative tract maps, and potential annexation and development agreements. The GDP is designed to function as a policy bridge between the General Plan and the SPA Plan, which provides more detailed plans for development of the Sunbow Master Planned Community. The project site is designated as Industrial Park and Open Space within the GDP (City of Chula Vista 1989).

Sunbow Sectional Planning Area Plan

The SPA Plan was approved by the City Council on February 20, 1990. According to the City, GDPs are implemented through the adoption of SPA Plans, which are more detailed in its zoning, design regulations, and development parameters. The purpose of the SPA Plan is to assure high quality development, create an economically viable plan, provide a plan for long-range development, facilitate provisions for community facilities, preserve open space, and establish a planning and development framework. Regulations within the SPA Plan supersede other regulations where there is potential conflict between the GDP and the General Plan. The project site is designated as Industrial Park and Open Space within the SPA Plan (City of Chula Vista 1990).

City of Chula Vista Municipal Code

Zoning Ordinance

Title 19 of the City of Chula Vista Municipal Code (CVMC) is the City's Zoning Code, which is intended to implement the General Plan. The Sunbow Master Planned Community, which includes the project site, is designated as a Planned Community (P-C) zone. Per the City's Municipal Code Section 19.48.090, all P-C zones shall be divided into

sectional planning areas, such is the case with the SPA Plan area. Specific land use districts are designated by the SPA Plan. As defined in Chapter 19.48 of the CVMC, the purposes of the P-C zone are as follows:

- Provide for the orderly preplanning and long-term development of large tracts of land. These tracts may contain a variety of land uses, but are under unified ownership or development control, so that the entire tract will provide an environment of stable and desirable character.
- Give the developer reasonable assurance that sectional development plans in accordance with the approved general development plan will be acceptable to the City. Sectional development plans may include subdivision plans and/or planned unit development plans as provided in this title.
- Enable the City to adopt measures for the development of the surrounding area compatible with the planned community zone.

According to Section 19.48.020 of the Zoning Code, P-C zoning may be established on lands that are suitable and of sufficient size for planning and development in a manner consistent with the purpose of the zone. P-C zoning does not include any area of less than 50 acres of contiguous land. Section 19.48.025 establishes a requirement for Community-Purpose Facility (CPF) sites to be provided within the P-C zone at the rate of 1.39 acres per 1,000 persons. Section 19.48.090 establishes requirements for sectional planning areas.

Growth Management Ordinance

The purpose and intent of the City's Growth Management Ordinance (GMO) (CVMC Section 19.09) is to provide quality housing opportunities for all economic sections of the community; to balance the community with adequate commercial, industrial, recreational, and open space areas to support the residential areas of the City; to provide that public facilities, services, and improvements meeting City standards exist or become available concurrent with the need created by new development; to control the timing and location of development by tying the pace of development to the provision of public facilities and improvements to conform to the City's Threshold Standards; and to meet the goals and objectives of the Growth Management Program and other programs associated with quality of life. The GMO prohibits new development unless adequate public facilities are provided in advance of or concurrently with the demands created by new development.

The GMO created the Growth Management Oversight Commission and established "quality of life" threshold standards. These include police, fire, and emergency response times; anticipated demand for schools and evaluation of school funding; establishment of a library service ratio; a service ratio for neighborhood and community park land; water service availability; compliance with City engineering sewage flow and related standards (subdivision manual); compliance with City engineering stormwater drainage standards (subdivision manual); maintenance of acceptable City-wide traffic flows; and air quality and pollution overview and evaluation to foster air quality improvement pursuant to relevant regional and local air quality improvement strategies. The GMO also requires public facilities finance plans (PFFPs), air quality improvement plans, and water conservation plans for every SPA Plan, or, if a SPA Plan is not required, for every tentative map (TM) application. The PFFP provides a complete description of all public facilities included within the boundaries of the plan as defined by the development services director, including phasing and financing of infrastructure. The plan must contain an analysis of the individual and cumulative impacts of the proposed development on the community as it relates to the Growth Management Program, the specific facility master plans, and the threshold standards. Proposed development must also prepare a fiscal impact report and provide funding for periods when City expenditures for the development would exceed projected revenues.

Park Land Dedication Ordinance

Chapter 17.10 of the CVMC establishes requirements for parklands and public facilities, including regulations for the dedication of land and development of improvements for park and recreational purposes (Section 17.10.010); determination of park and recreational requirements (Section 17.10.020); calculation of area to be dedicated (Section 17.10.040); specifications for park improvements (Section 17.10.050); criteria for area to be dedicated (Section 17.10.060); procedures for in-lieu fees for land dedication and/or park development improvements (Section 17.10.070); and other regulations regarding park development and collection and distribution of fees. Payment of a Park Benefit Fee, as described in Section 4.4.1.1 of the EIR, addresses the project's Park Land Dedication Ordinance requirements.

Tentative Map

Title 18 of the CVMC requires the adoption of a TM for division and development of land into five or more parcels. A TM is made for the purpose of showing the design of a project, including the locations and layouts of streets and parcels. Under CVMC Section 18.04.050, provisions shall be made in a TM to assure adequate access, light, air, and privacy on all parcels of property, regardless of the land use. CVMC Section 18.05.060 provides for necessary land for community facilities, including schools, parks, open space, playgrounds, and other required public facilities. The TM must be reviewed by the Director of Public Works to ensure compliance with regulations applicable to public and private utilities, streets, and respective rights-of-way and easements. The TM also must be reviewed by the Development Services Director with regard to the number, size, and configuration of lots to be created, and the alignment and width of streets and easements. TMs may be adopted at the time of project approval and shall expire in 36 months in accordance with the Subdivision Map Act, although extensions may be requested.

Parks and Recreation Master Plan

The City of Chula Vista Parks and Recreation Master Plan (PRMP) was adopted in 2002 and the most recent Draft Update was completed in 2018. The PRMP is the blueprint for the City's park system through the year 2030. The PRMP identifies existing park and recreation facilities and provides guidance for future park sites, including locations for specific types of additional recreational facilities. The PRMP envisions a comprehensive and interrelated package of community and neighborhood parks and presents each park within the context of the whole park system to ensure that it provides a balance of recreational opportunities. The PRMP states that the year 2030 Citywide park system will contain community, neighborhood, mini, urban, and special-purpose parks and recreation facility and community center sites (City of Chula Vista 2018).

The PRMP includes a set of goals and policies for the City's parks and recreation aspirations. Each goal is accompanied by a set of specific policies, rationales, and action plans, as appropriate. The goals are as follows (City of Chula Vista 2018):

- Create a comprehensive parks and recreation system that meets the needs of the general public of Chula Vista by effectively distributing park types and their associated recreation facilities and programs and by using quasi-public resources.
- Establish priorities for allocation of existing and future public parkland resources that balance public priorities and needs with quality of parks and facilities.
- Provide a program for implementation of the City's Goals and Policies contained herein to ensure the continued development of a comprehensive parks and recreation system providing citywide resources for recreation services and programs that meet the needs of its citizens.

Airport Land Use Compatibility Plan–Brown Field

The San Diego County Regional Airport Authority, designated as the Airport Land Use Commission for all public airports in the County of San Diego, adopted the Brown Field Airport Land Use Compatibility Plan (ALUCP) in September 1981 (last updated in December 2010). The ALUCP assists in achieving compatible land use development in the area surrounding Brown Field airport located in Otay Mesa on Heritage Road, east of Interstate (I) 805. Brown Field is a general aviation airport accommodating both propeller- and jet-powered aircraft and serves as a port of entry for private aircraft coming into the United States from Mexico. Brown Field is also heavily used by military and law enforcement agencies and is classified as a "reliever airport" by the Federal Aviation Administration (SDCRAA 2010). The ALUCP designates the airport influence area and contains projected noise contours, flight activity zones, a land use compatibility matrix, and plan recommendations for areas surrounding Brown Field. The airport influence area is delineated by using the projected 60-decibel (dB) community noise equivalency level (CNEL) contour and is generally the area in which current and future airport-related noise, overflight, safety, and/or airspace protection factors may affect land uses or necessitate restrictions on uses. The airport influence area is divided into Review Area 1 and Review Area 2.

The composition of each area is determined as follows (SDCRAA 2010):

- Review Area 1 consists of locations where noise or safety concerns may necessitate limitations on the types of land use actions. Specifically, Review Area 1 encompasses locations exposed to aircraft noise levels of 60 dB CNEL or greater together with all of the safety zones identified in the ALUCP.
- Review Area 2 consists of locations beyond Review Area 1 but within the airspace protection and/or overflight notification areas. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2.

A portion of the project site is within Review Area 2 of the Brown Field Airport Influence Area and the entire project site is within the FAA Height Notification Boundary (SDCRAA 2010).

5.10.1.2 On-Site Conditions

The project site is centrally located in the City, east of I-805, west of SR-125, and north of SR-905. Specifically, the project site is located south of Olympic Parkway and adjacent to the northern boundary of the Otay Landfill. Regional access to the project would be provided primarily by Olympic Parkway. The project site is currently accessible from Olympic Parkway through two existing unpaved culverts crossing Poggi Canyon Creek in the northern portion of the site. The site is currently vacant and undeveloped with no public access. Vegetation communities on the project site primarily consist of coastal and valley freshwater marsh, Diegan Coastal Sage Scrub, Native Grassland, and Non-native Grassland.

5.10.1.3 Surrounding Land Uses

The project site is surrounded by existing development including residential land uses to the north, west, and southwest. Approximately 300-500 feet of open space hillsides also exists north of the project site between Olympic Parkway and the residential land uses. South of the project site is the Otay Landfill and directly southeast of the project site is vacant and undeveloped land planned for residential and industrial development within Otay Ranch Village Two. Valle Lindo Elementary School is located approximately 0.25 miles west of the project site and Fire Station 3 is located 0.2 miles northwest of the project site.

5.10.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to land use and planning is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Physically divide an established community.

B. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

5.10.3 Impacts

A. Physically divide an established community.

The proposed project is located on a currently vacant and undeveloped site surrounded by existing and planned development, as discussed in Section 5.10.1.2, On-Site Conditions. There is currently no public access to the project site. Access to the proposed project would be provided from the existing Olympic Parkway and the project does not propose components that would impede or present barriers to existing circulation networks within the Sunbow and Otay Ranch communities. Rather, the proposed project would result in the development of residential uses on a site that has historically been planned for development. Implementation of the proposed project would not physically divide an established community. Therefore, impacts would be **less than significant**.

B. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The proposed project would include multiple discretionary actions and/or approvals, as discussed in Section 4.5, Discretionary Actions/Approvals, of this EIR. These would include amendments to the General Plan, GDP, and SPA Plan as well as a Rezone, a Development Agreement, MSCP Subarea Plan Boundary Line Adjustment, MSCP Minor Amendment, and Tentative Map approval. Currently, the southeast portion of the project site is designated as Limited Industrial in the General Plan and Industrial Park in the GDP and SPA Plan (see Figure 3-1, Existing General Plan Land Use; Figure 3-3, Existing General Development Plan Land Use Designation; and Figure 3-4, Existing SPA Plan Land Use). The General Plan, GDP, and SPA Plan amendments would primarily change these land use designations to allow for the development of residential uses and the proposed community purpose facility (see Figure 4-2, Proposed General Plan Land Use; Figure 4-3, Proposed General Development Plan Land Use Designation; and Figure 4-4, Proposed SPA Plan Land Use). The remainder of the project would generally remain unchanged as Open Space Preserve or Open Space., The proposed project also includes a MSCP Boundary Line Adjustment to correct an inadvertent error in the MSCP that placed a 100% Preserve overlay on the project site even though the project was not identified as a Covered Project. The proposed Boundary Line Adjustment would result in a net increase of 0.09 acres of Preserve land. The proposed project also includes a Rezone. The project site would remain designated as SPA under the existing P-C zoning. However, the specific zoning districts identified within the GDP and SPA Plan for the Sunbow II, Phase 3 area would be amended to allow for the proposed residential, community purpose facility, and open space project components (see Figure 4-5, Proposed Zoning).

Chula Vista General Plan

Land Use and Transportation Element

The Land Use and Transportation Element establishes the land use categories, roadway classifications, and generalized land use patterns for City development, while focusing on themes that (1) support strong community character and image, (2) support strong and safe neighborhoods, and (3) improve mobility. This element establishes plans and policies to identify the general distribution of housing, businesses, industry, open space (including parks), education facilities, and public buildings. Standards for population density and building intensity in each land use classification are also provided. General Plan Land Use and Transportation Element objectives relevant to the proposed project include the following (City of Chula Vista 2005):

- **Objective LUT 1:** Provide a balance of residential and non-residential development throughout the City that achieves a vibrant development pattern, enhances the character of the City, and meets the present and future needs of all residents and businesses.
- **Objective LUT 2:** Limit locations for the highest development intensities and densities, and the tallest building forms, to key urban activity centers that are also well-served by transit.
- **Objective LUT 3:** Direct the urban design and form of new development and redevelopment in a manner that blends with and enhances Chula Vista's character and qualities, both physical and social.
- **Objective LUT 6:** Ensure adjacent land uses are compatible with one another.
- **Objective LUT 7:** Appropriate transitions should be provided between land uses.
- **Objective LUT 13:** Preserve scenic resources in Chula Vista, maintain the City's open space network, and promote beautification of the City.
- **Objective LUT 29:** Allow for the clustering of residential development to respond to site constraints, and improve amenities for project residents.
- **Objective LUT 71:** Sustain the stable, well-maintained neighborhoods with adequate public facilities and services that are in accordance with adopted policies and regulations intended to maintain desirable community character.
- **Objective LUT 79:** Establish appropriate land uses adjacent to the Otay Landfill and Wolf Canyon that reflect the unique land use and landform characteristics of these areas.
- **Policy LUT 79.5**: Limit land uses adjacent to the Otay Landfill to open space and limited industrial uses or business park.

The proposed project would amend the General Plan to change the land use designation on the project site from Research & Limited Industrial to Residential Medium-High and Residential High, as described above. The existing General Plan land use designations are shown on Figure 3-1. Although residential development was not anticipated for the project site by the General Plan, the site has historically been planned for development and the proposed uses are currently encouraged by state law and regional planning documents due to the need for more housing within the State. Consistent with General Plan Objective LUT 2, the proposed project would also locate higher density housing near existing urban activity centers within the City and would be well-served by the existing transportation network including Olympic Parkway and I-805.

The surrounding area is already substantially developed with housing to the north, west, and southwest, and the Otay Landfill is located to the southeast. Consistent with General Plan Objective LUT 71, there is significant existing infrastructure surrounding the project site to accommodate the proposed project including existing transportation and

utility infrastructure (including water and sewer) adjacent to the project site within Olympic Parkway. The GMO also requires PFFPs for every SPA Plan. A PFFP is required in conjunction with the preparation of a SPA Plan Amendment to ensure that development of the proposed project is consistent with the overall goals and policies of the General Plan and would not degrade public services. The Supplemental PFFP prepared for the proposed project (see Appendix B Sunbow II, Phase 3 SPA Amendment Supplemental PFFP) provides a complete description of all public facilities included within the boundaries of the SPA Plan area, including phasing and financing of infrastructure. The PFFP ensures that development of project would not adversely impact the City's quality of life standards by requiring public facilities and services be provided concurrent with demand. Moreover, as discussed in Section 5.13, Public Services, and Section 5.16, Utilities and Service Systems, adequate public facilities and services currently exist to serve the proposed project and the proposed project would result in less than significant impacts to public facilities and services.

Consistent with General Plan Objectives LUT 1 and LUT 3, the proposed project would develop new, higher density housing on a site in a central location within the City that is already near existing commercial and employment centers. Additionally, consistent with General Plan Objective LUT 29, the proposed project would cluster the residential uses in the southeast corner of the project site and maintain the open space areas throughout the remainder of the site. The proposed project would satisfy its affordable housing obligations via a Balanced Communities Affordable Housing Agreement between the project applicant and the City. This Balanced Communities Affordable Housing Agreement will document satisfaction with affordable housing requirements which would help the City fulfill both deficits from past 5th Cycle RHNA allocations and projections for current 6th Cycle RHNA allocations for low income housing, as shown in Tables 5.12-2 and 5.12-3 and discussed in Section 5.12, Population and Housing.

The project site is currently vacant and undeveloped, which provides scenic views for motorists traveling along Olympic Parkway. The native habitat on site is identified in the General Plan as part of the City's open space network. Implementation of the proposed project would preserve approximately 63.6 acres of MSCP Open Space Preserve, 3.9 acres of Poggi Creek Conservation easements, and 16.8 acres of Manufactured Slopes/Basins/Wetland Resources, consistent General Plan Objective LUT 13 to maintain the City's open space network. As discussed in more detail in Section 5.1, Aesthetics, the proposed project would not conflict with General Plan policies governing scenic quality.

Finally, the proposed project would include construction of residential land uses adjacent to the Otay Landfill. General Plan Goal LUT 79 and Policy LUT 79.5 aims to limit land uses adjacent to the Otay Landfill to open space and limited industrial uses or business park (City of Chula Vista 2005). While the proposed project would place residential land uses in the vicinity of Otay Landfill, the proposed project would include open space setbacks between the Otay Landfill and the closest proposed residences ranging from approximately 50 feet to 150 feet, as shown in Figure 4-6, Illustrative Concept Plan. The Otay Landfill is also restricted from locating composting activities within 1000 feet of residential uses. County of San Diego Major Use Permit Minor Deviation, MUP 76-046WM (September 12, 2019 MUP). This would ensure the proposed project is consistent with General Plan Objective LUT 7 to provide appropriate transitions between land uses. Moreover, the site has historically been planned for development and as discussed in the Health Risk Assessment prepared for the proposed project (see Appendix C, Air Quality and Greenhouse Gas Emissions Analysis), the landfill would cease operation in 2030, approximately 2 years after full buildout of the proposed project. As such, the proposed project would be compatible with surrounding development and would not conflict with General Plan Objectives LUT 6, LUT 79, and Policy LUT 79.5. The proposed project would not conflict with the Land Use and Transportation Element of the General Plan.

Housing Element

The Housing Element details the City's seven-year strategy for the enhancement and preservation of the community's character, identifies strategies for expanding housing opportunities for the City's various economic segments and provides the official policy guidance for local decision-making related to housing. The Housing Element of the General Plan provides the implementation mechanisms for effectively addressing housing needs in Chula Vista throughout the 2013-2020 planning period (City of Chula Vista 2013). Currently, the City is updating the General Plan Housing Element to account for housing needs and establish clear goals and objectives to inform future housing decisions for the 2021 to 2029 housing cycle. General Plan Housing Element objectives relevant to the proposed project include the following (City of Chula Vista 2013):

- **Objective H2:** Promote efficient use of water and energy through sustainable design, adopted standards, and incentives to conserve limited resources and reduce long-term operational costs of housing, consistent with the California Long-Term Energy Efficiency Strategic Plan, the most recent Energy Code including City-specific amendments, Green Building Standards, and other related City ordinances.
- **Objective H5:** Encourage the provision of a wide range of housing choices and equitable distribution by location, type of unit, and price level, in particular the establishment of permanent affordable housing for low-and moderate-income households.
- **Objective H6:** Promote the development of a variety of housing choices, coupled with appropriate services, to meet the needs of special population groups, including the homeless, those "at-risk" of becoming homeless, persons with disabilities, and seniors.
- **Objective H7:** Facilitate the creation, maintenance, preservation and conservation of affordable housing for lower and moderate-income households through comprehensive planning documents and processes, and the provision of financial assistance and other incentives.

Consistent with the General Plan Housing Element Objective H5 and H7, and the Guidelines to the Balanced Communities Policy the proposed project would be consistent with the City's Inclusionary Housing Policy by entering into a Balanced Community Affordable Housing Agreement, that will increase the diversity of housing prices and rent in the community. Per the City's Balanced Community Affordable Housing Agreement, the project's affordable housing obligation of 72 affordable housing units, including 36 low-income and 36 moderate-income affordable units will be met. The project will also contribute to the City's Regional Housing Allocation requirements, and consistent with General Plan Objectives H5, will offer a wide range of housing choices. This Balanced Communities Affordable Housing Agreement will document satisfaction with affordable housing requirements. Proposed residential uses would feature four unique multi-family attached residential product types with 15 unique floorplans, ranging in square footage from approximately 1,100 to 2,050 and in two- and three-story homes, consistent with General Plan Objective H6. The proposed project is required to meet all State of California accessibility requirements for people with disabilities, and fair housing practices would be employed in the sale, rental, and advertising of all units.

Consistent with General Plan Objective H2, the proposed project would comply with the Green Building Standards, Energy Code, and California Long-Term Energy Efficiency Strategic Plan. Included in the Green Building Standards is also a mandate for 20% less water use than currently required by the state plumbing code. Finally, as discussed in Section 5.5, Energy, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources; and, as discussed in Section 5.16, Utilities and Service Systems, there would be sufficient water to serve the proposed project.

As identified in the General Plan, the project site is designated Research & Limited Industrial, Open Space Preserve, and Open Space. As such, the proposed project would conflict with the current General Plan land use designations as described above. However, the proposed project involves an amendment to the General Plan, changing the land use designations of the Research & Limited Industrial parcel to Residential Medium-High and High, to be processed concurrently with the development of the proposed project. This amendment to the General Plan would allow the proposed land uses to be developed on the project site. As such, the proposed project would not conflict with the Housing Element of the General Plan.

Economic Development Element

The Economic Development Element establishes policies to ensure the long-term vitality of the local economy. The purpose of the element is to help develop and guide employment and business ownership opportunities in Chula Vista, and encourage appropriate economic and business development in the City (City of Chula Vista 2005). While these are not adopted for the purposes of avoiding or mitigating an environmental effect, relevant policies of the Economic Development Element included below are discussed:

- **Policy ED 1.2:** Provide sufficient tracts of land at a variety of sizes available for industrial and commercial uses in order to provide a stable economic base.
- **Policy ED 1.3:** Encourage the preservation and expansion of existing industrial uses in areas designated as industrial.
- **Policy ED 1.5:** Consider fiscal implications of General Plan amendments that propose changes to industrial and commercial lands.
- **Policy ED 2.3:** Pursue a diverse supply of housing types and costs, as well as a diverse supply of jobs with varying income potential, to balance local job and housing opportunities.

After marketing the project for over 30 years as an industrial park, the applicant entered into a Community Benefits Agreement (CBA) with the City which provides an opportunity to facilitate economic growth funding for office uses within the SR-125 corridor or the construction of facilities for academic, institutional, and innovation-related businesses within the University Innovation District. The University Innovation District/Regional Technology Park SPA Plan provides for development of approximately 10.1 million square feet of university and regional technologies uses, while the Eastern Urban Center SPA Plan provides for development of approximately 3.8 million square feet of commercial/mixed use development on 75.9 acres. This would facilitate the creation of high-quality jobs and economic growth within the City by providing opportunities that target and attract industries and businesses that contribute to diversification and stabilization of the local economy. Therefore, the project is consistent with Policies ED 1.2, 1.3, and 1.5. As discussed above under the General Plan Housing Element, the project would include a range of housing types and opportunities. The applicant will also enter into a Balanced Community Affordable Housing Agreement, that will increase the diversity of housing prices and rent in the community, satisfying the project's affordable housing obligation. Therefore, the project is consistent with Policy ED 2.3. The project would not conflict with the Economic Development Element of the General Plan.

Public Facilities & Services Element

The Public Facilities and Services Element establishes the City's plan to provide and maintain infrastructure and public services for future growth, without diminishing services to existing development. Public facilities collectively refer to utilities, such as: water; sewer; drainage; power; and telecommunications services. Public services collectively refer to schools; libraries; law enforcement; and fire protection. This element also includes public facilities and services that

support and enrich the community, such as: parks and recreation centers; art and cultural facilities and programs; childcare opportunities; and health and human services. General Plan Public Facilities & Services Element objectives relevant to the proposed project include the following (City of Chula Vista 2005):

- **Objective PFS 1**: Ensure adequate and reliable water, sewer, and drainage service and facilities.
- **Objective PFS 2**: Increase efficiencies in water use, wastewater generation and its re-use, and handling of storm water runoff throughout the City through use of alternative technologies.
- **Objective PFS 3**: Ensure a long-term water supply to meet the needs of existing and future uses in Chula Vista.
- **Objective PFS 4:** Provide long-term wastewater treatment capacity to meet the needs of existing and new development in Chula Vista.
- **Objective PFS 5**: Maintain sufficient levels of fire protection, emergency medical service and police services to protect public safety and property.
- **Objective PFS 6:** Provide adequate fire and police protection services to newly developing and redeveloping areas of the City.
- **Objective PFS 24:** Promote state-of-the-art telecommunication services throughout Chula Vista.
- **Objective PFS 25:** Efficiently handle solid waste disposal throughout the City.

Potential impacts to public facilities and services, including schools, libraries, law enforcement, and fire protection, are discussed in Section 5.13. As discussed therein, the proposed project would pay Public Facilities Development Impact Fees in accordance with the City's fee schedule to ensure sufficient levels of fire protection and police services, consistent with General Plan Objective PFS 5 and PFS 6. The proposed project is within the boundaries of existing Community Facility Districts (CFDs) for both Chula Vista Elementary School and Sweetwater Union High School Districts. Implementation of the CFD would ensure sufficient service by existing schools that would serve the project site. Additionally, the proposed project would pay Park Benefit Fees, equal to the City's Park Acquisition and Development Fee Update, to fulfill parkland obligation requirements for population induced by the proposed project. As such, it was determined that with payment of applicable development fees and the Park Benefit Fees, the proposed project would result in less than significant impacts on schools, law enforcement, fire protection, and parks and recreation. The proposed project also includes a Supplemental PFFP as required by the City's GMO to ensure that development of the project would not adversely impact the City's quality of life standards by requiring public facilities and services be provided concurrent with demand. Refer to Section 5.13 for additional information on public services and Section 5.14, Recreation, for additional information on parks and recreation.

Potential impacts to public utilities and service systems, including water, sewer, drainage, power, and telecommunications services are discussed in Section 5.16. As discussed therein, the proposed project would result in less than significant impacts to water, wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunications facilities, consistent with General Plan Objectives PFS 1, 2, 4, and 24. Additionally, a Water Supply Assessment was prepared for the proposed project, included as Appendix L2 to this EIR, and consistent with General Plan Objective PFS 3, there would be sufficient water supply to serve the proposed project. Finally, consistent with General Plan Objective PFS 25, there would be sufficient landfill capacity to accommodate solid waste generated by the proposed project.

The proposed project would not conflict with the Public Facilities & Services Element of the General Plan.

Environmental Element

The Environmental Element establishes the policy framework for improving sustainability through the responsible stewardship of Chula Vista's natural and cultural resources, promotion of both physical and environmental health, and protection of persons and property from environmental hazards and noise. It contains policies that reconcile conflicting demands created when population growth and development consumes natural resources–both renewable and non-renewable, finite resources and environmental justice policies to help achieve a healthy sustainable community for everyone. General Plan Environment Element objectives relevant to the proposed project include the following (City of Chula Vista 2005):

- **Objective E1:** Conserve Chula Vista's sensitive biological resources.
- **Objective E3:** Minimize the impacts of growth and development on water supply resources through the efficient use and conservation of water by residents, businesses, and city government.
- **Objective E6:** Improve local air quality and reduce greenhouse gas emissions by minimizing the release of air pollutants and toxic air contaminants and limiting the exposure of people to such pollutants.
- **Objective E7:** Promote energy conservation through the efficient use of energy and through the development of local, non-fossil fuel-based renewable sources of energy.
- **Objective E8:** Minimize the amount of solid waste generated within the General Plan area that requires landfill disposal.
- **Objective E9:** Protect Chula Vista's important cultural resources and support and encourage their accessibility to the public.
- **Objective E10:** Protect important paleontological resources and support and encourage public education and awareness of such resources.
- **Objective E14**: Minimize the risk of injury, loss of life, and property damage associated with geologic hazards.
- **Objective E16**: Minimize the risk of injury and property damage associated with wildland fire hazards.
- **Objective E21:** Protect people from excessive noise through careful land use planning and the incorporation of appropriate mitigation techniques.

Consistent with General Plan Objective E1, the proposed project would maintain 63.6 acres as MSCP Preserve Open Space. Additionally, impacts to biological resources are analyzed in Section 5.3, Biological Resources. As discussed therein, all impacts to biological resources would be mitigated to a less than significant level.

Consistent with General Plan Objective E3, a Water Supply Assessment was prepared for the proposed project, included as Appendix L2, and impacts related to water supply resources are analyzed in Section 5.16. As discussed therein, there would be sufficient water supply to serve the proposed project, consistent with General Plan Objective E3.

Consistent with General Plan Objective E6, impacts related to air quality are analyzed in Section 5.2, Air Quality. As discussed therein, the proposed project would have a less-than-significant impacts on air quality.

Impacts related to greenhouse gas emissions (GHG) are analyzed in Section 5.7, Greenhouse Gas Emissions. As discussed therein, the proposed project would result in significant and unavoidable impacts associated with project's efficiency metric and the state's ability to meet future GHG emission reductions. However, the proposed project would still implement Mitigation Measure **(MM) GHG-1** (see Section 5.7.5, Mitigation Measures) to reduce GHG emissions to the extent feasible. As such, because the proposed project would result in less-than-significant air quality impacts and would mitigate GHG emissions to the extent feasible, the proposed project would not conflict with General Plan Objective E6.

Consistent with General Plan Objective E7, impacts related to energy usage are analyzed in Section 5.5, Energy. As discussed therein, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources.

Consistent with General Plan Objective E8, impacts related to solid waste are analyzed in Section 5.16. As discussed therein, there would be sufficient landfill capacity to accommodate solid waste generated by the proposed project.

Consistent with General Plan Objective E9, impacts to cultural resources are analyzed in Section 5.4, Cultural and Tribal Cultural Resources. As discussed therein, the proposed project would have potentially significant impacts associated with the potential disturbance of previously unrecorded archaeological resources, human remains, and tribal cultural resources. However, the proposed project would implement **MM-CUL-1** (see Section 5.4.5) to reduce potentially significant impacts related to cultural and tribal cultural resources to less-than-significant levels. Therefore, the proposed project would not conflict with General Plan Objective E9.

Consistent with General Plan Objective E10, impacts to paleontological resources are analyzed in Section 5.6, Geology and Soils. As discussed therein, the proposed project would have potentially significant impacts to previously unrecorded paleontological resources. However, the proposed project would implement **MM-GEO-1** (see Section 5.6.5) to reduce potentially significant impacts to paleontological resources to a less-than-significant level. Therefore, the proposed project would not conflict with General Plan Objective E10.

Consistent with General Plan Objective E14, impacts related to geologic hazards are analyzed in Section 5.6. As discussed therein, the proposed project would result in less-than-significant impacts related to geologic hazards.

Consistent with General Plan Objective E16, impacts related to wildfire hazards are analyzed in Section 5.17, Wildfire. A Fire Protection Plan (FPP) has been prepared for the proposed project and incorporated into the project as applicable (Appendix H3). As discussed therein, the proposed project would have a potentially significant impact associated with the project facilitating wildfire spread or exacerbating wildfire risk. However, the proposed project would implement **MM-WF-1** (see Section 5.17.5) to reduce potentially significant wildfire impacts to a less-than-significant level. Therefore, the proposed project would not conflict with General Plan Objective E16.

Consistent with General Plan Objective E21, impacts related to noise are analyzed in Section 5.11, Noise. As discussed therein, the proposed project would result in less-than-significant impacts related to noise.

The proposed project would not conflict with the Environmental Element of the General Plan.

Growth Management Element

Growth management refers to the conscious decision to direct the pattern and rate of development through a set of comprehensive goals, objectives, and planning policies. The purpose of this Growth Management Element is to describe the various components that, together, create the overall Growth Management Program that guides future development in the City. General Plan Growth Management Element objectives relevant to the proposed project include the following (City of Chula Vista 2005):

- **Objective GM 1:** Concurrent public facilities and services.

As discussed above, the proposed project would not conflict with the Public Facilities and Services Element of the General Plan. The proposed project would pay applicable development fees for, police and fire service, and the Park Benefit Fee for park and recreation. Additionally, the proposed project would result in less than significant impacts

to water, wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunications facilities; and there would be sufficient landfill capacity to accommodate solid waste generated by the proposed project. As such, adequate public services and facilities would exist to serve the proposed project and the proposed project would result in less-than-significant impacts related to public services and facilities. Therefore, the project would be consistent with General Plan Objective GM 1.

The proposed project would not conflict with the Growth Management Element of the General Plan.

General Plan Conclusion

As discussed above, the proposed project would not result in conflicts with any element of the General Plan. Therefore, the proposed project would be consistent with the General Plan and no significant environmental impact would occur.

Sunbow General Development Plan and Section Planning Area Plan

The GDP contains several land use goals and objectives, as listed below, followed by consistency analysis (City of Chula Vista 1989):

- **Goal 3:** It is the goal of the city to accommodate a full diversity of housing types, while maintaining an orientation to detached single-family living.
  - **Objective 10:** Encourage the development of a diversity of housing types and prices.
  - **Objective 11:** Assure that new development meets or exceeds a standard of high quality planning and design.
  - **Objective 12:** Provide for the development of multiple-family housing in appropriate areas convenient to public services, facilities and circulation.
  - **Objective 13:** Encourage planned developments, with a coordinated mix of urban uses, open spaces, and amenities.
- **Goal 5:** Open Space, Recreation, and Visual Quality
  - **Objective 20:** Preserve to the extent feasible natural open space areas and corridors, particularly the major canyons and valleys, as integral and functional parts of the urban pattern. Particular emphasis is placed on the canyons, stream valleys, and other corridors that connect to the greenbelt system and can help to extend the greenbelt and trail system into the community.
- **Goal 9:** Growth Management
  - **Objective 27:** Establish a growth management system to assure that private development is coordinated with the provision of adequate public facilities and services.

The SPA Plan contains more specific objectives that pertain to the individual land use districts identified within the GDP and SPA Plan. With regard to the project site, these objectives specifically pertain to development of an Industrial Use. Similar to the General Plan, the GDP and SPA Plan identify the project site as Industrial Park and Open Space. The existing GDP and SPA Plan designations for the project site are shown on Figures 3-3 and 3-4, respectively. As such, the proposed project would conflict with the current GDP and SPA Plan land use designations as described above. However, the proposed project involves amendments to the GDP and SPA Plan, changing the land use designations from Industrial Park to Residential Multi-Family and Residential Condominium, to be processed concurrently. These amendments to the GDP and SPA Plan would allow the proposed land uses to be developed on the project site. As such, SPA Plan objectives for the Industrial Park District are not included herein as they would no longer apply if the proposed project proposed amendments are approved. The City conducted a market analysis for the site relative to its existing industrial use; this analysis determined that industrial development of the site is unlikely to be financially feasible (HR&A 2020).

Consistent with GDP Goal 3 and Objectives 10, 11, and 13, the proposed project would provide a variety of housing types, recreational facilities, and open space. The proposed project would satisfy its affordable housing obligations via a Balanced Communities Affordable Housing Agreement between the project applicant and the City. This Balanced Communities Affordable Housing Agreement will document satisfaction with affordable housing requirements. Consistent with GDP Goal 9 and Objectives 12 and 27, the proposed project would develop multiple-family housing that would be sufficiently served by exiting public services, facilities, and circulation, as also previously discussed under the General Plan consistency analysis, above. Additionally, it was determined that the proposed project would not conflict with the General Plan, including the Public Facilities and Services Element and the Growth Management Element. Please refer to the General Plan consistency analysis above as well as Sections 5.13 and 5.16 for additional information.

The remaining project site acreage would be composed of open space consistent with the GDP and the SPA Plan. Specifically, approximately 63.6 acres would be MSCP Open Space Preserve, 3.9 acres of Poggi Creek Conservation easements, and 16.8 acres of Manufactured Slopes/Basins/Wetland Resources. Development of the proposed project would maintain the open space designation for the remainder of the project site, consistent with GDP Goal 5 and Objective 20.

The proposed project would not conflict with the goals and objectives of the GDP. Further, upon approval, the proposed project would not conflict with the land use designations of the GDP and SPA Plan because these plans would be amended concurrently with development of the proposed project, to allow for the proposed land uses.

Growth Management Ordinance

The purpose and intent of the City's GMO (CVMC Section 19.09) is to provide quality housing opportunities for all economic sections of the community; to balance the community with adequate commercial, industrial, recreational, and open space areas to support the residential areas of the City; to provide that public facilities, services, and improvements meeting City standards exist or become available concurrent with the need created by new development; to control the timing and location of development by tying the pace of development to the provision of public facilities and improvements to conform to the City's Threshold Standards; and to meet the goals and objectives of the Growth Management Program and other programs associated with quality of life. The GMO prohibits new development unless adequate public facilities are provided in advance of or concurrently with the demands created by new development. The City's GMO requires the provision of a PFFP, air quality implementation plan, and water conservation plan for every SPA Plan to ensure that existing public services or financing for new public facilities would be provided for new development, that adequate water supply would be available to serve the development, and that the project would meet air quality standards. The proposed project includes a Supplemental PFFP as required by the City's GMO to ensure that development of the proposed project would not adversely impact the City's quality of life standards by requiring public facilities and services be provided concurrent with demand (see Appendix H3, Fire Protection Plan). Additionally, as discussed above and in Sections 5.13 and 5.16, the payment of Public Facilities Development Impact Fees (PFDIFs) would ensure the proposed project would not significantly impact public services and facilities. As discussed in Section 5.2, the proposed project would have a less-than-significant impact on air quality. As discussed in Section 5.16, there would be adequate water supply to serve the project and impacts associated with water supply would be **less than significant**. Therefore, the proposed project would not conflict with the City's GMO.

Parkland Dedication Ordinance

Chapter 17.10 of the CVMC establishes requirements for parklands and public facilities, including regulations for the dedication of land and development of improvements for park and recreational purposes (Section 17.10.010);

determination of park and recreational requirements (Section 17.10.020); calculation of area to be dedicated (Section 17.10.040); specifications for park improvements (Section 17.10.050); criteria for area to be dedicated (Section 17.10.060); procedures for in-lieu fees for land dedication and/or park development improvements (Section 17.10.070); and other regulations regarding park development and collection and distribution of fees. The Parkland Dedication Ordinance requires the dedication of 3 acres of parkland per 1,000 residents. The proposed project would pay Park Benefit Fees, equal to the City's Park Acquisition and Development Fee Update, to fulfill parkland obligation requirements for population induced by the proposed project. As such, it was determined that with payment of all applicable development fees, the proposed project would result in less than significant impacts on parks and recreation facilities. Therefore, the proposed project would not conflict with the City's Parkland Dedication Ordinance.

Parks and Recreation Master Plan

The City's PRMP was adopted in 2002 and a Draft Update was completed in 2018. The PRMP is the blueprint for the City's park system through the year 2030. The PRMP identifies existing park and recreation facilities and provides guidance for future park sites, including locations for specific types of additional recreational facilities. The PRMP envisions a comprehensive and interrelated package of community and neighborhood parks and presents each park within the context of the whole park system to ensure that it provides a balance of recreational opportunities. The PRMP states that the year 2030 citywide park system will contain community, neighborhood, mini, urban, and special-purpose parks and recreation facility and community center sites. The City PRMP includes a set of goals and policies for the City's parks and recreation aspirations. These goals and policies are as follows (City of Chula Vista 2018):

- **Goal #1:** Fulfilling the Comprehensive Park System Need

  Create a comprehensive parks and recreation system that meets the needs of the general public of Chula Vista by effectively distributing park types and their associated recreation facilities and programs and by using quasi-public resources.

  - **Policy 1.1:** Continue to require new development to comply with the Parklands and Public Facilities Ordinances, Chapter 17.10 of the Chula Vista Municipal Code (CVMC17.10), requiring a level of service standard of a minimum ratio of three acres of public parkland per 1,000 population so that new development will meet the demands created by these projects.
  - **Policy 1.3:** The City will only allow the developer to receive credit towards their public parkland obligation for new development when the parkland they provide to the City meets the criteria established in the Master Plan for Community, Neighborhood, Mini, Urban, and Town Square parks.
- **Goal #2:** Priorities for Allocation of Resources

  Establish priorities for allocation of existing and future public parkland resources that balance public priorities and needs with quality of parks and facilities.
- **Goal #3**: Implementation Program

  Provide a program for implementation of the City's Goals and Policies contained herein to ensure the continued development of a comprehensive parks and recreation system providing citywide resources for recreation services and programs that meet the needs of its citizens.

As discussed above, the proposed project would comply with the City's Parkland Dedication Ordinance. The proposed project would pay Park Benefit Fees, equal to the City's Park Acquisition and Development Fee Update, to fulfill parkland obligation requirements for population induced by the proposed project. As such, it was

determined that with payment of Park Benefit Fee, the proposed project would result in less than significant impacts on parks and recreation facilities, consistent with the goals and policies of the Parks and Recreation Master Plan listed above. Therefore, the proposed project would not conflict with the Parks and Recreation Master Plan.

Airport Land Use Compatibility Plan–Brown Field

The San Diego County Regional Airport Authority, designated as the Airport Land Use Commission for all public airports in the County of San Diego, adopted the Brown Field ALUCP in September 1981 and it was last updated in December 2010. The ALUCP assists in achieving compatible land use development in the area surrounding Brown Field airport located in Otay Mesa on Heritage Road, east of I-805. The airport is a general aviation airport accommodating both propeller- and jet-powered aircraft and serves as a port of entry for private aircraft coming into the United States from Mexico. Brown Field is also heavily used by military and law enforcement agencies and is classified as a "reliever airport" by the Federal Aviation Administration (SDCRAA 2010). The ALUCP designates the airport influence area and contains projected noise contours, flight activity zones, a land use compatibility matrix and plan recommendations for areas surrounding the Brown Field airport. A portion of the project site is located in Review Area 2 of the Brown Field Airport Influence Area, but the entire project site is located outside of safety and noise zones for Brown Field Airport. The entire project site is also located within the FAA Height Notification Boundary. The project applicant would be required to notify the FAA of the proposed project. However, no conflicts with the Brown Field ALUCP would occur.

City's Multiple Species Conservation Program Subarea Plan

The proposed project includes an MSCP Boundary Line Adjustment to correct an inadvertent error in the MSCP that placed a 100% Preserve overlay on the project site even though the project was not identified as a Covered Project. As a part of the proposed MSCP Boundary Line Adjustment, the proposed project is required to propose a potentially suitable area currently located outside of the MSCP Preserve to incorporate into the MSCP Preserve at a 1:1 acreage ratio. The proposed MSCP Boundary Line Adjustment would be required to result in equal or higher biological value as compared to the existing MSCP Preserve. The determination of biological value of the proposed MSCP Preserve Boundary Line Adjustment shall be made by the City, as the local jurisdiction, in concurrence with USFWS and CDFW. A functional equivalency and Boundary Line Adjustment analysis has been prepared for the project and is included in Appendix D. The proposed MSCP Boundary Adjustment would meet the MSCP Boundary Line Adjustment functional equivalency criteria and would result in a 0.09-acre increase to the MSCP Preserve Area. As discussed in Section 5.3, the proposed project would not result in conflicts with the City's MSCP Subarea Plan through compliance with the MSCP Boundary Line Adjustment functional equivalency criteria. Moreover, all impacts to biological resources would be mitigated to a less than significant level. As such, no conflicts with the City's MSCP Subarea Plan would occur.

Conclusion

As demonstrated throughout the analysis for Threshold B, the proposed project would not result in a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be **less than significant**.

5.10.4 Level of Significance Prior to Mitigation

Impacts related to land use and planning would be **less than significant**

5.10.5 Mitigation Measures

No mitigation measures would be required.

5.10.6 Level of Significance After Mitigation

No mitigation measures would be required. Impacts related to land use and planning would be **less than significant**.

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5.11 Noise

This section of the environmental impact report (EIR) addresses the potential noise impacts resulting from the implementation of the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). The discussion found in this section is based on the Noise Assessment Technical Report for the proposed project that was prepared by Dudek. The complete report is contained in Appendix J of this EIR.

5.11.1 Existing Conditions

5.11.1.1 Regulatory Framework

Federal

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment guidance manual, the Federal Transit Administration (FTA) recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period (FTA 2018) when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project. Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such noise limits at the state and local jurisdictional levels.

State

California Code of Regulations, Title 24

Title 24 of the California Code of Regulations sets standards that new development in California must meet. According to Title 24, interior noise levels are not to exceed 45 A-weighted decibel Community Noise Equivalent Level (dBA CNEL) in any habitable room (ICC 2019).

California Department of Health Services Guidelines

The California Department of Health Services has developed guidelines of community noise acceptability for use by local agencies (OPR 2017). Selected relevant levels are listed here:

- Below 60 dBA CNEL: normally acceptable for low-density residential use
- 50 to 70 dBA: conditionally acceptable for low-density residential use
- Below 65 dBA CNEL: normally acceptable for high-density residential use and transient lodging
- 60 to 70 dBA CNEL: conditionally acceptable for high-density residential, transient lodging, churches, educational, and medical facilities

The normally acceptable exterior noise level for high-density residential use is up to 65 dBA CNEL. Additionally, this exterior noise level limit is consistent with the City of Chula Vista (City) General Plan Noise Element (City of Chula Vista 2005), which considers multi- family units noise-sensitive land uses.

California Department of Transportation

In its Transportation and Construction Vibration Guidance Manual (Caltrans 2013a), the California Department of Transportation (Caltrans) recommends 0.5 inches per second (ips) peak particle velocity (PPV) as a threshold for the avoidance of structural damage to typical newer residential buildings exposed to continuous or frequent intermittent sources of groundborne vibration. For transient vibration events, such as blasting, the damage risk threshold would be 1.0 ips PPV (Caltrans 2013a) at the same type of newer residential structures. For older structures, these guidance thresholds would be more stringent: 0.3 ips PPV for continuous/intermittent vibration sources, and 0.5 ips PPV for transient vibration events. With respect to human annoyance, Caltrans guidance indicates that building occupants exposed to continuous groundborne vibration in the range of 0.2-0.6 ips PPV would find it "unpleasant or "annoying" and therefore a likely significant impact. Although these Caltrans guidance thresholds are not regulations, they can serve as quantified standards in the absence of such limits at the local jurisdictional level.

Local

City of Chula Vista Municipal Code 19.68 (Noise Ordinance)

The City of Chula Vista Noise Ordinance (Chula Vista Municipal Code [CVMC] Section 19.68) (City of Chula Vista 2020) contains regulations restricting land use related noise-generating activities and operations, so as to avoid noise nuisance in the community. Section 19.68.030 of the CVMC establishes the maximum allowable exterior noise limits, based upon the classification of the receiving land use. These standards typically apply to stationary sources such as noise from mechanical equipment (including mechanical ventilation and air condition noise, pool pump noise, etc.) or event noise, as opposed to traffic noise. For instance, a school, commercial enterprise, or industrial operation must not generate noise that exceeds a certain specified noise level at any property boundary where an adjacent residential use exists. The property-line noise standards are presented in Table 5.11-1.

Table 5.11-1. City of Chula Vista Exterior Property-Line Noise Limits

	Noise Level (dBA)	
	10 p.m. to 7 a.m. (Weekdays)	*7 a.m. to 10 p.m. (Weekdays)*
Receiving Land Use Category	*10 p.m. to 8 a.m. (Weekends)*	*8 a.m. to 10 p.m. (Weekends)*
All residential (except multiple dwelling)	45	55
Multiple-dwelling residential	50	60
Commercial	60	65
Light industry – I-R and I-L zone	70	70
Heavy industry – I zone	80	80

Source: Appendix J.
Note: dBA = A-weighted decibels

Title 17 of the CVMC (Environmental Quality), Chapter 24, addresses managing noisy and disorderly conduct. Section 17.24.040.C.8 specifically addresses restrictions against generation of construction noise in overnight periods. The use of any tools, power machinery, or equipment, or the conduct of construction and building work in residential zones so as to cause noises disturbing to the peace, comfort, and quiet enjoyment of property of any person residing or working in the vicinity, shall be prohibited between the hours of 10:00 p.m. and 7:00 a.m., Monday–Friday, and between the hours of 10:00 p.m. and 8:00 a.m., Saturday and Sunday, except when the work is necessary for emergency repairs required for the health and safety of any member of the community (City of Chula Vista 2020).

Although the City does not set specific numerical limits for noise associated with temporary construction activities, it can be perceived as a nuisance; therefore, the City restricts the times of day when construction may occur (7:00 a.m.–10:00 p.m., Monday–Friday, and 8:00 a.m.–10:00 p.m., Saturday and Sunday).

5.11.1.2 Existing Setting

The project site is located within the East Planning Area of the City, as identified in the General Plan (City of Chula Vista 2005). More specifically, the approximately 135.7-acre project site is located south of Olympic Parkway, and generally between Brandywine Avenue and Heritage Road. The Otay Landfill is located to the south and southeast of the site and undeveloped land approved for industrial and residential land uses is located to the east. Existing Olympic Parkway, a six-lane prime arterial roadway, forms the northern boundary of the project site. The project site currently consists of vacant and undeveloped land.

5.11.1.3 Noise Characteristics

Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. The sound pressure level (SPL) has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of measurement of sound pressure is a decibel (dB). Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. However, it is widely accepted that the average healthy ear can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and a change of 10 dB is perceived as twice or half as loud (Caltrans 2013b). A doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the number of daily trips along a given road) would result in a barely perceptible change in sound level.

Sound may be described in terms of level or amplitude (measured in dB), frequency or pitch (measured in hertz or cycles per second), and duration (measured in seconds or minutes). Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel (dBA) scale performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear.

Several descriptors of noise (a.k.a., noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise. These descriptors include the equivalent noise level over a given period (L_{eq}), the day–night average noise level (L_{dn}), and the community noise equivalent level (CNEL). Each of these descriptors uses units of dBA.

L_{eq} is a decibel quantity that represents the constant or energy-averaged value equivalent to the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement of 60 dBA would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors, which can then be compared to an established L_{eq} standard or threshold of the same duration. Another descriptor is maximum sound level (L_{max}), which is the greatest sound level measured during a designated time interval or event. The minimum sound level (L_{min}) is often called the *floor* of a measurement period.

Unlike the L_{eq}, L_{max}, and L_{min} metrics, L_{dn} and CNEL descriptors always represent 24-hour periods and differ from a 24-hour L_{eq} value because they apply a time-weighted factor designed to emphasize noise events that occur during the non-daytime hours (when speech and sleep disturbance is of more concern). *Time weighted* refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m. to 10:00 p.m.) is penalized by adding 5 dB to the actual levels, and nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by adding 10 dB to the actual levels. L_{dn} differs from CNEL in that the daytime period is longer (defined instead as 7:00 a.m. to 10:00 p.m.), thus eliminating the dB adjustment for the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5–1 dB and are often considered or actually defined as being essentially equivalent by many jurisdictions.

5.11.1.4 Vibration Fundamentals

Vibration is oscillatory movement of mass (typically a solid) over time. It is described in terms of frequency and amplitude and, unlike sound, can be expressed as displacement, velocity, or acceleration. For environmental studies, vibration is often studied as a velocity that, akin to the discussion of sound pressure levels, can also be expressed in dB as a way to cast a large range of quantities into a more convenient scale and with respect to a reference quantity. Vibration impacts to buildings are generally discussed in terms of in ips PPV, which will be used herein to discuss vibration levels for ease of reading and comparison with relevant standards. Vibration can also be annoying and thereby impact occupants of structures, and vibration of sufficient amplitude can disrupt sensitive equipment and processes (Caltrans 2013a), such as those involving the use of electron microscopes and lithography equipment. Common sources of vibration within communities include construction activities and railroads. Groundborne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities where sudden releases of subterranean energy or powerful impacts of tools on hard materials occur. Depending on their distances to a sensitive receptor, operation of large bulldozers, graders, loaded dump trucks, or other heavy construction equipment and vehicles on a construction site also have the potential to cause high vibration amplitudes.

5.11.1.5 Ambient Noise Monitoring

SPL measurements were conducted near the proposed project site on April 2, 2020, to quantify and characterize the existing outdoor ambient sound levels. Table 5.11-2 provides the location, date, and time period at which these baseline noise level measurements were performed by a Dudek field investigator using a Rion-branded Model NL-52 sound level meter (SLM) equipped with a 0.5-inch, pre-polarized condenser microphone with pre- amplifier. The SLM meets the current American National Standards Institute standard for a Type 1 (Precision Grade) sound level meter. The accuracy of the SLM was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Four short-term (ST) noise level measurement locations (ST1–ST4) that represent existing noise-sensitive receivers were selected on and near the proposed project site. ST1 and S2 two are associated with existing residences located to the north and southwest of the site, respectively. ST3 was used as traffic calibration along Olympic Parkway. ST 4 was chosen as an acoustically equivalent site to represent where the future buildings would be located, as access to the development site was not granted at the time. These locations are depicted as receivers ST1–ST4 on Figure 5.11-1, Noise Measurement and Modeling Locations. The measured L_{eq} and L_{max} noise levels are provided in Table 5.11-2. The primary noise sources at the sites identified in Table 5.11-2 consisted of traffic

along adjacent roadways, the sounds of leaves rustling, and birdsong. As shown in Table 5.11-2, the measured SPL ranged from approximately 67.2 dBA L_{eq} at ST3 to 45.6 dBA L_{eq} at ST2. Beyond the summarized information presented in Table 5.11-2, detailed noise measurement data is included in Appendix A, Baseline Noise Measurement Field Data of Appendix J.

Table 5.11-2. Measured Baseline Outdoor Ambient Noise Levels

Site	Location/Address	Date/Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	East of 760 De La Toba Rd Chula Vista, California 91911	2020-04-02, 11:50 AM to 12:00 PM	55.1	59.8
ST2	East of 651 Point Buchon Court, Chula Vista, California 91911	2020-04-02, 10:50 AM to 11:00 AM	45.6	52.9
ST3	East 1501 Brandywine Ave Chula Vista, California 91911	2020-04-02, 11:05 AM to 11:15 AM	67.2	81.2
ST4	Western boundary of proposed project	2020-04-02, 11:20 AM to 11:30 AM	56.3	68.5

Source: Appendix A of Appendix J.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels; ST = short-term noise measurement locations.

Generally, the measured samples of daytime L_{eq} agree with expectations: ST3 is above 67 dBA due largely to its proximity to Olympic Parkway, a major roadway; ST4 is farther up the bluff at the western boundary of the proposed project; and ST1 and ST2 are well within the residential neighborhoods and much more distant from these sources of roadway traffic noise.

5.11.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to noise is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Generate of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
B. Generate excessive groundborne vibration or groundborne noise levels.
C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

In light of these above significance criteria, this analysis uses the following standards to evaluate potential noise and vibration impacts.

- **Construction noise** – The City regulates construction noise by restricting the allowable hours of construction. Section 9.40.110 of the CVMC exempts construction noise from the stationary noise standards, provided that construction occurs between 7:00 a.m. and 10:00 p.m., Monday through Friday, and 8:00 a.m. to 10:00 p.m., Saturday and Sunday. Through adherence to the limitation of allowable construction times provided in the CVMC, the construction-related noise levels would not exceed any standards. The existing residential receptors to the southwest of the proposed project site suggest that source-to-receiver distances are greater than 900 feet. Additionally, most construction equipment and vehicles on a project site do not operate continuously. To verify

noise levels during construction would not be significant, consistent with the FTA guidance mentioned in Section 5.11.1.1, Regulatory Setting, this analysis will use 80 dBA L_{eq} over an 8-hour period as the construction noise impact criterion during daytime hours 7:00 a.m. and 10:00 p.m. Monday through Friday, and 8:00 a.m. to 10:00 p.m., Saturday and Sunday.

- **Off-site project-attributed transportation noise** – For purposes for this analysis, a direct roadway noise impact would be considered significant if increases in roadway traffic noise levels attributed to the proposed project were greater than 3 dBA CNEL at an existing noise-sensitive land use.
- **Off-site project-attributed stationary noise** – For purposes for this analysis, a noise impact would be considered significant if noise from typical operation of heating, ventilation, and air conditioning and other electro-mechanical systems associated with the proposed project exceeded 50 dBA hourly L_{eq} at the property line from 7:00 a.m. to 9:59 p.m., and 45 dBA hourly L_{eq} from 10:00 p.m. to 6:59 a.m.
- **Construction vibration** – Guidance from Caltrans indicates that a vibration velocity level of 0.2 ips PPV received at a structure would be considered annoying by occupants within (Caltrans 2013a). As for the receiving structure itself, aforementioned Caltrans guidance from Section 2 recommends that a vibration level of 0.3 ips PPV would represent the threshold for building damage risk.

For purposes of disclosure, since current CEQA noise criteria listed above do not consider it, this analysis also evaluates compatibility of on-site noise levels with the City's exterior and interior noise standards of 65 dBA CNEL and 45 dBA CNEL, respectively.

5.11.3 Impacts

A. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Construction

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels vary from hour to hour and day to day, depending on the equipment in use, the operations performed, and the distance between the source and receptor.

Equipment that would be in use during construction would include, in part, graders, backhoes, excavators, dump trucks, loaders, cranes, dozers, gradalls, scrapers, cement mixers, pavers, rollers, welders, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 5.11-3. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the listed maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 5.11-3. Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (L_{max}, dBA at 50 Feet)
Air compressor	78
Backhoe	78
Concrete pump truck	81

Table 5.11-3. Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (L_{max}, dBA at 50 Feet)
Dozer	85
Grader	85
Crane	81
Gradall	85
Scraper	85
Dump truck	76
Roller	80
Generator	72
Front-end loader	79
Paver	77
Welder	74

Source: Appendix J.
Note: dBA = A-weighted decibels

Aggregate noise emission from proposed project construction activities, broken down by sequential phase, was predicted at three distances to the nearest existing noise-sensitive receptor: (1) from the nearest position of the construction site boundary to the closest northern receptor, (2) from the nearest position of the construction site boundary to the closest western receptor, and (3) from the nearest position of the proposed new road boundary to the closest northern receptor. The intent of these distances is to help evaluate anticipated construction noise from a limited quantity of typical equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, grading, and paving. Table 5.11-4 summarizes these three distances to the apparent closest noise-sensitive receptor for each of the five sequential construction phases. This analysis conservatively assumes a "worst-case" condition that places all pieces of construction equipment of each listed type per phase at the site boundary for the entire 8-hour period. In reality, at any given time some equipment may be further away from the site boundary.

Table 5.11-4. Estimated Distances between Construction Activities and the Nearest Noise-Sensitive Receptors

Construction Phase (and Equipment Types Involved)	Distance from Nearest Noise Sensitive Receptor to North of Construction Site Boundary (Feet)	Distance from Nearest Noise Sensitive Receptor to West of Construction Site Boundary (Feet)	Distance from Nearest Noise Sensitive Receptor to North of Proposed New Road Boundary (Feet)
Architectural Coating (air compressor)	895	940	N/A
Site Preparation (dozer, front-end loader)	895	940	580
Grading (excavator, grader, dozer, scraper, backhoe)	895	940	580
Building Construction (crane, gradall, generator, backhoe, welder)	895	940	N/A
Paving (paver, dump truck, roller)	895	940	580

Source: Appendix J.
Note: N/A = not applicable.

A Microsoft Excel–based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use.[1] Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and therefore make noise at a level comparable to what is presented in Table 5.11-3, and the distance from the noise-sensitive receiver. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift. Conservatively, no intervening topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis, which is detailed in Appendix B, Construction Noise Modeling Input and Output, of Appendix J, and produce the predicted results displayed in Table 5.11-5.

Table 5.11-5. Predicted Construction Noise Levels per Activity Phase

Construction Phase (and Equipment Types Involved)	8-Hour L_{eq} at Nearest Noise Sensitive Receptor to North of Construction Site Boundary (dBA)	8-Hour Leq at Nearest Noise Sensitive Receptor to West of Construction Site Boundary (dBA)	8-Hour L_{eq} at Nearest Noise Sensitive Receptor to North of Proposed New Road Boundary (dBA)
Architectural Coating (air compressor)	48.6	48.2	N/A
Site Preparation (dozer, front-end loader)	59.8	59.4	63.6
Grading (excavator, grader, dozer, scraper, backhoe)	62.0	61.6	65.8
Building Construction (crane, gradall, generator, backhoe, welder)	61.1	60.7	N/A
Paving (paver, dump truck, roller)	56.0	55.6	59.8

Source: Appendix J.

As presented in Table 5.11-5, the estimated construction noise levels are predicted to be less than 66 dBA Leq over an 8- hour period at the nearest existing residences (as close as 580 feet away) when site preparation activities take place near the northern project boundaries. Note that these estimated noise levels at a source-to-receiver distance of 580 feet would occur when noted pieces of heavy equipment would each operate for a cumulative period for 8 hours a day. The predicted operation of construction equipment and processes do not exceed noise levels of 80 dBA L_{eq}, which the FTA recommends as a daytime threshold for construction noise exposure over an 8-hour period at a residential receptor. Consistent with Section 9.40.110 of the CVMC, construction activities associated with the proposed project would only take place within the hours of 7:00 a.m. and 10:00 p.m., Monday through Friday, and 8 a.m. to 10 p.m., Saturday and Sunday. In summary, typical construction noise during allowable daytime hours would not exceed the FTA guidance-based standard. Thus, temporary construction-related noise impacts would be **less than significant.**

[1] Although the RCNM was funded and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.

Operational

Roadway Traffic Noise

The proposed project would result in the creation of additional vehicle trips on local roadways (i.e., Olympic Parkway), which could result in increased traffic noise levels at adjacent noise-sensitive land uses. Appendix C, Traffic Noise Modeling Input and Output, of Appendix J, contains a spreadsheet with average daily traffic converted to peak hour traffic for Olympic Parkway and surrounding arterial roadways. These peak hour volumes were calculated by taking 10% of the average daily traffic and using a vehicle distribution of 97% autos, 2% medium trucks, and 1% heavy trucks. Consistent with the worked example in the Caltrans Technical Noise Supplement ("TeNS") that is considered "fairly typical," peak hour volume is assumed to be 10% of average daily traffic (Caltrans 2013b). In particular, the proposed project would create additional traffic along Olympic Parkway, which according to the Traffic Impact Assessment prepared for the proposed project (Appendix K) would add 5,760 average daily trips to the segment of Olympic Parkway and adjacent roadways surrounding the project site.

Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model version 2.5 (FHWA 2004). Information used in the model included the roadway geometry, posted traffic speeds, and traffic volumes for the following scenarios: existing (year 2019), existing plus project, near-term (2024), and near-term plus project. Noise levels were modeled at representative noise-sensitive receivers ST1 through ST4, as shown in Figure 5.11-1.

The General Plan Noise Element establishes a policy for exterior sensitive areas to be protected from high noise levels. The Noise Element sets 65 dBA CNEL for the outdoor areas and 45 dBA CNEL for interior areas as the normally acceptable levels. However, existing levels from traffic already exceed this threshold in the vicinity of ST3. For the purposes of this noise analysis, such impacts are considered significant when they cause an increase of 3 dB from existing noise levels. An increase or decrease in noise level of at least 3 dB is required before any noticeable change in community response would be expected (Caltrans 2013b). The receivers were modeled to be 5 feet above the local ground elevation. The noise model results are summarized in Table 5.11-6.

Table 5.11-6. Roadway Traffic Noise Modeling Results

Modeled Receiver Tag (Location Description)	Existing (2019) Noise Level (dBA CNEL)	Existing (2019) Plus Project Noise Level (dBA CNEL)	Near-term (2024) Noise Level (dBA CNEL)	Near-term (2024) Plus Project Noise Level (dBA CNEL)	Maximum Project-Related Noise Level Increase (dB)
ST1	59.1	61.1	61.8	62.1	2.0
ST2	48.9	48.5	49.2	49.2	0.0
ST3	71.1	70.8	71.4	72.1	0.7
ST4	63.9	62.9	63.5	63.8	0.3

Source: Appendix J.
Notes: dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; dB = decibel.

Table 5.11-6 shows that at all four listed representative receivers, the addition of proposed project traffic to the roadway network would result in a CNEL increase of less than 3 dB, which is below the discernible level of change for the average healthy human ear. At some modeled locations, expected traffic noise levels are predicted to decrease due to introduction of the proposed new buildings as sound path occlusion between them and the roadway noise source. Thus, a project–related impact to off-site traffic noise increases affecting existing residences in the vicinity would be **less than significant.**

Traffic Noise Exposure to Future Project Occupants

Aside from exposure to aviation traffic noise, current CEQA noise-related guidelines do not require an assessment of exterior-to-interior noise intrusion, environmental noise exposure to occupants of newly-created project residences, or environmental noise exposure to exterior non-residential uses attributed to the development of the proposed project. Nevertheless, the California Building Code requires that interior background noise levels not exceed a CNEL of 45 dB within habitable rooms. Hence, the following predictive analysis of traffic noise exposure at the exteriors of occupied residences and outdoor living areas is provided for informational purposes.

In addition to the prediction results presented in Table 5.11-6, the Federal Highway Administration Traffic Noise Model software was also used to predict the Near-Term Plus Project scenario traffic noise levels at multiple on-site exterior areas, as listed in Table 5.11-7. Modeled receptor locations, which appear in Figure 5.11-1, include representative positions for the exteriors of the northern facades.

Table 5.11-7. On-Site Roadway Traffic Noise Modeling Results

Location	Modeled Receiver	Description	Predicted Traffic Noise Exposure at Modeled Receiver (dBA CNEL)
Product B	M1-1	Patio	59.2
	M1-2	2nd floor	64.1
	M2-1	Patio	59.2
	M2-2	2nd floor	64.2
	M3-1	Patio	57.6
	M3-2	2nd floor	63.1
	M4-1	Patio	58.1
	M4-2	2nd floor	63.4
Product C	M5-1	Patio	58.6
	M5-2	2nd floor	64.0
	M5-3	3rd floor	64.9
	M6-1	Patio	58.6
	M6-2	2nd floor	64.1
	M6-3	3rd floor	64.9

Source: Appendix J.
Notes: dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level.

Table 5.11-7 shows that at the modeled northern facade positions representing exterior walls of occupied living rooms or bedrooms that are closest to and face Olympic Parkway, predicted on-site CNEL values are all less than 65 dBA and all other modeled locations are consistent with the City's guidance for exterior noise levels.

Typically, when they feature open windows, building shells provide an average of 12–18 dB (OPR 2017) of exterior-to-interior noise reduction. Such building facades typical of residential construction with windows closed generally provide a minimum of 25 dB exterior-to-interior noise attenuation (FHWA 2011). An analysis of composite sound transmission class (STC) of sample project exterior wall assemblies, including fenestration, supports these general assertions as shown in Table 5.11-8 and are based on the following parameters:

- The exterior wall assembly includes (or is acoustically comparable to): one layer of 5/8" gypsum wallboard on the interior-facing side, 2"×4" wood studs, glass fiber batt insulation in the stud cavities, and a thin

stucco/plaster coating on one layer of 5/8" gypsum wallboard (or what may instead be underlying wooden structural panels or sheeting having comparable mass).

- Windows are assumed to be single hung operable windows, featuring dual pane assembly composed of two 1/8"-thick glass panes separated by a 3/8" wide air-gap.
- For purposes of this analysis, doors are sliding-type and assumed to feature a dual-pane glazing system similar to the window assembly (i.e., two 1/8"-thick glass panes separated by a 3/8" wide air-gap) in narrow-perimeter frames. The analysis also assumes that these door products—akin to the windows—feature good seals and related hardware, so that when closed, the effective sound insulating performance is represented by the gap-separated glass panes.

Table 5.11-8. Predicted Net Sound Transmission Class of Sample Occupied Room Facade

Building & Sample Occupied Unit	Occupied Room Facade	Predicted Net STC for Scenario				
		Closed Window(s) and Door(s)	*Open Window*	*Open Window, Closed Door*	*Open Door, Closed Window*	*Open Door, Open Window*
B	2nd-floor bedroom	36	11	11	11	11
C	2nd-floor living room	35	N/A	N/A	N/A	N/A
C	3rd-floor bedroom	36	12	12	12	12

Source: Appendix J.
Notes: STC = sound transmission class; N/A = not applicable.

Table 5.11-8 illustrates that an open window or an open sliding door to an adjoining patio or balcony greatly compromises the sound insulation performance of the studied wall assemblies. However, when such windows and doors are closed, all studied sample facades are anticipated to exhibit a predicted STC rating of at least 35 and therefore would provide sufficient exterior-to-interior sound insulation from outdoor traffic noise to yield interior background sound levels that are less than 45 dBA CNEL and thus compliant with the City and state standards. Recall that none of the predicted exterior traffic noise levels at the studied receptor locations exceeded 65 dBA CNEL; therefore, the STC rating value (for closed windows and doors) subtracted from these exterior noise values must result in interior noise levels of less than 45 dBA CNEL (e.g., 65 – 35 = 30 dBA CNEL, which is less than 45). The apparent requirement for closed windows and doors means that the design of these habitable rooms should feature mechanical ventilation or an air-conditioning system to provide interior comfort of the occupants. Thus, implementation of Project Design Feature **(PDF) NOI-1**, Exterior-to-Interior Noise Analysis (see Section 4.4.8, Project Design Features, for details) would help demonstrate that the expected resultant interior background noise level for inhabited rooms in the proposed project would meet the state and City interior noise standard of 45 dBA CNEL.

Stationary Operations Noise

The incorporation of new multifamily homes and a mix of open space uses attributed to development of the proposed project will add a variety of noise-producing mechanical equipment that include those presented and discussed in the following paragraphs. Most of these noise-producing equipment or sound sources would be considered stationary or limited in mobility to a defined area. Using a Microsoft Excel-based outdoor sound

propagation prediction model, project- attributed operational noise at nearby community receptors was predicted using several assumptions:

- Treatment of exposed patio air-cooled condensing units as point-type sound emission sources; and,
- Point-source sound propagation (i.e., 6 dB per doubling of distance) that conservatively ignores acoustical absorption from atmospheric and ground surface effects.
- These condenser units would generally be installed near building exterior walls in private area "backyards" or external areas.
- While the condenser units are expected to be at-grade, the prediction model conservatively ignores potential noise path occlusion due to intervening building locations. Hence, should the proposed project design develop further and position these condenser units above grade level (e.g., on rooftops or balconies), the predictive analysis would still be considered accurate.

Please see Appendix D of Appendix J for quantitative details of the below predictions.

Residential Unit Heating, Ventilation, and Air Conditioning Noise

For purposes of this analysis, each of the new occupied residential units would be expected to feature a split-system type air-conditioning unit, with an air-cooled refrigeration (2-ton capacity) condenser unit at grade level.

Assuming each condenser unit has an SPL of 68 dBA at 3 feet based on available data from a likely manufacturer (Carrier 2012), the closest existing noise-sensitive residential receptor to the south of the proposed project's southernmost unit would be over 900 horizontal feet to the nearest of these condenser units. The predicted sound emission level from the combination of all 718 operating condenser units at off-site single-family receptors would be lower than 45 dBA L_{eq} and therefore be compliant with the City's nighttime threshold of 50 dBA hourly L_{eq}. Therefore, under such conditions, the project's noise impacts associated with operation of residential air-conditioning units would be **less than significant.**

B. Generate excessive groundborne vibration or groundborne noise levels.

Construction

Construction activities may expose persons to excessive groundborne vibration or groundborne noise. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2013a). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.2 ips is considered annoying. For context, heavier pieces of construction equipment, such as a bulldozer that may be expected on the project site, have peak particle velocities of approximately 0.089 ips or less at a reference distance of 25 feet (DOT 2006).

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. By way of example, for a bulldozer operating on site and as close as the northern project boundary (i.e., 580 feet from the nearest receiving sensitive land use) the estimated vibration velocity level would be 0.001 ips per the equation asfollows (FTA 2006):

$$PPV_{rcvr} = PPV_{ref} * (25/D)^{1.5} = 0.19 = 0.089 * (25/580)^{1.5};$$

where PPV_{rcvr} is the predicted vibration velocity at the receiver position, PPV_{ref} is the reference value at 25 feet from the vibration source (the bulldozer), and D is the actual horizontal distance to the receiver. Therefore, at this predicted PPV, the impact of vibration-induced annoyance to occupants of nearby existing homes would be **less than significant.**

Construction vibration, at sufficiently high levels, can also present a building damage risk. However, the predicted 0.001 ips PPV at the nearest residential receiver 580 feet away from on-site operation of the bulldozer during grading would not surpass the guidance limit of 0.3 to 0.5 ips PPV for preventing damage to residential structures (Caltrans 2013a). Because the predicted vibration level at 580 feet is less than both the annoyance and building damage risk thresholds, vibration from project conventional construction activities is considered **less than significant.**

Operation

Once operational, the proposed project would not be expected to feature major on-site producers of groundborne vibration. Anticipated mechanical systems like pumps are designed and manufactured to feature rotating components (e.g., impellers) that are well-balanced with isolated vibration within or external to the equipment casings. On this basis, potential vibration impacts due to proposed project operation would be **less than significant.**

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

There are no private airstrips within the vicinity of the project site. The closest airport to the project site is the Brown Field Municipal Airport approximately 2.5 miles southeast of the site. However, the project site is located approximately 1.3 miles north of the closest noise exposure boundary (60 to 65 dB CNEL), as outlined in the Brown Field Municipal Airport Land Use Compatibility Plan (San Diego County Airport Land Use Commission 2010). Airport-generated noise attenuates with distance beyond this boundary and therefore would substantially less than 60 to 65 dB CNEL at the project site. Therefore, people within the project site would not be exposed to substantial noise from operations at Brown Field Municipal Airport. Impacts from aviation overflight noise exposure would be considered **less than significant.**

5.11.4 Level of Significance Prior to Mitigation

As discussed in Section 5.11.3, the proposed project's noise impacts would be **less than significant.**

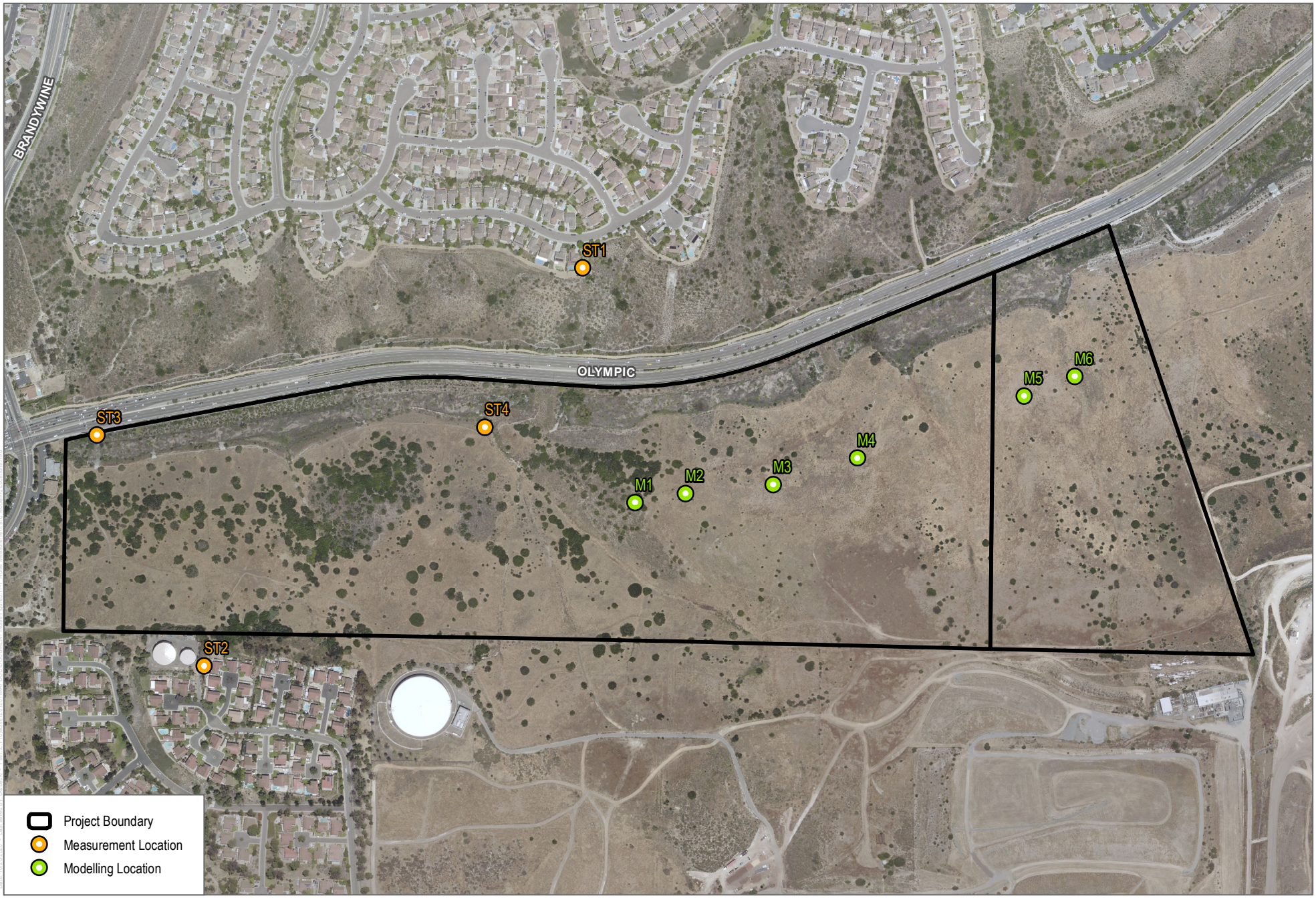
5.11.5 Mitigation Measures

No mitigation measures would be required.

5.11.6 Level of Significance After Mitigation

As no mitigation measures are required, impacts to noise associated with the proposed project would remain **less than significant**.

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SOURCE: SanGIS 2017

DUDEK

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FIGURE 5.11-1

Noise Measurement and Modeling Locations

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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5.12 Population and Housing

This section of the environmental impact report (EIR) discusses the existing population and housing conditions in the City of Chula Vista (City), and addresses the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project) impacts on housing and population growth. Changes in population, employment, and housing demand are social and economic effects, not environmental effects. According to the California Environmental Quality Act (CEQA), these effects should be considered in an EIR only to the extent that they would create adverse impacts on the physical environment. According to Section 15382 of the CEQA Guidelines, "[a]n economic or social change by itself shall not be considered a significant effect on the environment" (14 CCR 15000 et seq.).

5.12.1 Existing Conditions

5.12.1.1 Regulatory Framework

Federal

No federal regulations or guidelines relating to population and housing apply to the proposed project.

State

No state regulations or guidelines relating to population and housing apply to the proposed project.

Local

San Diego Forward: The Regional Plan

The San Diego Forward: Regional Plan, combines the region's two most important existing planning documents: the Regional Comprehensive Plan (RCP), and the Regional Transportation Plan (SANDAG 2011a) and its Sustainable Communities Strategy (RTP/SCS). The RCP, adopted in 2004, laid out key principles for managing the region's growth while preserving natural resources and limiting urban sprawl. The plan covers policy areas including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, our borders, and social equity (SANDAG 2004). These policy areas were addressed in the 2050 Regional Transportation Plan and its Sustainable Communities Strategy (2050 RTP/SCS) and are now fully integrated into San Diego Forward: The Regional Plan (SANDAG 2015a).

The San Diego Association of Governments (SANDAG) estimates future population, housing, land use, and economic growth throughout San Diego County and in individual cities, including the City. On October 15, 2013, the Series 13: 2050 Regional Growth Forecast was accepted by the SANDAG Board of Directors for planning purposes. This forecast serves as the foundation for San Diego Forward: The Regional Plan and other planning documents across the region. SANDAG projects the region's population will grow by nearly 1 million people by 2050. This forecast is consistent with previous expectations although future growth rates have been reduced due to increased domestic migration out of the region. The growth in population will drive job growth and housing demand within the region, adding nearly 500,000 jobs and more than 330,000 housing units by 2050 (SANDAG 2013).

SANDAG prepared a 2019 Federal Regional Transportation Plan (2019 Federal RTP), which was adopted on October 25, 2019. The 2019 Federal RTP builds on the 2015 Regional Plan with updated project costs and revenues and a new regional growth forecast. The 2019 Federal RTP is consistent with the Final EIR approved in conjunction with the 2015 Regional Plan on October 9, 2015. State legislation (Assembly Bill 1730), was signed into law on October 8, 2019, which ensures the 2015 Regional Plan remains valid for state funding eligibility and other consistency purposes until the 2021 Regional Plan is adopted in late 2021. Preparation of the 2021 Regional Plan is currently underway. In fall 2020, key policies and programs to be considered as part of the vision will be presented to SANDAG policymakers. The draft 2021 Regional Plan and its draft Environmental Impact Report are expected to be released for public and policymaker review in spring 2021 (SANDAG 2020).

As shown in Table 5.12-1, the SANDAG Series 13 Regional Growth Forecast for 2050 predicts population, housing, and employment for the San Diego Region, as well as for the City of Chula Vista, for 2012 through 2050.

Table 5.12-1. San Diego Region vs. City of Chula Vista Population, Housing, and Employment Forecast

Planning Area	Year 2012	Year 2020	Year 2035	Year 2050	Increase	Percent Change
Population						
City of Chula Vista	249,382	287,173	326,625	345,586	96,204	38.6%
San Diego Region*	3,143,429	3,435,713	3,853,698	4,068,759	973,446	31.4%
Housing						
City of Chula Vista	79,225	89,176	101,188	108,273	29,048	36.7%
San Diego Region	1,165,818	1,249,684	1,394,783	1,491,935	326,117	28%
Employment						
City of Chula Vista	65,340	82,953	93,552	114,550	49,210	75.3%
San Diego Region	1,450,913	1,624,124	1,769,938	1,911,405	287,281	19.8%

Sources: SANDAG 2013, 2015b.
* The San Diego Region includes both incorporated and unincorporated areas of the region.

Regional Housing Needs Assessment

According to SANDAG's 2050 Cities/Counties Forecast, the City is expected to gain 92,454 new residents and 28,755 new households (SANDAG 2015b). Furthermore, SANDAG, through its Regional Housing Needs Allocation, estimated that , the City would experience a demand for 12,125 new housing units from January 1, 2010 through December 31, 2020, of which 6,303 new housing units for affordable to low and very low income households and 2,220 new housing units for moderate income households. The City of Chula Vista anticipates that much of the new construction will result from building out the master-planned communities in the East Planning Area, such as Otay Ranch, infill development, and mixed-use development (SANDAG 2011b).

To encourage the development of adequate housing to meet the needs of low and moderate-income households and to further geographic and community balance, the City's adopted Housing Element provides for a Balanced

Communities Policy, requiring 10% affordable housing for low- and moderate-income households[1,2] within developments of 50 or more residential units. This inclusionary housing program will serve as only one component of the City's overall housing strategy and will complement other affordable housing efforts, including preservation of existing assisted housing, development of new assisted housing with public subsidies, first-time homebuyer assistance, and rehabilitation loans for low income homeowners. The City does find that such an inclusionary housing policy is beneficial to increasing the supply of housing affordable to households of lower and moderate incomes and to meet the City's regional share of housing needs given the demographics of the community and its needs, past housing production performance, and the existing opportunities and constraints as detailed in its Housing Element (SANDAG 2011b).

Currently, the City is updating the General Plan Housing Element to account for housing needs and establish clear goals and objectives to inform future housing decisions for the 2021 to 2029 housing cycle. As part of the Housing Element update, the City must demonstrate there is sufficient capacity to accommodate the number of housing units identified in the RHNA. As such, the RHNA allocation was released by SANDAG in November 2019 and is helping inform preparation of the 2021 Housing Element (City of Chula Vista 2020a). Tables 5.12-2 and 5.12.3 show the past performance RHNA from the 5th Cycle (2013–2020) and the current RHNA allocation for the 6th Cycle (2021–2029), respectively (City of Chula Vista 2020a, 2020b).

Table 5.12-2. Past Performance RHNA 5th Cycle (2013–2020)

Income Level	RHNA Allocation by Level	Total Units to Date (all years)	Total Remaining RHNA (2019–2021)
Very Low	3,209	91	3,118
Low	2,439	557	1,882
Moderate	2,257	328	1,929
Above Moderate	4,956	7,614	2,658
Total	**12,861**	**8,590**	**4,271**

Source: City of Chula Vista 2020b.

Table 5.12-3. RHNA Allocation for the 6th Cycle (2021–2029)

Income Category	RHNA Allocation by Level	Percentage of Total Units
Extremely Low and Very Low	1,777	16%
Other Lower	2,750	25%
Moderate	1,911	17%
Above Moderate	4,667	42%
Total	**11,105**	**100%**

Source: City of Chula Vista 2020a.

1 Low-income households are households of persons who claim primary residency at the same unit with combined incomes that are greater than 50%, but not more than 80% of the Area Median Income (AMI) for the San Diego area based on household size as determined annually by the U.S. Department of Housing and Urban Development (HUD). Household size is calculated by the number of persons residing at the same unit as their primary residency.

2 Moderate-income households are households of persons who claim primary residency at the same unit with combined incomes between 80% to 120% of the AMI for the San Diego area based on household size as determined annually by HUD. Household size is calculated by the number of persons residing at the same unit as their primary residency.

Chula Vista General Plan

The City of Chula Vista General Plan (General Plan) divides the City into four planning areas: (1) the Southwest Planning Area, (2) the Northwest Planning Area, (3) the East Planning Area, and (4) the Bayfront Planning Area (City of Chula Vista 2005).

Under the General Plan's Land Use and Transportation Element, population for the City is projected to increase by 101,600 persons, from 222,300 in 2004 to 323,900 in 2030 (City of Chula Vista 2005). Projected growth in the City is summarized in Table 5.12-4. The General Plan's projected population exceeds the SANDAG 2050 Regional Forecast for 2030 by 34,922 persons. As shown in Table 5.12-4, the General Plan anticipates the population in the incorporated portion of the East Planning Area to increase by 58,990 persons, from 98,710 in 2004 to 157,700 in 2030. The project site is within the East (incorporated area) planning area.

Table 5.12-4. Chula Vista Projected Population in 2030

Planning Area	Year 2004	Year 2030	Increase
Bayfront	0	4,860	4,860
Southwest	53,560	72,401	18,841
Northwest	56,930	89,090	32,160
East (incorporated area)	98,710	209,256	110,546
East (unincorporated area)	13,100	25,937	12,837
Total	**222,300**	**401,544**	**179,244**

Source: City of Chula Vista 2005.

The General Plan incorporates a Housing Element (adopted April 23, 2013) that identifies strategies to expand housing opportunities for the City's various economic segments. Under the Housing Element, the provision of new housing opportunities within mixed use areas and at higher density levels, particularly transit focus areas, is encouraged. A primary issue of the Housing Element is the shortfall of housing, particularly affordable housing, in the City and the region. Of the City's previous 5th Cycle RHNA allocation, the City has only met 8,590 out of 12,861 units; only 648 very-low and low units have been developed out of the 5,648 allocated. To address this issue, the Housing Element requires residential developments with 50 or more dwelling units provide 10% of total units for low- and moderate-income households, with at least half of those (5%) designated for low-income households (City of Chula Vista 2013). As discussed above, preparation of the 2021 Housing Element is currently underway. The City Planning and the Housing Divisions are working together on the 2021–2029 Housing Element, a multi-year update that will help address the growing housing challenges faced by the City. The State Department of Housing and Community Development (HCD) deadline for adoption of local government housing elements is April 15, 2021 (City of Chula Vista 2020b).

Goals and policies listed in the General Plan encourage the provision of a wide range of housing choices by location, type of unit, and price level, in particular the establishment of permanent affordable housing for low and moderate-income households. General Plan goals and polices ensure the availability of housing opportunities to persons regardless of race, color, ancestry, national origin, religion, sex, disability, marital status, and familial status, source of income or sexual orientation and support efforts to increase homeownership rates to build individual wealth (City of Chula Vista 2013).

Sunbow General Development Plan

The Sunbow General Development Plan (GDP), which originally included 604.8 acres in eastern Chula Vista, was adopted on December 5, 1989, with the primary objective to create an efficient, self-contained village (City of Chula Vista 1989).

The GDP is implemented through the adoption of the more detailed SPA Plan, tentative tract maps, and potential annexation and development agreements. The GDP is designed to function as a policy bridge between the General Plan and the SPA Plan, which provides more detailed plans for development of the Sunbow Master Planned Community (City of Chula Vista 1989).

Sunbow Sectional Planning Area Plan

The SPA Plan was approved by the City Council in 1990. According to the City, GDPs are implemented through the adoption of SPA Plans, which are more detailed in its zoning, design regulations, and development parameters. The purpose of the SPA Plan is to assure high quality development, create an economically viable plan, provide a plan for long-range development, facilitate provisions for community facilities, preserve open space, and establish a planning and development framework. Regulations within the SPA Plan supersede other regulations where there is potential conflict between the GDP and the General Plan (City of Chula Vista 1990).

City of Chula Vista Municipal Code

Growth Management Ordinance

The purpose and intent of the City's Growth Management Ordinance (GMO) (CVMC Section 19.09) is to provide quality housing opportunities for all economic sections of the community; to balance the community with adequate commercial, industrial, recreational, and open space areas to support the residential areas of the City; to provide that public facilities, services, and improvements meeting City standards exist or become available concurrent with the need created by new development; to control the timing and location of development by tying the pace of development to the provision of public facilities and improvements to conform to the City's Threshold Standards; and to meet the goals and objectives of the Growth Management Program and other programs associated with quality of life. The GMO prohibits new development unless adequate public facilities are provided in advance of or concurrently with the demands created by new development.

The GMO created the Growth Management Oversight Commission (GMOC) and established "quality of life" threshold standards. These include police, fire, and emergency response times; anticipated demand for schools and evaluation of school funding; establishment of a library service ratio; a service ratio for neighborhood and community park land; water service availability; compliance with City engineering sewage flow and related standards (subdivision manual); compliance with City engineering stormwater drainage standards (subdivision manual); maintenance of acceptable City-wide traffic flows; and air quality and pollution overview and evaluation to foster air quality improvement pursuant to relevant regional and local air quality improvement strategies. The GMO also requires public facilities finance plans (PFFPs), air quality improvement plans, and water conservation plans for every SPA Plan, or, if a SPA Plan is not required, for every tentative map (TM) application. The PFFP provides a complete description of all public facilities included within the boundaries of the plan as defined by the development services director, including phasing and financing of infrastructure. The plan must contain an analysis of the individual and cumulative impacts of the proposed development on the community as it relates to the Growth Management Program, the specific facility master plans,

and the threshold standards. Proposed development must also prepare a fiscal impact report and provide funding for periods when City expenditures for the development would exceed projected revenues.

5.12.1.2 Existing Setting

The project site lies within the East Planning Area of the City, as identified in the General Plan (City of Chula Vista 2005). The East Planning Area is divided into six subareas: East Main Street subarea, unincorporated Sweetwater Subarea, Otay Ranch Subarea, Master Plan Community Subarea, unincorporated East Otay Ranch Subarea, and other miscellaneous areas subareas (City of Chula Vista 2005). The project is located within the Master Planned Communities Subarea, which is further broken down into six subareas: Sunbow, Rancho del Rey, Eastlake, Rolling Hills Ranch, San Miguel Ranch, and portions of Otay Ranch. The proposed project is a component of the GDP, which is implemented through the SPA Plan.

The eastern portion of the project site (formerly referred to as Planning Area 23 in the GDP and SPA Plan) was originally identified to be developed as Industrial Park, while the rest of the project site was designated as Open Space in the GDP and SPA Plan. The Industrial Park is currently designated to include an approximately 54.7-acre research/development and light industrial uses, with approximately 700,000 square feet of leasable area generating approximately 2,800 employment opportunities.

The approximately 135.7-acre project site currently consists of vacant and undeveloped land. There is currently no public access; however, a number of dirt roads traverse the site. No former or current residential uses are located within the project site.

5.12.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to Population and Housing is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Induce substantial unplanned population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure).

B. Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

5.12.3 Impacts

A. Induce substantial unplanned population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure).

As described above, the General Plan has planned for the population of the entire City to grow by 101,600 persons from 2004 to 2030, growing from 222,300 people in 2004 to 323,900 people in 2030. A majority of this growth (58,990 persons) is planned in the East Planning Area, where the project site is located (City of Chula Vista 2005). Alternatively, SANDAG Series 13 estimates the population in the City would grow from 287,173 in 2020 to 326,625 in 2035 and that housing would increase from 89,176 units in 2020 to 101,188 units in 2035 (Appendix F). According to the General Plan Housing Element, projected population exceeds the SANDAG 2050 Regional Forecast for the year

2030 by 34,922 persons (City of Chula Vista 2013). As such, SANDAG Series 13 forecasts are used herein to provide a conservative analysis of the proposed project's population inducement.

The proposed residential development area was originally identified to be developed as Industrial Park in the GDP and SPA Plan. As such, the change in land use from Industrial Park to Medium-High and High Residential would be considered unplanned population growth in excess of the original estimates in the GDP and SPA Plan. The project proposes the development of 718 multi-family residential units in phases with partial occupancy beginning in 2024 and full occupancy anticipated in 2028. Based on SANDAG's Series 13 forecast, the interpolated persons per household ratio in 2028 is 3.224. Thus, the proposed project would result in approximately 2,314.83 persons (rounded to 2,315) (Appendix F).

Although this population growth would be considered unplanned, the proposed project would only represent 5.9% of forecasted population growth and 6% of forecasted housing growth between 2020 and 2035, based on SANDAG's Series 13 forecast. Additionally, development of an Industrial Park would directly result in some amount of population growth within the City due to new employment in the area. Based on the SANDAG Series 13 growth forecast, employment density[3] in the City in 2035 is anticipated to be 17.5 jobs per developed employment acre (SANDAG 2013). At this rate, a project consistent with the existing Industrial Park land use would result in approximately 957 employees in 2035, some percentage of which would move to the area resulting in population growth. Although the proposed project would result in greater population inducement, development under the existing Industrial Park land use was already anticipated to generate some population under the City's growth projections, associated with employees that would move to the area as a result of development of the Industrial Park.

Furthermore, as shown in Table 5.12-2, the City was 4,271 units under the RHNA allocation for the 5th Cycle (2013–2020) and specifically for Very Low to Moderate income levels. As shown in Table 5.12-3, the City also has a current RHNA allocation of 11,105 units for the 6th Cycle (2021–2029), including 6,438 units for Extremely Low to Moderate income levels. The proposed project's entitlements would include execution of an Affordable Housing Agreement with the City to satisfy the requirement that the project foster the provision of 72 (10% of project units) affordable housing units. Therefore, the generation of 2,315 persons through the addition of 718 units between 2024 and 2028 would provide balanced and diverse housing to the City and would provide housing to accommodate the City's future growth projections.

Improvements to transportation, utilities, and public service infrastructure as part of the proposed project would accommodate the direct growth induced by the proposed project. These improvements would not open up new areas to development because they would connect the project site to existing transportation and utility infrastructure (including water and sewer) adjacent to the project site on and within Olympic Parkway. The project site has been planned for development for decades and the surrounding area is already substantially developed with housing to the north, west, and southwest and the Otay Landfill to the southeast. Consequently, there is already significant existing infrastructure surrounding the project and these improvements would provide access and utility service solely to the proposed project.

Furthermore, the City of Chula Vista Growth Management Program, outlined in the Chula Vista Municipal Code Chapter 19.09, Growth Management, calls for directing growth in and around the City in an orderly fashion, to avoid "leapfrog" development, to protect and preserve the City's amenities, and to guide growth in a general west to east direction. The proposed project fosters a development pattern that promotes orderly growth and prevents urban sprawl by developing on a site surrounded by existing development and planned for development for several decades. The proposed project

[3] Civilian jobs per developed employment acre (industrial, retail, office, schools, and half of mixed-use acres).

will comply with the City's GMO and established "quality of life" threshold standards (Chula Vista Municipal Code Section 19.09, Growth Management).

While the proposed project would directly contribute to population growth in the area as compared to existing conditions, the population inducement resulting from the proposed project would not be considered substantial. Impacts would be **less than significant**.

B. Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

No existing or former residential uses occupy the project site as the site is currently vacant and undeveloped land. As such, the proposed project would not displace any existing households or people, or necessitate the construction of replacement housing elsewhere. **No impact** would occur.

5.12.4 Level of Significance Prior to Mitigation

Impacts to housing and population would be **less than significant**; therefore, no mitigation is required.

5.12.5 Mitigation Measures

Impacts to housing and population would be **less than significant**; therefore, no mitigation is required.

5.12.6 Level of Significance After Mitigation

Impacts to housing and population would be **less than significant**; therefore, no mitigation is required.

5.13 Public Services

This section of the environmental impact report (EIR) describes the existing setting related to public services and facilities that would serve the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project) and evaluates potential impacts to public services due to the implementation of the proposed project.

5.13.1 Existing Conditions

5.13.1.1 Regulatory Framework

Federal

Fire Protection Services

National Fire Protection Association

The National Fire Protection Association recommends that fire departments respond to fire calls within six minutes of receiving the request for assistance 90% of the time. These time recommendations are based on the demands created by a structural fire. It is crucial to attempt to arrive and intervene at a fire scene prior to the fire spreading beyond the room of origin. Total structural destruction typically starts within eight to ten minutes after ignition. Response time is generally defined as one minute to receive and dispatch the call, one minute to prepare to respond to the fire station or field and four minutes (or less) travel time.

State

Fire Protection

2019 California Fire Code

The California Fire Code (Title 24, Part 9 of the California Code of Regulations) was published on July 1, 2019, and effective January 1, 2020. The California Fire Code establishes regulations to safeguard life and property against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California. The Fire Code includes regulations regarding fire-resistance-rate construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress fire safety during construction and demolition, and wildland–urban interface areas.

Schools

Mello-Roos Community Facilities Act of 1982

The Mello-Roos Community Facilities Act of 1982 permits the establishment of Community Facilities Districts (CFDs), commonly referred to as "Mello-Roos." CFDs are special districts established by local governments as a means of financing public facilities, including schools, through a special tax imposed on the property within the CFD. The project site is located within existing CFDs for both Chula Vista Elementary School and Sweetwater Union High School Districts.

California Senate Bill 50

Two public school districts provide primary and secondary school facilities and services within the City of Chula Vista: The Chula Vista Elementary School District (CVESD) (kindergarten through sixth grade) and the Sweetwater Union High School District (SUHSD) (seventh through 12th grade). Senate Bill 50, enacted in 1998, allows school districts to levy a fee, charge, dedication, or other requirement against any development project within its boundaries for the purpose of funding the construction or reconstruction of school facilities. Pursuant to Government Code Section 65996, the payment of these fees by a developer serves to fully mitigate all potential project impacts on school facilities to less than significant levels.

Proposition 1A

On November 3, 1998, California voters approved Proposition 1A, the Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998. Prior to the passage of Proposition 1A, school districts relied on statutory school fees established by Assembly Bill 2926 ("School Fee Legislation"), which was adopted in 1986, as well as judicial authority (i.e., Mira-Hart-Murrieta court decisions) to mitigate the impacts of new residential development. In a post Proposition 1A environment, the statutory fees provided for in the School Fee Legislation remains in effect and any mitigation requirements or conditions of approval not memorialized in a mitigation agreement, after January 1, 2000 have been replaced by Alternative Fees – sometimes referred to as Level II and Level III Fees.

Leroy F. Green School Facilities Act

California Government Code Section 65995 (The Leroy F. Green School Facilities Act of 1998) set base limits and additional provisions for school districts to levy development impact fees and to help fund expanded facilities to house new pupils that may be generated by the development project. Sections 65996(a) and (b) state that such fees collected by school districts provide full and complete school facilities mitigation under the California Environmental Quality Act (CEQA). These fees may be adjusted by the District over time as conditions change

Parks and Open Space

Quimby Act

The Quimby Act, enacted in 1975, creates a framework that allows cities and counties to provide parks for growing communities. The Quimby Act authorizes jurisdictions to adopt ordinances that require parkland dedication or payment of in-lieu fees as a condition of approval of residential subdivisions, The Quimby Act also specifies acceptable uses and expenditures of such funds, such as allowing developers to set aside land, donate conservation easements, or pay direct fees for park improvements.

Proposition 40 Park Bond Act

Proposition 40, also known as the Park Bond Act allows for the maintenance for preservation of parks of the state's growing population by borrowing money through general obligation bonds for the development, restoration, and acquisition of state and local parks, recreation areas and historical resources, and for land, air, and water conservation programs.

Local

City of Chula Vista General Plan

The City of Chula Vista (City) General Plan (General Plan) was adopted on December 13, 2005 and amended on March 17, 2020. The Public Facilities and Services Element establishes the City's plan to provide and maintain infrastructure and public services for future growth (City of Chula Vista 2005a).

Fire Protection Services

The General Plan (amended in 2020) recognizes that fire protection and emergency services will need to expand as the population in the City of Chula Vista grows. The Public Facilities and Services Element includes objectives to maintain sufficient levels of fire protection and emergency medical service to protect public safety and property (Objective PFS 5) and provide adequate fire protection services to newly developing and redeveloping areas of the City (Objective PFS 6). Additionally, GM 1 and Policy GM 1.11 provide for withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for fire and emergency medical services (City of Chula Vista 2005a).

Police Protection Services

The Public Facilities and Services Element of the General Plan includes objectives to maintain sufficient levels of police service to protect public safety and property (Objective PFS 5) and to provide adequate police protection services to newly developing and redeveloping areas of the City (Objective PFS 6). Additionally, Growth Management Objective GM 1 and Policy GM 1.11 provide for withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for police services (City of Chula Vista 2005a).

Libraries

The General Plan recognizes that demand for library facilities will continue to increase as the City's population grows in the eastern areas of the City through new development, and that location is the most important reason residents choose to utilize a particular public library. The General Plan Public Facilities and Services Element includes objectives for the City to provide a library system of facilities and programs that meets the needs of Chula Vista residents of all ages (Objective PFS 11) and to efficiently locate and design library facilities (Objective PFS 12). Additionally, Growth Management Objective GM 1 and Policy GM 1.11 provide for withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for library services (City of Chula Vista 2005a).

Schools

The General Plan recognizes that demand for school facilities will continue to increase as the City's population grows and states that it is the intent of the City to facilitate the efforts of the districts to provide school services. The Public Facilities and Services Element includes objectives to efficiently locate and design school facilities (Objective PFS 10) (City of Chula Vista 2005a).

Parks

The City's open space and trail network abuts other regional open space areas and trails, including: the Bayshore Bikeway; California Riding and Hiking Trail; Sweetwater Valley trail system; the future Otay Valley Regional Park trail system; and the open space preserve in the eastern portion of Otay Ranch. The aforementioned open spaces and trail networks are regional facilities that enter the City of Chula Vista jurisdiction. The goals of the General Plan to provide and maintain infrastructure and public services and improve sustainability of the City's natural resources are established in the Public Facilities and Services and Environmental Elements of the General Plan. The Public Facilities and Services Element contains objectives to provide new park and recreation facilities for residents of new development (Objective PFS 15 and PFS 16) (City of Chula Vista 2020a). The Environmental Element of the General Plan establishes the policy framework for improving sustainability through the responsible stewardship of the City's natural and cultural resources (Objective E.11), including the preservation of open space and development of connecting trails (City of Chula Vista 2005a). The City is committed to providing an integrated network of open space areas throughout the City to serve residents, as well as to serve as a regional asset and attractor of visitors. The City of Chula Vista has significant open space areas with a variety of natural resources. The City has taken a multi-track approach to the conservation and management of its open space resources. Additionally, Growth Management Objective GM 1 and Policy GM 1.11 provides for withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable park threshold standards (City of Chula Vista 2005a).

Chula Vista Public Facilities Development Impact Fee

In August 1989, the Chula Vista City Council adopted Ordinance No. 2320 establishing a Public Facilities Development Impact Fee (PFDIF), which helps cover the cost of new or expanding public facilities within the City (City of Chula Vista 2005b). The facilities are required to support future development within the City, and the fee schedule has been adopted in accordance with California Government Code Section 66000. The proposed project would be subject to the payment of the fee at the rate in effect at the time building permits are issued. The PFDIF amount is determined through evaluation of the need for new facilities as it relates to the level of service demanded by new development, which varies in proportion to the equivalent dwelling unit generated by a specific land use.

The PFDIF addresses the project's proportional impact on capital facilities, such as structures and equipment. It does not address the impact associated with operations and maintenance for those facilities. Public funds such as property taxes, sales taxes, and fees generated by the project would be used to cover the incremental costs associated with providing services. The project would be required to pay the PFDIF, which would be used exclusively for future facility improvements necessary to ensure that the development contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City.

Chula Vista Municipal Code

CVMC Section 19.80.030, Controlled Residential Growth, is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards. Similarly, *Section 19.09, Growth*

Management, of the CVMC provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09 requires that a Public Finance Plan (PFFP) be implemented and demonstrate that public services meet the Growth Management Ordinance's quality of life standard. Other relevant CVMC sections are discussed below.

Fire Protection Services

Ch. 15.36 Fire Code. Chula Vista Municipal Code (CVMC) Section 15.36.010, California Fire Code, 2019 Edition, adopted by reference, sets the California Code of Regulations, Title 24, Part 9, as the fire code of the City of Chula Vista.

CVMC Section 18.40.080. CVMC Section 18.40.080, Access for fire protection, dictates that in any areas where there are fire hazards would require unobstructed easements not less than 15 feet wide from the public street to the subdivision boundary.

Police Protection

CVMC Section 3.50.030 and 3.50.060. CVMC Section 3.50.030, Public facilities to be financed by the Fee, indicates that a PFDIF would fund six public facilities, including police department facilities and equipment. The service demand generated for police department facilities and equipment would be 0.747 for multi-family dwelling units and 0.031 per industrial acre (CVMC Section 3.50.060, Determination of Fees by land use category).

Libraries

CVMC Section 3.50.030 and 3.50.060. CVMC Section 3.50.030, Public facilities to be financed by the Fee, indicates that a PFDIF would fund six public facilities, including the library system expansion. The service demand generated for the library system expansion by a multi-family dwelling unit would be 0.822 (CVMC Section 3.50.060, Determination of Fees by land use category).

Section 19.09.040D specifically requires "500 square feet (gross) of adequately equipped and staffed library facility per 1,000 population. The City of Chula Vista shall construct 60,000 gross square feet of additional library space, over the June 30, 2000 gross square feet total, in the area east of I-805 by buildout." The analysis of library services provided in this section, along with the PFFPs are intended to ensure funding for any needed expansion of services, while also ensuring that library services will be provided commensurate with development and demand.

Schools

CVMC Section 17.11.020 and 17.11.130. CVMC Section 17.11.020 states that any property to be developed shall dedicate a portion of the land or, in lieu thereof, pay a fee for each dwelling unit in the subdivision or development. CVMC Section 17.11.130, School district schedule, dictates that the governing body of the school district shall submit a schedule specifying how it will use the land or fees, or both.

Parks

CVMC Section 17.10, Park Lands Dedication Ordinance, establishes requirements for parklands and public facilities, including regulations for the dedication of land and development improvements for park and recreation purposes (CVMC Section 17.10.010); determination of park and recreation requirements (CVMC Section 17.10.020); area to be dedicated (CVMC Section 17.10.040); specifications for park improvements (CVMC Section 17.10,050); criteria for area to be dedicated (CVMC Section 17.10.060); procedures for in lieu fees for land

dedication and/or park development improvements (CVMC Section 17.10.070); and other regulations regarding park development and collection and distribution of fees. The Park Lands Dedication Ordinance requires the dedication of three acres of parkland per 1,000 people or a combination of land dedication, in-lieu fees, or park development improvements to be offered at the time of Final Map or in the case of a residential development that is not required to submit a Final Map, at the time of the first building permit application. As previously discussed, CVMC Section 19.09, Growth Management, requires a PFFP and demonstration that public services, such as parks, meet the Growth Management Ordinance's quality of life threshold standard for parks and recreation. Furthermore, CVMC Section 19.09.040E requires "three acres of neighborhood and community park land with appropriate facilities per 1,000 residents east of I-805."

City of Chula Vista Public Library Strategic Facilities Plan

The Chula Vista Public Library (CVPL) Strategic Facilities Plan is intended as a foundation for the City and the library in planning the future of library facilities in Chula Vista. The CVPL Strategic Facilities Plan includes goals and objectives for implementing the library's vision and mission. These goals include maintaining an excellent and responsive materials collection, ensuring high quality of public library services through appropriate planning processes, ensuring that library programs and services are accessible to the broadest range of potential users, and increasing the visibility and community awareness of the library, its services, programs, and funding needs (City of Chula Vista 2011).

City of Chula Vista Public Library Strategic Vision Plan

The CVPL Strategic Vision Plan is a companion volume to the CVPL's 2011 Strategic Facilities Plan (City of Chula Vista 2014). The 2014 CVPL Strategic Vision Plan would guide the CVPL's service directions for the next decade, and summarizes the community's vision for the CVPL, strategic discussions for library services and facilities, and associated updates to the Strategic Facilities Plan.

City of Chula Vista Greenbelt Master Plan

The City of Chula Vista Greenbelt Master Plan provides guidance and continuity for planning open space and constructing and maintaining the Greenbelt Trail (City of Chula Vista 2003). The Greenbelt Master Plan addresses existing and potential trail locations, trail and staging area development standards, maintenance responsibilities and a system of trails and open space that serve as a unifying element in linking other trails within the central areas of the City. The future Otay Valley Regional Park trail, running parallel to the Otay River, is located approximately 1 mile south of the proposed project site (City of Chula Vista 2003).

City of Chula Parks and Recreation Master Plan

The City of Chula Vista Parks and Recreation Master Plan, updated and adopted by City Council on August 7, 2018, describes a comprehensive parks and recreation system that serves the community at large through the delivery of a variety of park sites containing a variety of recreational experiences. The Master Plan contains goals and policies that serve as a blueprint for creating a quality park system. The document establishes goals for the creation of a comprehensive parks and recreation system that meet the needs of the public by effectively distributing park types and associated recreation facilities and programs throughout the City (City of Chula Vista 2018).

City of Chula Vista Active Transportation Plan

The Chula Vista Active Transportation Plan is an update to the 2010 Pedestrian Master Plan and the 2011 Bikeway Master Plan. The Active Transportation Plan combines the two aforementioned documents and focuses mainly on non-motorized users (City of Chula Vista 2020b). The plan supports the integration of land use planning with transportation planning to take into account future land use and population projections and as a means to provide bicycle facilities to help decrease auto dependence. The plan also supports integrated planning efforts as a means of promoting opportunities for exercise and recreation, highlighting the interconnection of bikeways with area parks.

5.13.1.2 Existing Conditions

The existing fire stations, police stations, parks, schools, and libraries surrounding the project site are discussed below and shown on Figure 5.13-1, Facility Locations.

Fire Protection Services

Fire protection for the City of Chula Vista is provided by the Chula Vista Fire Department (CVFD). The CVFD offers the following services: fire operations and suppression, emergency medical services (EMS), hazardous materials response, community emergency response team, rescue services, fire protection, fire inspections, public education, plan checking, and disaster preparedness (City of Chula Vista 2020c). The CVFD serves a population of 287,173 over a 52-square-mile service area (City of Chula Vista 2020d). Each day, there are 49 firefighters on duty with an additional two firefighters per Strategic Quick Unit Apparatus Delivery (SQUAD) unit (City of Chula Vista 2020d).

As seen in Table 5.13-1, CVFD's total fire department staff, as of 2019, is 161 people, including firefighters and administrative staff (CVFD 2019a). Of the 161 CVFD employees, 150 are sworn staff, and 11 are civilian staff. As described in the 2019 CVFD Annual Report and shown on Table 5.13-1, the CVFD's sworn staff includes 1 fire chief, 2 deputy fire chiefs, 2 division chiefs, 6 suppression battalion chiefs, 1 administrative battalion chief, 35 suppression fire captains, 4 administrative fire captains, 33 suppression fire engineers, 1 administrative fire engineer, 35 firefighters/paramedics, 21 firefighters/EMTs, 2 senior fire inspectors/investigators, 4 fire inspectors/investigators II, and 3 fire inspectors/investigators I. The CVFD's civilian staff includes 1 administrative secretary, 1 emergency services coordinator, 1 public safety analyst, 1 training program specialist, 1 senior office specialist, 1 facility supply specialist, 1 multimedia production specialist, 1 fire prevention aid, 0.5 fire inspector II/investigator I, 0.5 intern, 1 medical director, and 1 senior fiscal office specialist. Additionally, CVFD has 105 volunteers.

Table 5.13-1. Chula Vista Fire Department Staffing

Position	Number of Employees
Sworn Staff	
Fire Chief	1
Deputy Fire Chief	2
Division Chief	2
Battalion Chief – Suppression	6
Fire Captain – Suppression	35
Fire Captain – Administrative	4
Fire Engineer – Suppression	33
Fire Engineer – Administrative	1
Firefighter/Paramedic	35

Table 5.13-1. Chula Vista Fire Department Staffing

Position	Number of Employees
Firefighter/EMT	21
Senior Fire Inspector/Investigator	2
Fire Inspector/Investigator II	4
Fire Inspector/Investigator I	3
Total Sworn Staff	*150*
Civilian Staff	
Administrative Secretary	1
Emergency Services Coordinator	1
Public Safety Analyst	1
Training Program Specialist	1
Senior Office Specialist	1
Facility Supply Specialist	1
Multimedia Production Specialist	1
Fire Prevention Aide	1
Fire Inspector II/Investigator 1	0.5
Intern	0.5
Medical Director	1
Senior Fiscal Office Specialist	1
Total Civilian Staff	*11*
Total	**161**

Source: CVFD 2019.

There are currently 10 fire stations in the City of Chula Vista, serving a population of approximately 287,173 people and an area covering over 52 square miles. During a typical 24-hour shift, there are 34 line firefighters and two battalion chiefs on constant duty spread among the City's 10 fire stations. Each station has a captain, engineer and one firefighter. Table 5.13-2 lists the locations and service areas of the 10 fire stations serving the City of Chula Vista. Fire Station 3, located at 1401 Brandywine Avenue, Chula Vista, California 91911, is the closest existing station to the proposed project site. This fire station is located approximately 1,000 feet north of the proposed project site. Fire Station No. 3's service area includes Interstate 805, East Main Street, and South/East Chula Vista. Every day the Fire Department has two Battalion Chiefs on-duty, each covering one half of the City. These Chiefs serve as supervisors for a number of fire stations and their respective crews and take command of major emergency incidents. Fire Station No. 3 is equipped with one tender/trailer and Urban Search and Rescue 53 (Type I Heavy Rescue).

Table 5.13-2. City of Chula Vista Fire Station Facilities

Location	Service Area	Apparatus
Fire Station 1 447 F Street Chula Vista, California 91910	Downtown, Bayfront, Northwest City, Interstates 5, 54 & 805/North	Truck 51 Engine 51 Battalion 51
Fire Station 2 80 East J Street Chula Vista, California 91910	Central City, Interstate 805/Central, Hilltop, Country Club	Engine 52 OES 420

Table 5.13-2. City of Chula Vista Fire Station Facilities

Location	Service Area	Apparatus
Fire Station 3 1410 Brandywine Avenue Chula Vista, California 91911	Interstate 805, East Main Street, South/East Chula Vista	US&R 53 Tender/Trailer
Fire Station 4 850 Paseo Ranchero Chula Vista, California 91910	Rancho Del Rey, Bonita Long Canyon, Southwestern College	Engine 54
Fire Station 5[1] 391 Oxford Street Chula Vista, California 91911	Montgomery, Harborside, Otay, Interstate 5/South Southwest City, West/Main Street	Engine 55
Fire Station 6 605 Mt. Miguel Road Chula Vista, California 91914	Eastlake, Rolling Hills Ranch, San Miguel Ranch	Engine 56 Brush 56
Fire Station 7 1640 Santa Venetia Chula Vista, California 91913	Otay Ranch, Village of Heritage, Heritage Hills, Village of Countryside	Engine 57 Truck 57 Battalion 52
Fire Station 8 1180 Woods Drive Chula Vista, California 91914	Eastlake Greens, Rolling Hills Ranch, The Woods	Engine 58
Fire Station 9[1] 266 E Oneida Chula Vista, California 91911	Sunbow, Woodlawn Park	Engine 59
Fire Station 10 1715 Millenia Avenue Chula Vista, California 91915	Southeast Otay Ranch, Winding Walk, Millenia	Engine 60

Source: City of Chula Vista 2020b.

[1] It should be noted that CVFD Fire Station 5 and Fire Station 9 are being newly constructed and are anticipated to be completed by the middle of 2021; CVFD Fire Station 5 and 9 are being newly constructed at 341 Orange Avenue (adjacent to the South Branch Chula Vista Library) and 100 Moss Street (the southeast corner of Naples Street and Alpine Avenue), respectively.

The proposed project would be required to pay the PFDIF which would fund the City's Fire Suppression System expansion. Payment of the PFDIF would aid in maintaining the following City Growth Management Oversight Commission (GMOC) Threshold Standard for the Fire Suppression System Expansion: "property equipped and staffed fire and medical units shall respond to 80 percent of calls throughout the City within seven (7) minutes" (City of Chula Vista 2005b). The purpose of the GMOC's threshold and related PFDIF is to maintain the pre-development level of fire protection and EMS in the City.

According to the 2019 GMOC Annual Report, the CVFD received approximately 20,367 calls for service in Fiscal Year (FY) 2019 (City of Chula Vista 2020a). Of these calls, 82%, were responded to within a response time of 7 minutes during FY 2019. The current GMOC threshold standard for emergency fire response is 7 minutes or less in 80% of calls. The CVFD meets the GMOC threshold standard in FY 2019.

Emergency Medical Services

In March of 2008, CVFD contracted fire and emergency medical dispatch services with the City of San Diego Fire Rescue Department. With this contract came upgraded response capabilities including Automatic Vehicle Location and enhanced mutual aid capabilities. CVFD has completed its transition to a new level of EMS which provides a Paramedic or Advanced Life Support (ALS) on all responses from the department (City of Chula Vista 2020d). The CVFD's paramedics

provide ALS services to those who need assistance including the capacity to start an intravenous drip (IV), defibrillation of the heart, decompression of a collapsed lung and various other advanced aid procedures.

The CVFD's EMS system is a combination of 911 dispatchers, CVFD first responders, and contracted American Medical Response (AMR) transport units (CVFD 2019a). In July 2013, CVFD began providing this level of care via five engines located at Fire Stations 5, 6, 7, 8, and 9. By June of 2015, the CVFD began providing ALS level of care via the remaining engines located at Fire Stations 1, 2, 3, and 4. Recently, Truck 51 and 57 have been added as ALS providers making CVFD fully ALS capable – years ahead of schedule (City of Chula Vista 2020d). In the event of any large-scale emergency in the City, the CVFD would activate their Emergency Operations Center. The Emergency Operations Center is staffed by emergency personnel and trained City staff members with the purpose of supporting residents during disaster by focusing on life safety, evacuation needs, as well as public utilities and infrastructure maintenance (CVFD 2019a).

According to the CVFD's 2019 Annual Report, the average response time for CVFD EMS's first unit is 5 minutes and 8 seconds, and 9 minutes and 32 seconds for AMR's EMS first unit. The average response time for CVFD's EMS all units is 5 minutes and 47 seconds, and 9 minutes and 44 seconds for AMR's EMS all units (CVFD 2019b).

Police Protection Services

Police protection services for the proposed project would be provided by the Chula Vista Police Department (CVPD) from its existing police facility located at 315 Fourth Avenue in downtown Chula Vista (City of Chula Vista 2005a). As of August 28, 2020, the CVPD had 270 sworn employees and 108.5 civilian employees, totaling 355.5 employees. Of the 270 sworn employees, there is 1 Police Chief, 3 Captains, 10 Lieutenants, 31 Sergeants, 54 Agents, and 171 Officers (CVPD 2020a). At least one patrol car serves each beat in the City 24 hours a day. As the City continues to grow and the demand for police services increases, the CVPD regularly evaluates beat structure. Patrol officers respond to calls Citywide, and the beat strength does not include traffic units, school resource officers, roving patrol officers, and patrol sergeants who would service the project as needed. In addition, the CVPD participates in regional mutual aid agreements which allows supporting agencies to aid in emergency situations. The CVPD opened a community storefront facility located at 2015 Birch Road of the Otay Ranch Town Center in Chula Vista in early 2011, which provides limited police services to the community (CVPD 2020a).

The GMOC's Threshold Standards for the CVPD for FY 2021 includes Priority 1 Goals (Goal 1: maintain an average response time of 6 minutes or less, and Goal 2) respond to at least 81% of calls within 7 minutes and 30 seconds) and a Priority 2 Goal (maintain an average response time of 12 minutes or less) (CVPD 2020b). Priority One calls are defined as emergency calls, which include: life threatening calls, felony in progress, probability of injury (crime or accident), robbery or panic alarms, and/or urgent cover calls from officers (City of Chula Vista 2020a). Priority One calls may require a response such as an immediate response by 2 officers from any source or assignment and/or immediate response by paramedics/fire if injuries are believed to have occurred. Priority Two calls are defined as urgent calls, which include: misdemeanor in progress, possibility of severe injury, serious non-routine calls (domestic violence or other disturbances with potential for violence), and/or burglar alarms (City of Chula Vista 2020a). Priority Two calls may require a response such as an immediate response by one or two officers, from clear units or those on interruptible activities (traffic, field interviews, etc.).

According to the CVPD's GMOC report, for Priority One calls, the CVPD has an average actual response time of 6 minutes and 1 second and responds to 73.23% calls within 7 minutes and 30 sections (CVPD 2020b). For Priority Two calls, the average actual response time is 13 minute and 14 seconds. As of October 1, 2020, the CVPD does not meet the threshold standards for Priority One threshold standards (for both Goal 1 and Goal 2) or the Priority Two

threshold standards as stipulated by the GMOC (CVPD 2020b). However, beginning on October 22, 2018, the CVPD began deploying drones from the rooftop of the Police Department Headquarters to 911 calls and other reports of emergency incidents such as crimes in progress, fires, traffic accidents, and reports of dangerous subjects. This unique concept of operations is called Drone as First Responder (DFR) and it is a transformational method of policing that has demonstrated the ability to increase officer and community safety and reduce overall police response times (City of Chula Vista 2021).

The proposed project would be required to pay the PFDIF which would fund the City's Police Facilities and Equipment projects (City of Chula Vista 2005b). Payment of the PFDIF would aide in enhancing the City's GMOC Threshold Standard for police facilities responses to emergency calls (Priority One) and urgent calls (Priority Two), which currently do not meet the GMOC's threshold standards.

Libraries

The City of Chula Vista operates three library facilities: the South Chula Vista Branch Library, Otay Ranch Branch Library, and the Civic Center Branch Library (City of Chula Vista 2005a). The South Chula Vista Branch Library is the closest library to the project site, located at 389 Orange Avenue, approximately 2.5 miles west of the proposed project site and consists of approximately 38,000 square feet. This branch has two conference rooms seating approximately 25 and 50 each, three small study rooms for groups of two or more that may be reserved on site and the Rosemary Lane Galleria which acts as an exhibition space for local artists. This library is already a community destination for social and recreational activities, particularly for teens, as well as for literacy and learning. It provides a variety of spaces for library and community programs, cultural events, and recreational activities, as well as gallery space for display of community art and exhibits (City of Chula Vista 2011; CVMC Section 19.09, Growth Management). The Otay Ranch Branch Library is located at 2015 Birch Road in the Otay Ranch Town Center, approximately 3.5 miles northeast of the proposed project site and consists of approximately 3,500 square feet and provides a bit of everything: collection materials, computers, seating, and even a group study room.

The Civic Center Branch Library is located at 365 F Street, approximately 5 miles northwest of the proposed project site and is the largest library facility within the City, consisting of a two-story, 55,000-square-foot building (City of Chula Vista 2011). It also has a 152-seat auditorium and a 26-seat conference room and serves as a multi-use facility including storage for the Heritage Museum and limited exhibition space. The Civic Center Branch site also offers opportunities for expansion. The Strategic Facilities Plan recommends an additional 60,000 square feet of library space to serve Chula Vista's buildout population.

In addition to the existing libraries described above, the current Library Facilities Master Plan (City of Chula Vista 2011) calls for construction of the approximately 30,000 square foot Rancho del Rey library located at the intersection of East H Street and Paseo Ranchero, approximately 2.5 miles northeast of the proposed project site. However, the Rancho del Rey Library has been delayed indefinitely due to budget constraints (City of Chula Vista 2014).

The GMOC threshold standard for libraries is 500 gross square feet of library space, adequately equipped and staffed, per 1,000 residents (City of Chula Vista 2020a). According to the 2019 GMOC Annual Report, the current service ratio for FY 2019 was 350 square feet for every 1,000 residents. Therefore, the City does not current meet the GMOC threshold for libraries.

The proposed project would be required to pay the PFDIF which would fund the City's Library System Expansion (City of Chula Vista 2005b). Payment of PFDIFs would aide in enhancing the City's GMOC Threshold Standard for the library square footage per resident ratio, which currently do not meet the GMOC's threshold standards, and by

funding potential future library projects. According to the Chula Vista Public Library Strategic Vision Plan (2014), an additional approximately 60,000 square feet of library space in the City would meet the needs of the buildout population (City of Chula Vista 2014).

Schools

Existing and Planned Educational Facilities

The CVESD (elementary schools) and the Sweetwater Union High School District (SUHSD) (middle and high schools) would serve the proposed project site. Specifically, the project site is served by Valle Lindo Elementary School (CVESD), Rancho Del Rey Middle School (SUHSD), Castle Park Middle School (SUHSD), Otay Ranch High School (SUHSD), and Castle Park High School (SUHSD) (CVESD 2020a; SUHSD 2020a).

According to the CVESD webpage, the CVESD was established in 1892, is located over 103 square miles in southern San Diego County and has 49 schools (CVESD 2020b). The CVESD serves approximately 29,600 students, primarily grade K-6. The CVESD employs 1,703 certified employees and 1,648 classified employees. SUHSD was founded in 1920 and is located in the Cities of Chula Vista, Imperial Beach, National City, and San Diego (including the communities of Bonita, Eastlake, Otay Mesa, San Ysidro, and South San Diego) (SUHSD 2020b). The SUHSD has approximately 40,000 students in grades 7-12, and 22,000 adult learners.

As stated earlier, the proposed project site would be served by Valle Lindo Elementary School. Valle Lindo Elementary School is located within the CVESD and is located at 1515 Oleander Avenue, Chula Vista, California 91911, approximately 0.25 miles west of the proposed project site. Valle Lindo Elementary School serves pre-kindergarten to 6th grade and, as of 2019, enrolls approximately 440 students (SARC 2019a).

The Sweetwater Union High School District (SUHSD) serves the project site. Founded in 1920, SUHSD has grown to more than 42,000 students in grades 7 through 12 and more than 32,000 adult learners. The district's 32 campuses are located in the cities of Chula Vista, Imperial Beach, National City and San Diego, including the communities of Bonita, Eastlake, Otay Mesa, San Ysidro and South San Diego. Several middle and high schools are planned or have been recently opened in the area. The majority of the project site is within the attendance boundary of Rancho Del Rey Middle School, while the southwestern portion of the project site is served by Castle Park Middle School. Similarly, the majority of the project site is served by Otay Ranch High School, while the southwestern portion of the site is served by Castle Park High School (SUHSD 2020b). All middle schools (grades 7-12) and high schools (grades 9-12) are located approximately 1 mile from the project site.

The following schools are located within the SUHSD. Rancho Del Rey Middle School is located at 1174 East J Street, Chula Vista, CA 91910, approximately 2 miles northeast of the proposed project site. The school serves 897 students in 7th grade and 860 students in 8th grade, totaling 1,757 students (SARC 2019b). Castle Park Middle School is located at 160 Quintard Street, Chula Vista, California 91911, approximately 2 miles west of the proposed project site. The school serves 408 students in 7th grade and 395 students in 8th grade, totaling 803 students (SARC 2019c). Otay Ranch High School is located at 1250 Olympic Parkway, Chula Vista, California 91913, approximately 2.5 miles northeast of the proposed project site. The school serves 576 students in 9th grade, 592 students in 10th grade, 578 students in 11th grade, and 626 students in 12th grade, totaling 2,372 students (SARC 2019d). Castle Park High School is located at 1395 Hilltop Drive, Chula Vista, CA 91911, approximately 1.5 miles west of the proposed project site. The school serves 399 students in 9th grade, 424 students in 10th grade, 405 students in 11th grade, and 447 students in 12th grade, totaling 1,675 students (SARC 2019e).

Parks

Per CVMC 17.10.040, the City's parkland standard or parkland threshold is currently three park acres per 1,000 people (City of Chula Vista 2018). More specifically, the area to be dedicated for multiple-family dwelling units require one acre per 128 units.

According to San Diego Association of Governments Series 13, the City's population as of 2020 is 287,173 (see Section 5.12, Population and Housing, of this EIR). The total developed park acreage available to the public within the City is 718 acres (City of Chula Vista 2018). Currently, the ratio of parkland to population is approximately 2.64 acres of parkland per 1,000 residents in Chula Vista, which does not currently meet the City's parkland ratio standards as defined by CVMC 17.10.040 (City of Chula Vista 2020a). However, eastern Chula Vista, where the project is located, currently exceeds the threshold standard for parks (City of Chula Vista 2020a). The City's Parks and Recreation Master Plan indicates that the City would develop an additional 363 acres of parkland by 2030, for a total of 1,081 parkland acres.

Table 5.14-3, in Section 5.14, outlines existing parks within the vicinity of the project site. As shown on this figure, there are 8 existing parks located within 2 miles to the proposed project site, which future tenants of the proposed project would potentially use (City of Chula Vista 2005a). These parks include Valle Lindo Park, Veteran's Park, Horizon Park, Greg Rogers Park, Sunbow Park, Sunridge Park, Paseo Del Rey Park, and Palomar Park. Table 5-14-3 provides detailed park information such as the street address, distance from the proposed project site, park resource type, and total acres. As discussed earlier, public parks in the City are open to all area citizens. Neighborhood parks generally serve a local adjacent or nearby residential neighborhood, while community parks serve the broader community and provide a greater range of services.

Regional and County Parks

Regional and County of San Diego parks are located within or adjacent to the City of Chula Vista in eastern Chula Vista and adjacent San Diego County. This includes the Otay Valley Regional Park and the Otay Lakes County Park (see Section 5.14.2, Existing Conditions, for details).

5.13.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to public services is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    i. Fire protection
    ii. Police protection
    iii. Schools
    iv. Parks
    v. Other public facilities

5.13.3 Impact Analysis

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

i. Fire protection.

Based on current Fire Station distribution, Fire Stations 3, 7, and 9 are most likely to provide initial response. However, all stations within the CVFD are available to service the project site, if necessary. As depicted in Table 5.13-2, CVFD Fire Station No. 3, located at 1410 Brandywine Avenue is the closest station that services the project site. Station 3 is located 1.2 miles from the most remote portion of the development. This Station is staffed with 4 firefighters on a Type 1 Heavy Rescue apparatus, which responds to fires, technical rescues, and medical emergencies. Fire Stations 7 and 9, which are located at 1640 Santa Venetia and 266 East Oneida, respectively, are the next two closest stations that could respond to the site. Station 7 is located 2.9 miles away and is staffed with 8 firefighters on a Type 1 Fire Engine, a Ladder Truck, and a Battalion Chief vehicle. Station 9[1] is currently located 2.7 miles from the most southern boundary of the site but is being relocated to a point that is 4 miles from the site. The station is equipped with a Type 1 Fire Engine and 3 firefighters.

Emergency travel time for first arriving engines from each station to the project site are derived from Google road data while travel times are calculated using response speeds of 35 mph, consistent with nationally recognized National Fire Protection Association (NFPA) 1710 and Insurance Services Office (ISO) Public Protection Classification Program's Response Time Standard formula (Time=0.65 + 1.7(Distance). The ISO response travel time formula discounts speed for intersections, vehicle deceleration and acceleration, and does not include turnout time. Automatic and/or Mutual Aid agreements with surrounding fire departments are in place and would potentially result in additional resources that were not analyzed within this section or the project's FPP (Appendix H3). The first arriving engine from Station 3 with four firefighters onboard achieves an approximately 2-minute 05-second travel time to the southeastern portion of the project site. This first arriving response substantially conforms with the approved response goal of 5 minutes 90% of the time, and it satisfies the OSHA two-in and two-out standard. As mentioned above, CVFD Station 9 is being newly constructed at the southeast corner of Naples Street and Alpine Avenue and is proposed to be completed by the middle of 2021. With that said, once construction of the new CVFD Station 9 is completed, the current second arriving engine from Station 9 would instead be from Station 7, which archives an approximately 4-minute 58- second travel time to the southeastern portion of the project site.

The Effective Fighting Force (EFF) or first 3 engines, 1 truck and battalion chief for a total of 14 firefighters could be on-scene within roughly 7 minutes travel time from three fire stations (including travel time from the new CVFD Station 9). In this case, the emergency responses from Stations 3, 7, and 9 are substantially within 5 minutes and under the 8-minute travel time goal for EFF. Table 5.13-3 summarizes these response times.

[1] It should be noted that CVFD Fire Station 9 is being newly constructed at the southeast corner of Naples Street and Alpine Avenue and is proposed to be completed by the middle of 2021. The new CVFD Fire Station 9 when constructed, will be approximately 4 miles from the most remote portion of the development.

Table 5.13-3. CVFD Emergency Response Analysis for the Proposed Project Site

Chula Vista Fire Department Station No.	Total Mileage to Furthest Extent on Proposed Project Site	Estimated Response Travel Time[2]	Firefighting Resources[3]
3	1.2 miles	2 min. 05 sec.	USAR 53 *(4 personnel/shift)*
7	2.9 miles	4 min. 58 sec.	Engine 57; Truck 57; Battalion 52 *8 personnel/shift)*
9	2.7 miles	4 min. 40 sec.	Engine 59 (3 personnel/shift)
9 (relocated site)	4.0 miles[1]	6 min. 50 secs.	N/A

Notes:

1 It should be noted that CVFD Fire Station 9 is being newly constructed at the southeast corner of Naples Street and Alpine Avenue and is proposed to be completed by the middle of 2021.

2 Presents results of response travel time utilized travel distances derived from Google road data while travel times are calculated using response speeds at an average of 35 mph, consistent with nationally recognized National Fire Protection Association (NFPA) 1710 and does not include turnout times. Response times are to the furthest extent of the project site.

3 The Effective Firefighting Force could include responses from all three stations with a best-case assembly travel time of just under 6 minutes to the furthest extent of the project site.

Based on CVFD call volume estimates, the proposed project is conservative calculated to generate approximately 191 calls per year, or about 0.52 calls per day, with roughly 69% of which (131 calls per year) expected to be medical emergencies (Appendix H3).

For purposes of this analysis, Fire Stations 3 (USAR 53), 7 (Engine 57 and Truck 57), and 9 (Engine 59) were evaluated as it provides perspective for the potential impacts from build out of the proposed project. Heavy Rescue (USAR) 53 responded to 2,195 calls; Engine 57 responded to 1,793 calls; Truck 57 responded to 548 calls; and Engine 59 responded to 2,638 during 2018 (City of Chula Vista 2020a). This calculates as 6 calls per day for USAR 53; 5 calls per day for Engine 57 (E57); 7 calls per day for Engine 59; and 1.5 calls per day for Truck 57 (T57). See Appendix H3 for additional details.

As previously mentioned, the proposed project is estimated to generate approximately 191 calls per year. The addition of less than 1 call per day to Fire Station 7 that currently has fire apparatus that responds to approximately 1.5 (T57) and 4.9 (E57), calls per day, respectively is considered average for typical urban fire stations. Six or seven calls per day for Stations 3 and 9, respectively, would be considered already busy stations. For perspective, a typical station averages five calls per day and a busy station responds to about ten calls per day. With the additional 1 call per day, as described herein, and the currently low call volume at Station 7 and slightly above average calls at other stations, the additional calls associated with build out can be absorbed and still result in acceptable emergency response coverage. Table 5.13-4 presents estimated call volume increases based on the demand from the proposed project

Table 5.13-4. Fire Station Call Volumes

Chula Vista Fire Station	Current Daily Call Volume	Estimated Daily Call Volume Increase	Estimated Total Daily Call Volumes with Proposed Project[1]
3	6.0 (USAR 53)	Less than 1.0	Approx. 6.5
7	4.9 (Engine 57) + 1.5 (Truck 57)	Less than 1.0	Less than 6.9
9	7.2 (Engine 59)	Less than 1.0	Less than 7.7

Source: Appendix H3.

Notes:
[1] Estimated total daily call volume is based on existing volume in addition to the conservatively calculated 0.52 calls per day from the Proposed Project.

The available firefighting and emergency medical resources in the vicinity of the project site include an assortment of fire apparatus and equipment considered capable of responding to the type of fires and emergency medical services potentially occurring within the proposed project. The proposed project is projected to slightly increase the nearest station's (Fire Station 3) current call volume, but not at significant levels, because the current call volume is considered slightly above average compared to other urban fire stations and the capacity would not be considered impacted to the point of resulting in a busy or stressed condition. Furthermore, the proposed project does not include the construction of any fire stations. However, in the event that the new fire stations are constructed after implementation of the proposed project, the new fire stations would be supported on a fair share basis by future development (including the proposed project), through payment of the City's PFDIF. The PFDIF addresses a project's proportional impact on capital facilities, such as structures and equipment, associated with fire protection. It does not address the impacts associated with operations and maintenance for those facilities, and it is the City's policy to use public funds such as property taxes, sales taxes, and fees generated by the proposed project to cover the incremental costs associated with providing fire services. This impact would be potentially significant if these mechanisms are not enforced. Therefore, impacts would be **potentially significant** and mitigation is required (Mitigation Measure **[MM] PS-1**; see Section 5.13.5, Mitigation Measures).

ii. Police protection.

The Chula Vista Police Department (CVPD) would provide law enforcement services to the project site. The CVPD currently provides police service to the project site from its existing police facility in downtown Chula Vista. The current ratio of police officers required to adequately serve the residents of the City is 1.16 sworn police officers per 1,000 residents. The project would generate approximately 2,315 residents. Thus, rounding the number of residents to 2,500 for adequate police coverage would result in approximately 3 sworn police officers (2.5 multiplied by 1.16) required to support the population generated from the project. The City's PFDIF, described previously, would help cover the cost of new or expanding public facilities within the City, including police facilities. The proposed project would be subject to the payment of the PFDIF at the rate in effect at the time building permits are issued. Although additional law enforcement staff may be required to adequately support the proposed project at buildout, the project would be required to pay the PFDIF, which would be used exclusively for future facility improvements necessary to ensure that the development contributes its fair share of the cost of police facilities and equipment determined to be necessary to adequately accommodate new development in the City. This impact would be potentially significant if these PFDIF mechanisms are not enforced. Therefore, impacts would be **potentially significant** and mitigation is required (**MM-PS-1**).

iii. Schools.

The proposed project would increase the number of dwelling units and population within the City, thereby generating a number of students (see Section 5.12). Students from the proposed project would be served by CVESD's Valle Lindo Elementary School and SUHSD's Rancho Del Rey Middle School, Castle Park Middle School, Otay Ranch High School, and/or Castle Park High School (CVESD 2020b; SUHSD 2020b).

The additional population generated by the proposed project could potentially overcrowd schools and result in the need for additional schools. Schools are funded through the payment of Development Impact Fees (DIFs) pursuant to SB 50/Government Code Section 65995. CVESD collects Level I Schedule fees for new residential

and commercial/industrial developments (CVESD 2010). SUHSD currently collects Level I Schedule fees for residential and commercial developments based on the square footage of the new developments (SUHSD 2020c). Fees paid by the developer would be used to offset the impact of the number of new students generated by the development of the proposed project. These fees are required to be paid by future development prior to issuance of building permits.

As stated previously, the project site is located within existing CFDs for CVESD and SUHSD, which impose a special tax on property owners to finance both school districts. Any development of new school facilities resulting from these CFDs would be undertaken by the school district and an environmental document would be prepared at such time. Pursuant to Education Code Section 17620(a)(1), the governing board can authorize the levy of a fee, charge, dedication, or other requirements against any construction within school district boundaries, and with the school district's collection of Statutory and Alternative fees developers could fully mitigate their impact. However, in the event that these taxes are not implemented, impacts to schools would be potentially significant. Therefore, impacts would be **potentially significant** and mitigation is required (**MM-PS-2**; see Section 5.13.5).

iv. Parks.

As discussed above, the City's existing parkland to resident ratio conditions do not meet the standards defined in CVMC 17.10.040. However, according to the City's Parks and Recreation Master Plan, in 2030, the City's forecasted population would be 340,215 and 1,237 acres of developed parkland would be within the City. With the projected population and the anticipated additional 363 acres of parkland development, the City would have a parkland ratio of 3.64 acres of parkland per 1,000 residents. The proposed project is aligned with the City's forecasted population growth for 2030 (see Section 5.12). The proposed project would not disrupt the City's existing conditions and existing plans that would create an adequate parkland per resident ratio.

The Applicant would comply with CVMC Section 19.80, Controlled Residential Development, which would ensure that development would not degrade existing public services and facilities below acceptable standards for parks and other public services. Payment of appropriate fees (further discussed below) would allow existing public services and facilities to remain at acceptable standards while the usage potentially increases due to the population increase resulting from the proposed project. The applicant would comply with CVMC Section 19.09, Growth Management, which provides policies and programs that tie the pace of development to the provision of public facilities and improvements. CVMC Section 19.09.040E, specifically, requires three acres of neighborhood and community park land with appropriate facilities per 1,000 residents east of I-805.

Additionally, the proposed project would pay the appropriate land acquisition and park development fees to offset potential impacts to recreational facilities and parkland. A Community Benefit Agreement between the City and the Applicant stipulates that the Applicant shall pay the City a Park Benefit Fee, equal to the Park Acquisition and Development (PAD) fee that would have been due pursuant to CVMC Section 17.10, of approximately $11.03 million based on 2019 PAD fees, which may be revised by the City from time to time. The Public Benefit Fee would be used by the City to acquire or develop parkland, pursuant to the City's Parks and Recreation Master Plan. Without payment of the Park Benefit Fees, impacts associated with parks would be potentially significant. Therefore, impacts would be **potentially significant** and mitigation is required (**MM-PS-3**; see Section 5.13.5).

v. Libraries.

The proposed project would result in increased demand for libraries and may have the potential to require the construction of new or expanded library facilities. The Chula Vista Library Strategic Vision Plan establishes a standard of 500 square feet of adequately equipped and staffed library facilities per 1,000 residents (City of Chula Vista 2014). The proposed project development would result in approximately 2,315 persons (see Section 5.12 of this EIR). Thus, the proposed project would generate demand for approximately 1,158 square feet of additional library facilities within the City. Although the proposed project does not specifically include the development of a library, this demand would be satisfied through payment of PFDIF as stated in CVMC Section 3.50.030 and 3.50.060, which would go toward the City's library system expansion program. Thus, impacts would be potentially significant if these PFDIF mechanisms are not enforced. Therefore, impacts would be **potentially significant** and mitigation is required (**MM-PS-1**).

5.13.4 Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would have **potentially significant impacts** associated with fire protection, police protection, libraries, and schools.

5.13.5 Mitigation Measures

Implementation of the following mitigation measures would reduce identified potentially significant impacts associated with fire protection, police protection, libraries, and schools to a **less-than-significant** level:

MM-PS-1 Prior to the issuance of each building permit for any residential dwelling units, the applicant shall pay a Public Facilities Development Impact Fee (PFDIF) in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Supplemental Public Facilities Finance Plan, unless stated otherwise in a separate development agreement.

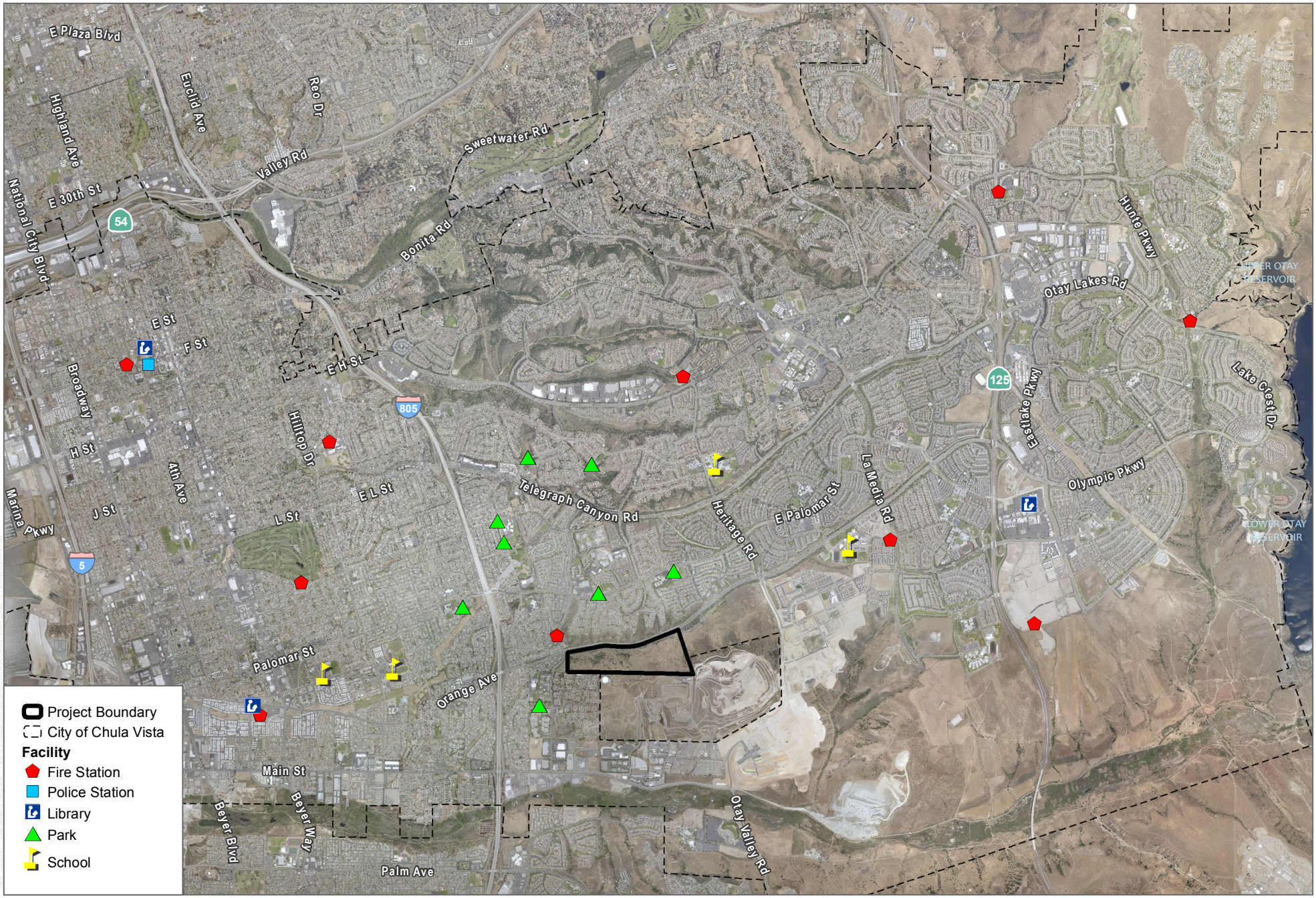
MM-PS-2 Prior to the issuance of a building permit, the applicant shall provide evidence or certification by the Chula Vista Elementary School District (CVESD) and the Sweetwater Union High School District (SUHSD) that any fee charge, dedication or other requirement levied by the school district(s) has been complied with or that the district(s) has determined the fee, charge, dedication or other requirements do not apply to the construction or that the applicant has entered into a school mitigation agreement. School facility mitigation fees shall be in accordance with the fees in effect at the time of building permit issuance.

MM-PS-3 No earlier than issuance of certificate of occupancy~~Prior to the issuance of each building permit for any residential dwelling units~~, the applicant shall pay the Park Benefit Fee, as outlined in the project's Development Agreement, equal to the City's Park Acquisition and Development (PAD) Fee Update pursuant to Chula Vista Municipal Code Section 17.10. The final Park Benefit Fee amount shall be determined based on the number and type of residential units constructed and the PAD fee rates in effect as of the effective date of ~~payment~~the project's Development Agreement. To create this Park Benefit Fee, the City will waive the parkland dedication and development requirements set in Chapter 17.10 of the Chula Vista Municipal Code, including the Parkland Acquisition and Public Facilities Development fees, and Quimby Act fees. The Park Benefit Fee shall satisfy the project's park obligations and may be utilized by the City to acquire or develop parkland, as the City determines appropriate and in the best interest of the City.

5.13.6 Level of Significance After Mitigation

Implementation of **MM-PS-1** through **MM-PS-3** would reduce potentially significant impacts associated with fire protection, police protection, libraries, and schools to a **less-than-significant** level.

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SOURCE: SanGIS 2017; Open Street Map 2019

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FIGURE 5.13

Facility Locations

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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5.15 Transportation

This section of the environmental impact report (EIR) addresses potential impacts to transportation resulting from the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). The discussion in this section is based on the Transportation Impact Analysis (TIA) prepared for the project by Linscott, Law, and Greenspan (LLG). The complete report is provided in Appendix K of this EIR.

5.15.1 Existing Conditions

5.15.1.1 Regulatory Framework

Federal

No federal regulations or guidelines relating to transportation apply to the proposed project.

State

Senate Bill 743

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under the California Environmental Quality Act (CEQA). Within the State's CEQA Guidelines, these changes include the elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The guidance identifies vehicle miles traveled (VMT) as the most appropriate CEQA transportation metric, along with the elimination of auto delay/LOS for CEQA purposes statewide. The justification for this paradigm shift is that auto delay/level of service (LOS) impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas (GHG) emissions. The legislation was also intended to incentivize development in and around Transit Priority Areas (TPAs) and High-Quality Transit Corridors (HQTCs), and to encourage high density infill and mixed-use projects. In January 2016, the Governor's Office of Planning and Research (OPR) issued Draft Guidance, which provided recommendations for updating the State's CEQA Guidelines in response to SB 743 and recommended practice for VMT analysis in an accompanying Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory). OPR's most recent Technical Advisory is dated December 2018.

Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program (STIP), run by the California Transportation Commission, is a multi-year, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes, metropolitan plans, and Title 23 of the CFR. The latest version of the STIP was adopted on March 25, 2020 (California Transportation Commission 2020). The STIP is prepared in cooperation with the California Department of Transportation (Caltrans), the metropolitan planning organizations, and the regional transportation planning agencies. In the County of San Diego, the regional transportation planning agency is the San Diego Association of Governments (SANDAG). The STIP contains all capital and non-capital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and Title 23 of the CFR, including federally funded projects.

Interregional Transportation Improvement Program

The 2015 Interregional Transportation Improvement Program (ITIP) was approved by Caltrans in December 2015. California Government Code Section 14526 specifies that the purpose of the ITIP is to fund projects that improve interregional movement for people and goods across California on the State Highway System and develop Intercity Passenger Rail corridors of strategic importance. The ITIP is one of many state funding programs that collectively invest in transportation infrastructure, maintenance and operations and is prepared by Caltrans for submittal to the California Transportation Commission to assist with recommendations for projects in the STIP.

Congestion Management Program

The Congestion Management Program was enacted by the state legislature in 1989 to improve traffic congestion in urbanized areas. The program became effective with the passage of state Proposition 111 in June 1990, which increased the state gas tax. The funds generated by the gas tax increase are advanced to cities and counties for constructing road improvements, provided that a Congestion Management Program is in place. If a city does not comply with the Congestion Management Program, it could lose funding under Proposition 111. Under the program, regional agencies within each county are designated to prepare and administer the Congestion Management Program.

Local

San Diego Association of Governments

SANDAG serves as the forum for decision making on regional issues such as growth, transportation, land use, economy, environment, and criminal justice. SANDAG builds consensus, prepares strategic plans, obtains, and allocates resources, and provides information on a broad range of topics pertinent to the region's quality of life. SANDAG is governed by a Board of Directors composed of mayors, council members, and supervisors from each of the San Diego region's 19 local governments. As the metropolitan planning organization and regional transportation planning agency for the San Diego region, SANDAG has produced the following documents that identify transportation plans and policies in the San Diego area.

San Diego Forward – The Regional Plan

San Diego Forward: The Regional Plan (The Regional Plan) was adopted by SANDAG on October 9, 2015. The Regional Plan combines and updates two regional planning documents, the 2004 Regional Comprehensive Plan and the 2011 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), into a unified document to guide regional growth between 2015 and 2050. The Regional Plan unites land use and transportation planning by incorporating local planning efforts with regional transportation planning and also identifies investments in public transportation, bike paths, and pedestrian improvements in the region. The Regional Plan includes a number of elements, one of which is the SCS. Required by state law (SB 375), the primary purpose of the SCS is to show how development patterns and our transportation system will work together to reduce GHG emissions for cars and light trucks, providing a more sustainable future for our region.

2014 Regional Transportation Improvement Plan

The Regional Transportation Improvement Program (RTIP) is a multi-year program of proposed major highway, arterial, transit, and bikeway projects. The 2014 RTIP is a prioritized program designed to implement the region's overall strategy for providing mobility and improving the efficiency and safety of efforts to attain federal and state air quality standards for the region. The 2014 RTIP also incrementally implements the 2011 Regional Transportation Plan. The 2014 RTIP covers fiscal years 2014/2015 to 2018/2019. The 2014 RTIP was adopted on September 26, 2014.

City of Chula Vista General Plan

The City of Chula Vista General Plan (General Plan), known as Vision 2020, was adopted by the City on December 13, 2005 (Chula Vista 2005). The General Plan contains objectives and policies in the Land Use and Transportation Element that support transit (Objective LUT 17), encourage alternative transportation measures (Objectives LUT 18 and LUT 23), encourage regional transportation coordination (Objective LUT 19), develop transit-friendly roads (Objective LUT 20), support parking management policies (Objectives LUT 30 through LUT 33), and ensure pedestrian-oriented environments (Objective LUT 63).

Chula Vista Municipal Code

Chula Vista Municipal Code (CVMC) Chapter 3.54 establishes a Transportation Development Impact Fee (TDIF) to fund transportation improvements and facilities within the Eastern Territories of the City and requires payment prior to the issuance of building permits for development. Section 3.54.030 lists the transportation facilities to be financed by the fees collected and includes a total of 72 roadways within the City. In addition, CVMC Chapter 12.24, Dedications, imposes reasonable requirements upon developers of traffic-generating developments within the City to mitigate potential dangers associated with the (1) lack of sidewalks; (2) moving, high, and stagnant waters during the rainy season; (3) streets of inadequate widths; (4) poor drainage due to the lack of curbs, storm drain facilities and improved alleys; and (5) inadequate street lighting, to the extent reasonably possible.

City of Chula Vista Transportation Study Guidelines

The City of Chula Vista adopted their Traffic Study Guidelines (TSG) in June of 2020 to comply with SB 743. The TSG provides criteria to evaluate projects for consistency related to the City's transportation goals, policies, and plans, and through procedures established under CEQA. The TSG establishes the content requirements and procedures for preparing a Transportation Study in Chula Vista. At the time the project's VMT analysis was prepared, the City was still in the process of developing their guidelines for VMT evaluation. Therefore, LLG coordinated with City Staff to develop an interim approach and methodology, and to obtain the latest draft screening map which identifies residential VMT per capita for locations regionwide. The interim approach and methodology are consistent with the approved TSG for the purposes of evaluating the project's potential vehicular impacts.

Sunbow General Development Plan

The Sunbow General Development Plan (GDP; City of Chula Vista 1989) proposes development of a 604.8-acre planned community in eastern Chula Vista. The principal objective of the GDP is the creation of an efficient, self-contained village. One of the primary objectives of the GDP is to provide a safe, convenient, and efficient local circulation system which maximizes access between residential areas and community facilities while minimizing travel distance and reliance on the automobile.

5.15.1.2 Existing Setting

Existing Transportation Network

The following is a description of the major roadways, bicycle network, pedestrian facilities, and transit located within the immediate vicinity of the project site.

Roadways

Olympic Parkway

Olympic Parkway is classified as a Prime Arterial in the City of Chula Vista Circulation Plan (Circulation Plan). It is built as a 6-lane divided road with three lanes westbound and three lanes eastbound and a raised median. The posted speed limit is 45 mph from I-805 to Brandywine Avenue. and 50 mph east of Brandywine Avenue.

Oleander Avenue

Oleander Avenue is classified as a two-lane collector street in the Circulation Plan. It is built as a 2-lane undivided road with one lane northbound and one lane southbound. The posted speed limit is 25 mph.

Brandywine Avenue

Brandywine Avenue is classified as a Class I collector in the Circulation Plan. It is built as a 4-lane undivided road with two lanes northbound and 2 lanes southbound, north of Olympic Parkway and a 2-lane undivided road with one lane northbound and 1 lane southbound, south of Olympic Parkway. The posted speed limit is 40 mph north of Olympic Parkway and 35 mph south of Olympic Parkway.

Heritage Road

Heritage Road is classified as a Prime Arterial in the Circulation Plan. It is built as a 6-lane divided road with 3 lanes northbound and 3 lanes southbound. The posted speed limit is 40 mph.

Santa Venetia Street

Santa Venetia Street is classified as a two-lane collector in the Circulation Plan. It is built as a 2-lane undivided road with one lane northbound and one lane southbound, south of Olympic Parkway. The assumed speed limit is 25 mph.

La Media Road

La Media Road is classified as a Prime Arterial in the Circulation Plan. It is built as a 6-lane divided road with 3 lanes northbound and 3 lanes southbound. The posted speed limit is 45 mph.

Bicycle Network

There is a Class 2 bike lane on Olympic Parkway between Oleander Avenue and Lake Crest Drive. There is a Class 2 bike lane on Brandywine Avenue beginning at Telegraph Canyon Road and ending at Main Street. There is a Class 2 bike lane on Heritage Road beginning at Telegraph Canyon Road and ending at Main Street. Class 2 bike lanes are provided on both sides of La Media Road beginning at Telegraph Canyon Road and ending at Santa Luna Street.

Pedestrian Facilities

Sidewalks are provided along both sides of Olympic Parkway, Oleander Avenue, Brandywine Avenue, Santa Venetia Street, and La Media Road. Sidewalks are also provided on both sides of Heritage Road, north of Olympic Parkway, and on the east side of Heritage Road, south of Olympic Parkway. The Chula Vista Regional Trail is located along the west side of Heritage Road south of Olympic Parkway. Four signalized crosswalks with ramps on each corner are located adjacent to the project site at the intersection of Olympic Parkway and Brandywine Avenue.

Transit

The project area is served by transit provided by the San Diego Metropolitan Transit System (MTS). There are no bus routes that travel directly along Olympic Parkway adjacent to the project site.

The five MTS bus routes summarized in the following paragraphs serve the general study area.

Route 225. Route 225 runs from the Otay Mesa Transit Center to the Santa Fe Depot Transit Center via Broadway, I-805, and SR-125, as well as other streets that are not near the project study area. There are 11 stops along this route with destinations to the East Palomar Transit Station, City College Transit Center, and the Santa Fe Depot. Route 225 currently operates Monday through Friday from 4:49 AM through 10:13 PM departing from the Otay Mesa Transit Center and from 6:08 AM through 11:39 PM departing from the Santa Fe Depot Transit Center. Saturday and Sunday route schedule begins at 4:49 AM through 10:11 AM departing from the Otay Mesa Transit Center and begins at 6:08 AM to 11:37 PM departing from the Santa Fe Depot Transit Center. Route 225 operates on observed holidays with a Saturday or Sunday schedule. Weekday schedules include 30-minute headways. Weekend schedules include 30-minute headways.

Route 704. Route 704 runs from the East Street Transit Center to the Palomar Street Transit Center via East Orange Avenue, Brandywine Avenue, and East Palomar Street, as well as other streets that are not near the project study area. There are 48 stops along this route with destinations to the Chula Vista Public Library, Civic Center, Memorial Park, Sharp CV Medical Center, South County Regional Center, and the Veterans Home. Route 704 currently operates Monday through Friday from 6:03 AM through 8:20 PM departing from the E Street Transit Center and from 5:28 AM through 9:00 PM departing from The Palomar Street Transit Center. Saturday route schedule begins at 6:26 AM through 8:25 AM departing from the E Street Transit Center and begins at 6:28 AM to 8:29 PM departing from the Palomar Street Transit Center. Sunday schedule begins at 7:22 AM through 6:22 PM departing from Sharp Medical Center and begins at 7:30 AM through 6:30 PM departing from the Palomar Street Transit Center. Route 704 operates on observed holidays with a Saturday or Sunday schedule. Weekday schedules include 30-minute headways. Weekend schedules include 1-hour headways.

Route 707. Route 707 runs from Eastlake Parkway and Olympic Parkway to Southwestern College via East H Street and Eastlake Parkway. There are 26 stops along this route with destinations to Bonita Vista High School, Eastlake High School, Eastlake Village Center, Otay Ranch Town Center, and Southwestern College. Route 707 currently operates Monday through Friday from 5:02 AM through 7:14 PM departing from Eastlake Parkway & Olympic Parkway and from 6:31 AM through 7:23 PM departing from Southwestern College. Weekday schedules include 30-minute headways. Route 707 does not operate on weekends or observed holidays.

Route 709. Route 709 runs from the H Street Transit Center to Eastlake Parkway & Olympic Parkway via East H Street, East Palomar Street, and La Media Road, as well as other streets that are not near the project study area. There are 22 stops along this route with destinations to Bonita Vista High School, Hilltop High School, Otay Ranch Town Center, Scripps Hospital and Southwestern College. Route 709 currently operates Monday through Friday from 5:49 AM through 10:22 PM departing from the H Street Transit Center and from 4:52 AM through 10:06 PM departing from Eastlake Parkway & Olympic Parkway. Saturday route schedule begins at 6:22 AM through 9:55 AM departing from the H Street Transit Center and begins at 5:37 AM to 9:37 PM departing from Eastlake Parkway & Olympic Parkway. Sunday schedule begins at 6:51 AM through 8:07 PM departing from the H Street Transit Center and begins at 6:37 AM through 7:50 PM departing from Eastlake Parkway & Olympic Parkway. Route 709 operates on observed holidays with a Saturday or Sunday schedule. Weekday schedules include 30-minute headways. Weekend schedules include 1-hour headways.

Route 712. Route 712 runs from the Palomar Street Transit Center to Southwestern College via Palomar Street and East Palomar Street. There are 26 stops along this route with destinations to Castle Park Middle School, Castle Park High School, Heritage Park, Palomar High School, Sharp Medical Center, and Veterans Park. Route 712 currently operates Monday through Friday from 5:45 AM through 9:26 PM departing from the Palomar Street Transit Center and from 6:19 AM through 10:09 PM departing from Southwestern College. Saturday route schedule begins at 6:30 AM through 8:30 PM departing from the Palomar Street Transit Center and begins at 6:19 AM to 8:19 PM departing from Southwestern College. Sunday schedule begins at 8:00 AM through 7:00 PM departing from the Palomar Street Transit Center and begins at 6:49 AM through 6:48 PM departing from Southwestern College. Route 712 operates on observed holidays with a Saturday or Sunday schedule. Weekday schedules include 30-minute headways. Weekend schedules include 1-hour headways.

5.15.1.3 Methodology

In compliance with SB 743, the TIA evaluates the project's potential vehicular impacts using a vehicle miles traveled (VMT) metric, pursuant to direction from the Governor's Office of Planning and Research (OPR) in December 2018 and specifically addresses Threshold B of the Transportation thresholds of significance per the CEQA guidelines (see Section 5.15.2 and 5.15.3 below).

Vehicle Miles Traveled

The City of Chula Vista adopted their TSG in June of 2020. However, at the time the project's VMT analysis was prepared, the City was still in the process of developing their guidelines for VMT evaluation. Therefore, LLG coordinated with City Staff to develop an interim approach and methodology, and to obtain the latest draft screening map which identifies residential VMT per capita for locations regionwide. The interim approach and methodology are consistent with the approved TSG for the purposes of evaluating the project's potential vehicular impacts.

VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network. VMTs are calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round trip) travel and is estimated for a typical weekday for the purposes of measuring transportation impacts. For residential projects, "VMT per capita" is the efficiency metric used for evaluation. In general, the analysis presents the project VMT per capita, and compares it to a regional VMT per capita to determine if the former is higher, equal to, or lower than the latter.

Proposed Technical Guidance

The following information is sourced from OPR's latest Technical Advisory (2018). This represents a non-regulatory advisory document on the evaluation of transportation impacts using VMT.

General Recommendations Regarding Methodology

The following is a discussion of the general methodology recommendations to evaluate VMT for various technical areas and project types. The project would fall within the "Residential Projects" category, and the SANDAG Series 13 Year 2020 Travel Demand Model (TDM) was used in the analysis presented in this report. The Series 13 Year 2020 TDM generated a land use-specific average trip length (residential) as well as an average daily volume to calculate the total residential VMT per capita.

Using Models to Estimate VMT

Travel demand models, sketch models, spreadsheet models, research, and data can all be used to calculate and estimate VMT. To the extent possible, lead agencies should choose models that have sensitivity to features of the project that affect VMT. Those tools and resources can also assist in establishing thresholds of significance and estimating VMT reduction attributable to mitigation measures and project alternatives.

Vehicle Types

Vehicle Miles Traveled refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation.

Residential Projects

Residential project VMT is evaluated in terms of VMT per capita, with project results compared to established VMT thresholds to determine significance of project impacts.

Transit Priority Areas

Any project that includes in its geographic bounds a portion of an existing or planned Transit Priority Area (TPA) (i.e., the project is within 0.5 miles of an existing or planned major transit stop or an existing stop along a high-quality transit corridor) may employ VMT as its primary metric of transportation impact for the entire project. A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Recommendations Regarding Significance Thresholds

Lead agencies have the discretion to set or apply their own thresholds of significance. However, the criteria for determining the significance of transportation impacts should promote:

- Reduction of GHG emissions
- Development of multimodal transportation networks
- A diversity of land uses

Given that the City had not yet adopted VMT thresholds at the time the project's VMT analysis was prepared, the OPR Technical Advisory was used for the project's VMT analysis:

- Residential Projects: A project exceeding a level of 15% below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as Regional VMT per capita or as City VMT per capita.

Thus, for this analysis, the minimum threshold of significance for determination of the project's transportation impact is 15% or less of the Regional VMT per capita. Any project whose VMT per capita is 15% or more below the Regional mean is presumed to be less than significant. This approach is consistent with the approved TSG.

VMT Analysis

Local Agency Transition to SB743

In June 2020, the City of Chula Vista adopted their TSG to comply with Senate Bill 743, which replaced LOS with VMT as the metric for determining the significance of a project's transportation impacts under CEQA.

Since the VMT analysis for the project was prepared prior to formal adoption of the City's TSG, LLG consulted with City staff and was instructed to utilize OPR guidance from the Technical Advisory and San Diego ITE Regional Guidelines to develop significance thresholds and technical methodologies for the project.

Significance Criteria

Guidance from OPR's Technical Advisory is used to establish a significance threshold of a minimum 15% reduction or more from the Regional average VMT per capita for this residential evaluation. That means that if the project's VMT per capita is more than 15% below the regional average, no significant transportation impact would result. This approach is consistent with the approved TSG.

Map-Based Screening

Prior to any detailed project-specific VMT analysis, OPR allows for the use of a "map-based screening" (screening map) to identify if a project would result in a less-than-significant impact. The City's screening map which has been developed for their VMT guidelines was utilized for the project. This map provides VMT per capita evaluation for locations throughout the City, and accounts for surrounding land uses, population density, and transportation infrastructure in accordance with OPR guidelines. These elements collectively shape mobility behavior and provide a strong indication of expected project VMT. In general, higher density and mix of land uses with access to mobility options are expected to generate lower VMT.

Screening Map Results

The City's VMT Screening Tool allows for a search by address of properties within the City. The data presented in the screening map include the following:

- Census tract
- VMT per capita
- Percent of regional mean
- Residents
- Description of VMT results

The VMT Screening Tool shows the project location, the City boundaries, and the TPAs and HQTCs identified within the City. The data represented on the VMT Screening Tool follows the OPR guidance and displays VMT efficient areas that are 85% or less of the SANDAG regional average. The data shown is based on the SANDAG Series 13 Activity Based Model #1 (ABM1) for the base year of the model 2012. As shown in the results of the VMT Screening Tool provided in the TIA, the project site is not fully located within a HQTC or TPA. A small portion of the project site is within 0.5 miles of a High-Quality Transit Corridor. The City has determined the project not to be eligible for map-based screening given that the site is only partially enclosed by a transit buffer.

5.15.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to transportation is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
B. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
C. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
D. Result in inadequate emergency access.

5.15.3 Impacts

A. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The General Plan Land Use and Transportation Element contains objectives and policies that support transit (Objective LUT 17), encourage alternative transportation measures (Objectives LUT 18 and LUT 23), encourage regional transportation coordination (Objective LUT 19), develop transit-friendly roads (Objective LUT 20), support parking management policies (Objectives LUT 30 through LUT 33), and ensure pedestrian-oriented environments (Objective LUT 63).

The project would propose a high density residential use located in close proximity to major streets such as Olympic Parkway, Brandywine Avenue, Heritage Road and the I-805 freeway. Future residents of the project would have access to a Class 2 bike lane and sidewalks and the Chula Vista Regional Trail adjacent to the project site along Olympic Parkway. As discussed in Section 5.15.1, Existing Conditions, there are also nearby Class 2 bike lanes along Brandywine Avenue (beginning at Telegraph Canyon Road and ending at Main Street) and Heritage Road (beginning at Telegraph Canyon Road and ending at Main Street). Residents would have access to sidewalks/Chula Vista Regional Trails along Olympic Parkway as well as Heritage Road. Located adjacent to the project site at the intersection of Olympic Parkway and Brandywine Avenue are four signalized crosswalks with ramps on each corner. The surrounding area is served by transit provided by the San Diego MTS. While there are no bus routes that travel directly along Olympic Parkway adjacent to the project site, transit connection for route 704 is provided at the transit stop on Brandywine Avenue located approximately 250-feet east of the project site. Thus, the future residents of the project would have access to major roadways, freeways, transit, and bicycle and pedestrian facilities. As such, the project would be consistent with the City's Land Use and Transportation Element.

Additionally, the project would be consistent with the GDP, which has a principle objective to create an efficient, self-contained village. One of the primary objectives of the GDP is to provide a safe, convenient, and efficient local circulation system which maximizes access between residential areas and community facilities while minimizing travel distance and reliance on the automobile.

As part of the TIA, a project-specific Local Mobility Analysis (LMA) was prepared that focuses on automobile delay/LOS. The LOS analysis was conducted to identify roadway deficiencies in the project study area (refer to Appendix K for further details) and recommend project improvements to address such deficiency. The LMA was

prepared for existing plus project conditions, near-term without project conditions, near-term with project conditions, and year 2035 conditions. The City's goal for acceptable levels of service is generally LOS D or better at signalized and unsignalized intersections and LOS C along roadway segments (City of Chula Vista 2005). The LMA is a City requirement for transportation analysis that is not tied to CEQA; therefore implementation of measures to address LOS-related effects does not constitute CEQA mitigation.

The TIA determined that the project would result in effects associated with unacceptable LOS under the General Plan LOS standards. While Olympic Parkway is built-out and the provision of additional lanes is considered physically infeasible, it is recommended that payment of the City's Transportation Development Impact Fee (TDIF) should be applied towards other planned network enhancements included in the Eastern TDIF program that would reduce traffic on Olympic Parkway and be implemented as a condition of approval for the project outside of this EIR. In addition, it is recommended that the project provide a fair share contribution toward the provision of Adaptive Traffic Signal Control (ATSC) modules to each signalized intersection along the Olympic Parkway corridor between the I-805 Ramps and La Media Road (refer to Appendix K for further details). These TDIF and other requirements associated with LOS deficiencies would be included as part of the project's conditions of approval, outside of this EIR.

Therefore, impacts associated with the project conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, would be **less than significant**.

B. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

As discussed in Section 5.15.1 the City was still in the process of developing their guidelines for VMT evaluation at the time the project's VMT analysis was prepared. Therefore, an interim approach and methodology was developed in coordination with City staff. Thus, for this analysis, the minimum threshold of significance for determination of the project's transportation impact is 15% or less of the City VMT per capita. Any project whose VMT per capita is 15% or more below the regional mean is presumed to be less than significant. As shown in Table 5.15-1, the results of the project VMT comparison indicate that the project would exceed the significance threshold by 1.4%. This would require a reduction of 1.4% or more to reduce the VMT impact to less than significant. This approach is consistent with the City's TSG, which is now approved.

To calculate the VMT per capita for the baseline and the project, the SANDAG Series 13 Year 2020 TDM was used. The model generates a land use-specific average trip length (residential) as well as an average daily volume, which ultimately calculates the total residential VMT per capita, region-wide and for the project. The SANDAG Series 13 Year 2020 TDM results are included in Appendix K. Table 5.15-1 summarizes the Regional average baseline VMT results provided by SANDAG using the Series 13 model. As seen in Table 5.15-1, the Regional average baseline VMT per capita is 16.4 miles per resident. For the purpose of determining the significance of VMT impacts, the project VMT per capita would need to be 85% below the Regional average, which equates to 13.9 VMT per capita. Similar to the Regional average baseline calculations, the project VMT per capita was determined. However, since the project site is currently zoned for industrial use, is coded as such in the SANDAG model, and it is difficult to accurately override the zoned land uses, a proxy site located just a few hundred feet north of the project site with ~~similar~~ residential land use characteristics ~~(i.e. single family residential dwelling units)~~ was used to determine the expected VMT per resident. The proxy site contains single family residential units and does not have direct access to Olympic Parkway. In addition, per the *SANDAG Trip Generation Brief Guide*, single-family and multi-family residential units have the same trip lengths, therefore, the difference in unit type between the proxy site and the project site is not relevant to the VMT analysis. The proxy site does not have direct access to Olympic Parkway, which results in longer trip lengths (and therefore greater VMT) as compared to the project site. Lastly, the Office of Planning and Research (OPR) and SANDAG do not differentiate VMT between multi-family and single-family land

uses. Therefore, the VMT analysis using this proxy site is a conservative approach. The proxy site is Traffic Analysis Zone (TAZ) 4728, which is located immediately north of the project site on Olympic Parkway. As shown in Table 5.15-1, the project average VMT per capita for TAZ 4728 is calculated at 14.1 VMT per resident.

Table 5.15-1. Project VMT Analysis

VMT per Resident					
Geography	*Residents*	*Total Trips*	*Person Miles of Travel*	*Vehicle Miles of Travel*	*VMT per Resident*
San Diego Region	3,435,715	12,302,411	77,559,665	56,353,219	16.4
			Significance threshold (85% of regional average VMT)		*13.9*
Proxy for Project Site [a]	2,053	7,173	41,393	28,780	14.1
				Exceeds Threshold?	**Yes**

Source: SANDAG 2020.
Note: VMT = vehicle miles traveled.
[a] Since the project site is currently zoned for industrial use, and is coded as such in the SANDAG model, a proxy site in the vicinity with similar characteristics was used to determine the expected VMT per resident. The proxy site is Traffic Analysis Zone (TAZ) 4728), and is located immediately north of the project site on Olympic Parkway.

The results of the project VMT comparison indicate that the project (i.e. proxy site) would exceed the significance threshold by 1.4%. This would require a reduction of 1.4% or more to reduce the VMT to below the significance threshold. Several quantifiable transportation demand management strategies can be used to reduce a project's VMT impacts. Transportation demand management strategies can be quantified using methodologies described in Quantifying Greenhouse Gas Mitigation Measures published by the California Air Pollution Control Officers' Association (CAPCOA) (2010). The transportation demand management measures identified in the CAPCOA document that would potentially lessen residential project impacts are grouped into five categories:

- Land Use and Location
- Neighborhood and Site Enhancement
- Parking Policy and Pricing
- Commute Trip Reduction Programs
- Transit System Improvements

While many of the CAPCOA measures were considered applicable to the project, the following Land Use and Location series measure, was selected to reduce the project's VMT impact:

LUT-1: Increase Density. Designing the project with increased densities, where allowed by the General Plan and/or Zoning Ordinance reduce GHG emissions associated with traffic in several ways. Density is usually measured in terms of persons, jobs, or dwelling units per unit area. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose.

This measure is applicable to the project because the project proposes development of 718 multi-family residential dwelling units with a density of 16.3 units per acre, whereas the calculated VMT per resident of 14.1 as shown in Table 5.15-1, is based on a proxy site where the residential dwelling units are exclusively single family. Thus, the project proposes a high-density residential use which in turn provides greater options for mode of travel and could reduce VMT. Table 5.15-2 summarizes the results of the project's VMT generation within the incorporation of the LUT-1: Increase Density measure.

Table 5.15-2. Project VMT Results with Implementation of Series Measures

Series Measure	Range of Effectiveness	DU/Acre Trip	Resulting VMT Reduction	Project VMT to be Reduced	Impact Avoided?
LUT-1	0.8 – 30.0 %	16.3	8.0%	1.4%	Yes

Source: Appendix K
Notes: Results are based on methodology from Quantifying Green House Gas Mitigation Measures (CAPCOA 2010)
PDF = project design feature; DU = dwelling unit; VMT = vehicle miles traveled

As shown in Table 5.15-2, based on the project's density of 16.3 units per acre, the VMT reduction would be 8%, when compared to the proxy site. Therefore, implementation of series measure LUT-1, as part of project design, would avoid the project's 1.4% VMT impact.

In addition, the following trip strategies identified within the TIA would be implemented as Project Design Features **(PDF) TRA-1** (see Section 4.4.8, Project Design Features, for full text of this PDF) and as conditions of approval, with implementation required once the project is at 50% occupancy.

These strategies, outlined below, would further reduce the number of automobile trips generated by residents of the project and the distance that the residents drive.

- Provide ride share coordination services through the project's homeowner's association to match residents interested in carpooling.
- Coordinate with nearby schools and/or the project's homeowner's association to match residents interested in carpooling to/from schools.
- Provide on-site transit opportunities information.
- Encourage bicycling by providing on-site bicycle infrastructure such as bike racks.

Therefore, with implementation of the aforementioned CAPCOA measure and **PDF-TRA-1**, impacts would be **less than significant.**

C. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

As discussed in the TIA (Appendix K), two signalized points of access to the site are planned from Olympic Parkway, in the locations designated in the SPA Plan. Peak Hour signal warrant analyses based on the warrants contained in Chapter 4C, "Traffic Control Signal Needs Studies," of the 2014 California Manual on Uniform Traffic Control Devices, Revision 5, were conducted for the project's proposed driveways to ensure signalization is warranted (Caltrans 2014). The TIA determined that both driveways meet the Peak Hour signal warrant and are calculated to operate acceptably at LOS C or better. The TIA includes recommended and the proposed design includes lane configurations that ensure intersections operate efficiently. Additionally, the project includes a circulation network that would serve the project site and surrounding uses. Direct access to the project site would be provided by two proposed public streets, Street "A" and Street "B" (Streets A and B). Street A would extend south from Olympic Parkway, through the project site, and curve to the east to connect with Street B. Street B would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figure 4-6, Illustrative Concept Plan, and Figure 4-9, Vehicular Circulation Plan). In addition to the proposed Streets A and B, various private streets and drives are proposed throughout the proposed development area of the project site. Two types of private streets are proposed throughout the project site and

would be composed of two 12-foot-wide travel lanes, 5-foot-wide sidewalks, and 5.5-foot-wide landscaped parkways on both sides. Private residential streets with parking would also be planned throughout the project site and would be designed to include two 12-foot-wide travel lanes, 8-foot-wide parallel or 18-foot-wide perpendicular parking lanes, a contiguous sidewalk on one side, and a 5-foot-wide landscaped parkway on the opposite side. The design of both these street sections, shown on Figure 4-12, Private Residential Street Sections, will be implemented on the site plan, may be refined during final engineering and shall be subject to City approval.

Therefore, the project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) and impacts would be **less than significant**.

D. Result in inadequate emergency access.

The project may result in a temporary increase in traffic on roadways surrounding the project site due to increased truck loads or the transport of construction equipment to and from the project site during the construction period. All construction activities including staging would occur in accordance with City requirements (such as CVMC Chapter 12.12, which prohibits street obstructions), which would ensure that adequate emergency access be provided during construction of the project (CVMC 2020). Additionally, because the project site is included in the GDP as a planned community, it is incorporated into the City's existing emergency disaster programs, including all fire and emergency services and mutual aid agreements. Emergency response to the project site would be serviced by the City of Chula Vista Fire Department, Police Department, and other responsible agencies. Furthermore, the City is part of the San Diego County Emergency Operations Plan (SDCEOP; County of San Diego 2018), which includes a detailed evacuation response plan in the event of an emergency. As stated in the SDCEOP, major ground transportation corridors shall be used as primary evacuation routes in the event of an emergency. As such, Olympic Parkway would be the closest evacuation route to the project site. As previously stated, all construction activities including staging would occur in accordance with City requirements, which would ensure that adequate emergency access would be provided during construction of the project. Thus, construction of the project is not anticipated to interfere with an adopted emergency response plan or evacuation plan, nor would it substantially impede public access or roadway circulation.

Upon completion of construction, direct access to the project site would be provided by two proposed public streets, Street A and Street B. Street A would extend south from Olympic Parkway, through the project site, and curve to the east to connect with Street B. Street B would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figures 4-6 and 4-9). As previously mentioned, Olympic Parkway, located adjacent to the project site, would be the closest evacuation route to the project site in the event of an emergency. Additionally, the proposed driveways and roadways providing access to the project site would comply with the requirements of the Chula Vista Fire Code (including 2019 Fire Code and 2018 Urban–Wildland Interface Code), and would be reviewed and approved by the Chula Vista Fire Department. Furthermore, all on-site roads would be constructed to current Fire Codes and City of Chula Vista or County of San Diego Standards for public and private roads, including minimum 24-foot-wide, unobstructed road widths.

Therefore, the project would not result in inadequate emergency access; impacts would be **less than significant**.

5.15.4 Level of Significance Prior to Mitigation

Impacts related to transportation would be **less than significant.**

5.15.5 Mitigation Measures

No mitigation measures would be required.

5.15.6 Level of Significance After Mitigation

No mitigation measures would be required. Impacts related to transportation would be **less than significant**.

Using Models to Estimate VMT

Travel demand models, sketch models, spreadsheet models, research, and data can all be used to calculate and estimate VMT. To the extent possible, lead agencies should choose models that have sensitivity to features of the project that affect VMT. Those tools and resources can also assist in establishing thresholds of significance and estimating VMT reduction attributable to mitigation measures and project alternatives.

Vehicle Types

Vehicle Miles Traveled refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation.

Residential Projects

Residential project VMT is evaluated in terms of VMT per capita, with project results compared to established VMT thresholds to determine significance of project impacts.

Transit Priority Areas

Any project that includes in its geographic bounds a portion of an existing or planned Transit Priority Area (TPA) (i.e., the project is within 0.5 miles of an existing or planned major transit stop or an existing stop along a high-quality transit corridor) may employ VMT as its primary metric of transportation impact for the entire project. A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Recommendations Regarding Significance Thresholds

Lead agencies have the discretion to set or apply their own thresholds of significance. However, the criteria for determining the significance of transportation impacts should promote:

- Reduction of GHG emissions
- Development of multimodal transportation networks
- A diversity of land uses

Given that the City had not yet adopted VMT thresholds at the time the project's VMT analysis was prepared, the OPR Technical Advisory was used for the project's VMT analysis:

- Residential Projects: A project exceeding a level of 15% below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as Regional VMT per capita or as City VMT per capita.

Thus, for this analysis, the minimum threshold of significance for determination of the project's transportation impact is 15% or less of the Regional VMT per capita. Any project whose VMT per capita is 15% or more below the Regional mean is presumed to be less than significant. This approach is consistent with the approved TSG.

VMT Analysis

Local Agency Transition to SB743

In June 2020, the City of Chula Vista adopted their TSG to comply with Senate Bill 743, which replaced LOS with VMT as the metric for determining the significance of a project's transportation impacts under CEQA.

Since the VMT analysis for the project was prepared prior to formal adoption of the City's TSG, LLG consulted with City staff and was instructed to utilize OPR guidance from the Technical Advisory and San Diego ITE Regional Guidelines to develop significance thresholds and technical methodologies for the project.

Significance Criteria

Guidance from OPR's Technical Advisory is used to establish a significance threshold of a minimum 15% reduction or more from the Regional average VMT per capita for this residential evaluation. That means that if the project's VMT per capita is more than 15% below the regional average, no significant transportation impact would result. This approach is consistent with the approved TSG.

Map-Based Screening

Prior to any detailed project-specific VMT analysis, OPR allows for the use of a "map-based screening" (screening map) to identify if a project would result in a less-than-significant impact. The City's screening map which has been developed for their VMT guidelines was utilized for the project. This map provides VMT per capita evaluation for locations throughout the City, and accounts for surrounding land uses, population density, and transportation infrastructure in accordance with OPR guidelines. These elements collectively shape mobility behavior and provide a strong indication of expected project VMT. In general, higher density and mix of land uses with access to mobility options are expected to generate lower VMT.

Screening Map Results

The City's VMT Screening Tool allows for a search by address of properties within the City. The data presented in the screening map include the following:

- Census tract
- VMT per capita
- Percent of regional mean
- Residents
- Description of VMT results

The VMT Screening Tool shows the project location, the City boundaries, and the TPAs and HQTCs identified within the City. The data represented on the VMT Screening Tool follows the OPR guidance and displays VMT efficient areas that are 85% or less of the SANDAG regional average. The data shown is based on the SANDAG Series 13 Activity Based Model #1 (ABM1) for the base year of the model 2012. As shown in the results of the VMT Screening Tool provided in the TIA, the project site is not fully located within a HQTC or TPA. A small portion of the project site is within 0.5 miles of a High-Quality Transit Corridor. The City has determined the project not to be eligible for map-based screening given that the site is only partially enclosed by a transit buffer.

5.15.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to transportation is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
B. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
C. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
D. Result in inadequate emergency access.

5.15.3 Impacts

A. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The General Plan Land Use and Transportation Element contains objectives and policies that support transit (Objective LUT 17), encourage alternative transportation measures (Objectives LUT 18 and LUT 23), encourage regional transportation coordination (Objective LUT 19), develop transit-friendly roads (Objective LUT 20), support parking management policies (Objectives LUT 30 through LUT 33), and ensure pedestrian-oriented environments (Objective LUT 63).

The project would propose a high density residential use located in close proximity to major streets such as Olympic Parkway, Brandywine Avenue, Heritage Road and the I-805 freeway. Future residents of the project would have access to a Class 2 bike lane and sidewalks and the Chula Vista Regional Trail adjacent to the project site along Olympic Parkway. As discussed in Section 5.15.1, Existing Conditions, there are also nearby Class 2 bike lanes along Brandywine Avenue (beginning at Telegraph Canyon Road and ending at Main Street) and Heritage Road (beginning at Telegraph Canyon Road and ending at Main Street). Residents would have access to sidewalks/Chula Vista Regional Trails along Olympic Parkway as well as Heritage Road. Located adjacent to the project site at the intersection of Olympic Parkway and Brandywine Avenue are four signalized crosswalks with ramps on each corner. The surrounding area is served by transit provided by the San Diego MTS. While there are no bus routes that travel directly along Olympic Parkway adjacent to the project site, transit connection for route 704 is provided at the transit stop on Brandywine Avenue located approximately 250-feet east of the project site. Thus, the future residents of the project would have access to major roadways, freeways, transit, and bicycle and pedestrian facilities. As such, the project would be consistent with the City's Land Use and Transportation Element.

Additionally, the project would be consistent with the GDP, which has a principle objective to create an efficient, self-contained village. One of the primary objectives of the GDP is to provide a safe, convenient, and efficient local circulation system which maximizes access between residential areas and community facilities while minimizing travel distance and reliance on the automobile.

As part of the TIA, a project-specific Local Mobility Analysis (LMA) was prepared that focuses on automobile delay/LOS. The LOS analysis was conducted to identify roadway deficiencies in the project study area (refer to Appendix K for further details) and recommend project improvements to address such deficiency. The LMA was

prepared for existing plus project conditions, near-term without project conditions, near-term with project conditions, and year 2035 conditions. The City's goal for acceptable levels of service is generally LOS D or better at signalized and unsignalized intersections and LOS C along roadway segments (City of Chula Vista 2005). The LMA is a City requirement for transportation analysis that is not tied to CEQA; therefore implementation of measures to address LOS-related effects does not constitute CEQA mitigation.

The TIA determined that the project would result in effects associated with unacceptable LOS under the General Plan LOS standards. While Olympic Parkway is built-out and the provision of additional lanes is considered physically infeasible, it is recommended that payment of the City's Transportation Development Impact Fee (TDIF) should be applied towards other planned network enhancements included in the Eastern TDIF program that would reduce traffic on Olympic Parkway and be implemented as a condition of approval for the project outside of this EIR. In addition, it is recommended that the project provide a fair share contribution toward the provision of Adaptive Traffic Signal Control (ATSC) modules to each signalized intersection along the Olympic Parkway corridor between the I-805 Ramps and La Media Road (refer to Appendix K for further details). These TDIF and other requirements associated with LOS deficiencies would be included as part of the project's conditions of approval, outside of this EIR.

Therefore, impacts associated with the project conflicting with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, would be **less than significant**.

B. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

As discussed in Section 5.15.1 the City was still in the process of developing their guidelines for VMT evaluation at the time the project's VMT analysis was prepared. Therefore, an interim approach and methodology was developed in coordination with City staff. Thus, for this analysis, the minimum threshold of significance for determination of the project's transportation impact is 15% or less of the City VMT per capita. Any project whose VMT per capita is 15% or more below the regional mean is presumed to be less than significant. As shown in Table 5.15-1, the results of the project VMT comparison indicate that the project would exceed the significance threshold by 1.4%. This would require a reduction of 1.4% or more to reduce the VMT impact to less than significant. This approach is consistent with the City's TSG, which is now approved.

To calculate the VMT per capita for the baseline and the project, the SANDAG Series 13 Year 2020 TDM was used. The model generates a land use-specific average trip length (residential) as well as an average daily volume, which ultimately calculates the total residential VMT per capita, region-wide and for the project. The SANDAG Series 13 Year 2020 TDM results are included in Appendix K. Table 5.15-1 summarizes the Regional average baseline VMT results provided by SANDAG using the Series 13 model. As seen in Table 5.15-1, the Regional average baseline VMT per capita is 16.4 miles per resident. For the purpose of determining the significance of VMT impacts, the project VMT per capita would need to be 85% below the Regional average, which equates to 13.9 VMT per capita. Similar to the Regional average baseline calculations, the project VMT per capita was determined. However, since the project site is currently zoned for industrial use, is coded as such in the SANDAG model, and it is difficult to accurately override the zoned land uses, a proxy site located just a few hundred feet north of the project site with ~~similar~~ residential land use characteristics ~~(i.e. single family residential dwelling units)~~ was used to determine the expected VMT per resident. The proxy site contains single family residential units and does not have direct access to Olympic Parkway. In addition, per the *SANDAG Trip Generation Brief Guide*, single-family and multi-family residential units have the same trip lengths, therefore, the difference in unit type between the proxy site and the project site is not relevant to the VMT analysis. The proxy site does not have direct access to Olympic Parkway, which results in longer trip lengths (and therefore greater VMT) as compared to the project site. Lastly, the Office of Planning and Research (OPR) and SANDAG do not differentiate VMT between multi-family and single-family land

uses. Therefore, the VMT analysis using this proxy site is a conservative approach. The proxy site is Traffic Analysis Zone (TAZ) 4728, which is located immediately north of the project site on Olympic Parkway. As shown in Table 5.15-1, the project average VMT per capita for TAZ 4728 is calculated at 14.1 VMT per resident.

Table 5.15-1. Project VMT Analysis

VMT per Resident					
Geography	*Residents*	*Total Trips*	*Person Miles of Travel*	*Vehicle Miles of Travel*	*VMT per Resident*
San Diego Region	3,435,715	12,302,411	77,559,665	56,353,219	16.4
			Significance threshold (85% of regional average VMT)		*13.9*
Proxy for Project Site [a]	2,053	7,173	41,393	28,780	14.1
				Exceeds Threshold?	**Yes**

Source: SANDAG 2020.
Note: VMT = vehicle miles traveled.
[a] Since the project site is currently zoned for industrial use, and is coded as such in the SANDAG model, a proxy site in the vicinity with similar characteristics was used to determine the expected VMT per resident. The proxy site is Traffic Analysis Zone (TAZ) 4728), and is located immediately north of the project site on Olympic Parkway.

The results of the project VMT comparison indicate that the project (i.e. proxy site) would exceed the significance threshold by 1.4%. This would require a reduction of 1.4% or more to reduce the VMT to below the significance threshold. Several quantifiable transportation demand management strategies can be used to reduce a project's VMT impacts. Transportation demand management strategies can be quantified using methodologies described in Quantifying Greenhouse Gas Mitigation Measures published by the California Air Pollution Control Officers' Association (CAPCOA) (2010). The transportation demand management measures identified in the CAPCOA document that would potentially lessen residential project impacts are grouped into five categories:

- Land Use and Location
- Neighborhood and Site Enhancement
- Parking Policy and Pricing
- Commute Trip Reduction Programs
- Transit System Improvements

While many of the CAPCOA measures were considered applicable to the project, the following Land Use and Location series measure, was selected to reduce the project's VMT impact:

LUT-1: Increase Density. Designing the project with increased densities, where allowed by the General Plan and/or Zoning Ordinance reduce GHG emissions associated with traffic in several ways. Density is usually measured in terms of persons, jobs, or dwelling units per unit area. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose.

This measure is applicable to the project because the project proposes development of 718 multi-family residential dwelling units with a density of 16.3 units per acre, whereas the calculated VMT per resident of 14.1 as shown in Table 5.15-1, is based on a proxy site where the residential dwelling units are exclusively single family. Thus, the project proposes a high-density residential use which in turn provides greater options for mode of travel and could reduce VMT. Table 5.15-2 summarizes the results of the project's VMT generation within the incorporation of the LUT-1: Increase Density measure.

Table 5.15-2. Project VMT Results with Implementation of Series Measures

Series Measure	Range of Effectiveness	DU/Acre Trip	Resulting VMT Reduction	Project VMT to be Reduced	Impact Avoided?
LUT-1	0.8 – 30.0 %	16.3	8.0%	1.4%	Yes

Source: Appendix K
Notes: Results are based on methodology from Quantifying Green House Gas Mitigation Measures (CAPCOA 2010)
PDF = project design feature; DU = dwelling unit; VMT = vehicle miles traveled

As shown in Table 5.15-2, based on the project's density of 16.3 units per acre, the VMT reduction would be 8%, when compared to the proxy site. Therefore, implementation of series measure LUT-1, as part of project design, would avoid the project's 1.4% VMT impact.

In addition, the following trip strategies identified within the TIA would be implemented as Project Design Features **(PDF) TRA-1** (see Section 4.4.8, Project Design Features, for full text of this PDF) and as conditions of approval, with implementation required once the project is at 50% occupancy.

These strategies, outlined below, would further reduce the number of automobile trips generated by residents of the project and the distance that the residents drive.

- Provide ride share coordination services through the project's homeowner's association to match residents interested in carpooling.
- Coordinate with nearby schools and/or the project's homeowner's association to match residents interested in carpooling to/from schools.
- Provide on-site transit opportunities information.
- Encourage bicycling by providing on-site bicycle infrastructure such as bike racks.

Therefore, with implementation of the aforementioned CAPCOA measure and **PDF-TRA-1**, impacts would be **less than significant.**

C. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

As discussed in the TIA (Appendix K), two signalized points of access to the site are planned from Olympic Parkway, in the locations designated in the SPA Plan. Peak Hour signal warrant analyses based on the warrants contained in Chapter 4C, "Traffic Control Signal Needs Studies," of the 2014 California Manual on Uniform Traffic Control Devices, Revision 5, were conducted for the project's proposed driveways to ensure signalization is warranted (Caltrans 2014). The TIA determined that both driveways meet the Peak Hour signal warrant and are calculated to operate acceptably at LOS C or better. The TIA includes recommended and the proposed design includes lane configurations that ensure intersections operate efficiently. Additionally, the project includes a circulation network that would serve the project site and surrounding uses. Direct access to the project site would be provided by two proposed public streets, Street "A" and Street "B" (Streets A and B). Street A would extend south from Olympic Parkway, through the project site, and curve to the east to connect with Street B. Street B would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figure 4-6, Illustrative Concept Plan, and Figure 4-9, Vehicular Circulation Plan). In addition to the proposed Streets A and B, various private streets and drives are proposed throughout the proposed development area of the project site. Two types of private streets are proposed throughout the project site and

would be composed of two 12-foot-wide travel lanes, 5-foot-wide sidewalks, and 5.5-foot-wide landscaped parkways on both sides. Private residential streets with parking would also be planned throughout the project site and would be designed to include two 12-foot-wide travel lanes, 8-foot-wide parallel or 18-foot-wide perpendicular parking lanes, a contiguous sidewalk on one side, and a 5-foot-wide landscaped parkway on the opposite side. The design of both these street sections, shown on Figure 4-12, Private Residential Street Sections, will be implemented on the site plan, may be refined during final engineering and shall be subject to City approval.

Therefore, the project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) and impacts would be **less than significant**.

D. Result in inadequate emergency access.

The project may result in a temporary increase in traffic on roadways surrounding the project site due to increased truck loads or the transport of construction equipment to and from the project site during the construction period. All construction activities including staging would occur in accordance with City requirements (such as CVMC Chapter 12.12, which prohibits street obstructions), which would ensure that adequate emergency access be provided during construction of the project (CVMC 2020). Additionally, because the project site is included in the GDP as a planned community, it is incorporated into the City's existing emergency disaster programs, including all fire and emergency services and mutual aid agreements. Emergency response to the project site would be serviced by the City of Chula Vista Fire Department, Police Department, and other responsible agencies. Furthermore, the City is part of the San Diego County Emergency Operations Plan (SDCEOP; County of San Diego 2018), which includes a detailed evacuation response plan in the event of an emergency. As stated in the SDCEOP, major ground transportation corridors shall be used as primary evacuation routes in the event of an emergency. As such, Olympic Parkway would be the closest evacuation route to the project site. As previously stated, all construction activities including staging would occur in accordance with City requirements, which would ensure that adequate emergency access would be provided during construction of the project. Thus, construction of the project is not anticipated to interfere with an adopted emergency response plan or evacuation plan, nor would it substantially impede public access or roadway circulation.

Upon completion of construction, direct access to the project site would be provided by two proposed public streets, Street A and Street B. Street A would extend south from Olympic Parkway, through the project site, and curve to the east to connect with Street B. Street B would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figures 4-6 and 4-9). As previously mentioned, Olympic Parkway, located adjacent to the project site, would be the closest evacuation route to the project site in the event of an emergency. Additionally, the proposed driveways and roadways providing access to the project site would comply with the requirements of the Chula Vista Fire Code (including 2019 Fire Code and 2018 Urban–Wildland Interface Code), and would be reviewed and approved by the Chula Vista Fire Department. Furthermore, all on-site roads would be constructed to current Fire Codes and City of Chula Vista or County of San Diego Standards for public and private roads, including minimum 24-foot-wide, unobstructed road widths.

Therefore, the project would not result in inadequate emergency access; impacts would be **less than significant**.

5.15.4 Level of Significance Prior to Mitigation

Impacts related to transportation would be **less than significant.**

5.15.5 Mitigation Measures

No mitigation measures would be required.

5.15.6 Level of Significance After Mitigation

No mitigation measures would be required. Impacts related to transportation would be **less than significant**.

5.16 Utilities and Service Systems

This section of the environmental impact report (EIR) describes the existing setting related to utilities and service systems that would serve the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project) and evaluates potential impacts to utilities and service systems due to the implementation of the proposed project.

The discussion is below is based on the following studies:

- Appendix I1 - Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP), prepared by Hunsaker & Associates.
- Appendix I2 - Drainage Study for Sunbow II, Phase 3 (TM), prepared by Hunsaker & Associates.
- Appendix L1 - Overview of Water Service for Sunbow II, Phase 3, prepared by Dexter Wilson Engineering.
- Appendix L2 – Water Supply Assessment, prepared by Otay Water District.
- Appendix L3 – Water Conservation Plan, prepared by Dexter Wilson.
- Appendix L4 Sewer System Evaluation for Sunbow II, Phase 3, prepared by Dexter Wilson Engineering.

5.16.1 Existing Conditions

5.16.1.1 Regulatory Framework

Federal

Integrated Waste Management Act of 1989 (AB 341)

The Integrated Waste Management Act of 1989 requires each city, county, and regional agency to develop a source reduction and recycling element of an integrated waste management plan that includes source reduction, recycling, and composting components. A minimum of a 50% diversion rate of all solid waste from landfill disposal or transformation by January 1, 2000 was required and met. The current policy goal of the state is no less than 75% of solid waste generated be source reduced, recycled, or composted by the year 2020.

State

Urban Water Management Planning Act

In 1983, the Legislature enacted the Urban Water Management Planning Act (UWMP Act; California Water Code, Sections 10610–10656), which requires specified urban water suppliers within the state to prepare an Urban Water Management Plan (UWMP) and update it every 5 years. State and local agencies and the public frequently use UWMPs to determine if agencies are planning adequately to reliably meet water demands in various service areas. As such, UWMPs serve as an important element in documenting water supply availability and reliability for purposes of compliance with state laws, Senate Bills 610 and 221, which link water supply sufficiency to large land-use development project approvals. Urban water suppliers also must prepare UWMPs, pursuant to the UWMP Act, to be eligible for state funding and drought assistance.

The UWMP provides information on water usage, water supply sources, and water reliability planning within a specified water agency service area. It also may provide implementation schedules to meet projected demands over the planning horizon; a description of opportunities for new development of desalinated water; groundwater information (where groundwater is identified as an existing or planned water source); description of water quality over the planning horizon; and identification of water management tools that maximize local resources and minimize imported water supplies. Additionally, the UWMP evaluates the reliability of water supplies within the specified service area. This includes a water supply reliability assessment, water shortage contingency plan, and development of a plan in case of an interruption of water supplies.

The Metropolitan Water District (MWD), San Diego County Water Authority (SDCWA), and the Otay Water District (OWD) all play a role in supplying water to the proposed project. All of these agencies have prepared and updated UWMPs in accordance with the UWMP Act.

Senate Bills 610 and 221

On January 1, 2002, Senate Bill 610 took effect. Senate Bill 610, which was codified in the Water Code beginning with Section 10910, requires the preparation of a water supply assessment for projects within cities and counties that propose to construct 500 or more residential units or the equivalent. Senate Bill 610 stipulates that when environmental review of certain development projects is required, the water agency that is to serve the development must complete the water supply assessment to evaluate water supplies that are or will be available during normal, single-dry, and multiple-dry years during a 20-year projection to meet existing and planned future demands, including the demand associated with a proposed project.

Senate Bill 221, enacted in 2001 and codified in the Water Code, requires a city, county, or local agency to include a condition to any tentative subdivision map that a sufficient water supply shall be available to serve the subdivision. The term "sufficient water supply" is defined as the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that would meet the proposed subdivision project's projected water demand, in addition to existing and planned future water uses, including agricultural and industrial uses, within the specified service area. Senate Bill 221 further requires any verification of "projected" water supplies to be based on entitlement contracts, capital outlay programs and regulatory permits and approvals.

Memorandum of Understanding Regarding Urban Water Conservation in California

The OWD is signatory to the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council in 1991 in an effort to reduce California's long-term water demands. Water conservation programs are developed and implemented to reduce the demand on available supply, which is vital to the optimal utilization of a region's water supply resources.

As one of the first signatories to the MOU, OWD has made implementation of best management practices (BMPs) for water conservation the cornerstone of its conservation programs and a key element in its water resource management strategy. As a member of the SDCWA, OWD also benefits from regional programs performed on behalf of its member agencies. The BMPs implemented by OWD and the regional BMPs implemented by SDCWA are addressed in the OWD 2015 UWMP (OWD 2016).

As a signatory to the MOU, OWD is required to submit biannual reports that detail the implementation of current water conservation practices. The OWD voluntarily agreed to implement the fourteen water conservation BMPs beginning in 1992. The OWD submits its report to the California Urban Water Conservation Council every 2 years, and the OWD BMP reports are included in the OWD 2015 UWMP (OWD 2016).

Title 14: Natural Resources – Division 7

Title 14 of the California Code of Regulations regarding Natural Resources sets minimum standards for solid waste handling and disposal, including specific regulations regarding waste tire storage and disposal, hazardous waste disposal facilities, construction and demolition and inert debris transfer/processing, construction and demolition waste and inert debris disposal, transfer/processing operations and facilities, siting and design, operation standards, record keeping, and additional operating requirements for facilities. Additional guidance and requirements for compostable materials handling operations and facilities, asbestos handling and disposal, resource conservation programs, farm and ranch solid waste cleanup and abatement, used oil recycling program, electronic waste recovery and recycling, solid waste cleanup among others are also addressed in Title 14.

Title 27: Environmental Protection – Division 2, Solid Waste

Title 27 of the California Code of Regulations regarding Environmental Protection and Solid Waste set the criteria for all waste management units, facilities, and disposal sites including regulations of the California Integrated Waste Management Board (CIWMB) and State Water Resources Control Board (SWRCB). Waste classification, siting, construction standards, water quality monitoring and response programs, operating criteria, daily and immediate cover, handling and equipment, controls, gas monitoring and control, closure and post-closure standards, and financial assurances are all aspects covered in Title 27.

Assembly Bill 939 and Assembly Bill 341

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, which oversees 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% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% 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 has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020.

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% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since 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 has 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.

Local

Urban Water Management Plans

The UWMP Act requires that each urban water supplier providing water for municipal purposes, either to more than 3,000 customers, or more than 3,000 AF of water annually, must prepare, adopt, and update a UWMP at least once every 5 years on or before December 31, in years ending in five and zero. This applies to MWD, SDCWA, and its member agencies, including OWD, that serve unincorporated San Diego County. The intent of an UWMP is to present information on water supply, water usage/demand, recycled water, and water use efficiency programs in a respective water district's service area. The UWMP also serves as a valuable resource for planners and policy makers over a 25-year time frame.

The UWMP process ensures that water supplies are being planned to meet future growth. UWMPs are developed to manage the uncertainties and variability of multiple supply sources and demands over the long term. Water agencies and districts update their demand and supply estimates based on the most recent San Diego Association of Governments (SANDAG) forecast approximately every 5 years to coincide with preparation of their UWMPs. The most current supply and demand projections are contained in the 2015 UWMPs of MWD, SDCWA, and OWD (MWD 2016a; OWD 2016; SDCWA 2016). SDCWA member districts rely on the UWMPs and Integrated Resources Plans (IRPs) of MWD (MWD 2016b) and the Regional Water Facilities Master Plan of SDCWA to document supplies available to meet projected demands.

Normal year, single-dry year, and multiple-dry year 2015 UWMP supply and demand assessments for MWD, SDCWA, and OWD are intended to describe the water supply reliability and vulnerability to seasonal or climatic conditions. Normal water years are considered to be years that experience average rainfall for the respective district. Single-dry water years are considered 1-year drought events. Multiple-dry water years refer to a series of below average rainfall for particular areas (i.e., multiple drought year conditions). Projections for multiple-dry years are made in 5-year increments.

In the 2015 UWMPs, MWD, SDCWA, and all SDCWA member agencies, including OWD, that serve unincorporated San Diego County have determined that adequate water supplies would be available to serve existing service areas under normal year, single dry year, and multiple dry year conditions through the year 2040.

City of Chula Vista General Plan

The Chula Vista General Plan recognizes that, in order to ensure adequate water service, water supplies and facilities need to be maintained and expanded in response to the City's projected population growth. The General Plan includes objectives and policies in the Public Facilities and Services Element that require development to plan for careful use of natural and man-made resources and services, and maximize opportunities for conservation while minimizing waste (Objective LUT 62); and increase efficiencies in water use through use of alternative technologies (Objective PFS 2). Additionally, the Housing Element includes Objective H 2 to promote efficient use of water through adopted standards and incentive-based policies to conserve limited resources and reduce long-term operational costs of housing. Growth Management Objective GM 1 and Policy GM 1.11 provide for withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for water service (City of Chula Vista 2005).

In addition, the City of Chula Vista General Plan recognizes that to ensure adequate and reliable sewer service and facilities, services need to be maintained and expanded to accommodate growth in the City's population. The Chula

Vista General Plan includes objectives and policies in the Public Facilities and Services Element that increase efficiencies in wastewater generation and its reuse through use of alternative technologies (Objective PFS 2). Additionally, Growth Management Objective GM 1 and Policy GM 1.11 provide for withholding discretionary approvals and subsequent building permits from projects that are not in compliance with applicable threshold standards for wastewater service (City of Chula Vista 2005).

In 2005, the City of Chula Vista updated its General Plan and certified the related EIR for the General Plan Update (GPU). In 2013, the City certified a Supplemental EIR (City of Chula Vista 2012a), and approved a General Plan Amendment/General Development Plan Amendment (GPA/GDPA). The GPA/GDPA Supplemental EIR (City of Chula Vista 2012a) assessed, at the General Plan level, water demands and long-term water supply availability and reliability. The City concluded that a long-term water supply could not be guaranteed; and, therefore, increases in water demand projected in the General Plan and later Amendment would result in a significant unavoidable impact.

The result of the City's findings is that large-scale proposed development projects within the City must conduct a project-level water supply/demand analysis, accompanied by the required SB 610/SB 221 water supply assessment/verification. Based on this project-level water supply/demand analysis and associated project EIR, the City will then reassess its General Plan-level water supply findings and determinations based on the record before it.

The 2005 Chula Vista General Plan recognizes that the Otay Landfill is anticipated to reach capacity within the next 15 years (2020), requiring closure of the facility (refer to the analysis below regarding specific landfill capacity information). The General Plan forecasts that the future solid waste disposal needs of the City may require the creation of a regional transfer station, where solid waste from individual collection routes would be transferred into large trucks for disposal (City of Chula Vista 2005). As such, the policies are regional in nature and do not specifically address individual developments.

Chula Vista Landscape Water Conservation Ordinance

In response to the new State Water Conservation in Landscaping Act (Assembly Bill 1881), which required cities and counties to adopt landscape water conservation ordinances by January 1, 2010, the City of Chula adopted the Landscape Water Conservation Ordinance (CVMC, Section 20.12) in 2009 and was updated in 2015. This ordinance requires that the majority of new or rehabilitated landscapes be designed using a water budget, to help encourage outdoor water conservation. As a part of the City's permitting process, some projects will be required to complete either a Landscape Documentation Package or a WaterSmart Checklist. In general, the Landscape Documentation Package will be prepared for larger projects that involve installing or changing an existing landscape, while the WaterSmart Checklist is designed for smaller projects. The size of the "landscape area" will determine which of these documents will be required. The landscape area is measured in square feet, and it is an area with outdoor plants, turf and other vegetation that uses water, including any water features either in an area with vegetation or that stand alone (CVMC, Section 20.12).

Otay Water District Growth Management Oversight Commission

Both the Otay Water District and Sweetwater Authority reported that, despite the State of California's water conservation mandates between June 1, 2015 and February 13, 2016, Chula Vista's water supply is in good shape because customers have been exceeding water conservation goals for several years, in preparation for the drought. (Note: Water Conservation Plans required by Chula Vista's "Growth Management" ordinance for all SPA Plans, Tentative Maps, and major development projects have also had a positive effect on water conservation in the City.)

The OWD's supply and storage capacity for both potable water and non-potable water exceeds current demands and the demand projected by December 2020 and June 2024 (City of Chula Vista 2020). Similarly, the Sweetwater Authority supply and storage capacity for potable water would exceed the current demand and the demand projected by December 2020 and June 2024 (City of Chula Vista 2020).

City of Chula Vista Growth Management Program

The Chula Vista Growth Management Program goal for water supply is to ensure that adequate supplies of quality water (appropriate for intended uses) are available to Chula Vista. The Growth Management Program has two objectives regarding water supply and distribution (City of Chula Vista 2020).

1. Adequate water supply must be available to serve new development. Therefore, developers shall provide the City with a service availability letter form the appropriate water district for each project.
2. The City shall annually provide the San Diego County Water Authority, the Sweetwater Authority and the Otay Municipal Water District with the City's annual 5-year residential growth forecast and request that they provide an evaluation of their ability to accommodate forecasted growth. Replies should address the following:
    a. Water availability to the City, considering both short- and long-term perspectives.
    b. Identify current and projected demand, and the amount of current capacity, including storage capacity, now used or committed.
    c. Ability of current and projected facilities to absorb forecasted growth.
    d. Evaluation of funding and site availability for projected new facilities.

City of Chula Vista Wastewater Master Plan

The City of Chula Vista Wastewater Collection System Master Plan (City of Chula Vista 2014) provides a comprehensive review and evaluation of the City of Chula Vista's wastewater collection, conveyance, and treatment capacity requirements under the existing (2012) and ultimate (2050) conditions. Based on findings of the evaluation, the City's Wastewater Collection System Master Plan recommends facility improvements and financing alternatives to ensure that aging infrastructure remains serviceable and to allow for the continued build out of the General Plan. Currently, wastewater generation within the City of Chula Vista is collected by City-owned facilities and conveyed to connections to the City of San Diego's Metropolitan Wastewater Department (METRO) conveyance and treatment facilities for treatment and disposal. As of 2014, the City's capacity at METRO is 20.864 mgd. Future City flow projections based on current growth projections indicate that this capacity may be exceeded within the next 10-15 years. As such, the wastewater generation analysis presented in the Wastewater Master Plan is intended to be used by the City to establish a basis for acquiring future METRO treatment capacity to allow for implementation of the Chula Vista General Plan, as adopted in 2005 and amended in 2012. The City's sewage capacity was not exceeded in 2015 and the 2019 GMOC Annual Report concluded the City would not exceed its sewage capacity until 2027 (City of Chula Vista 2020).

Chula Vista Municipal Code

Chula Vista Municipal Code, Section 19.09.040G, requires "that sewage flows and volumes shall not exceed City engineering standards as set forth in the subdivision manual." In addition, the City must annually provide Metro with a 12- to 18-month development forecast and request confirmation that the projection is within the City's purchased capacity rights and an evaluation of Metro's ability to accommodate the forecast and continuing growth.

Construction and Demolition Debris Recycling Ordinance

Effective July 1, 2008, construction and demolition projects are required to divert their debris from landfill disposal in the City of Chula Vista; 100% of inert materials (i.e., concrete, rock, landscape debris) and a minimum of 50% of all other materials (i.e., Cabinets, carpet, drywall, etc.) shall be recycled and or reused from certain 'covered' projects. Covered projects are those with an approved Waste Management Report and submitted performance deposit. The Construction and Demolition Debris (C&DD) Recycling Ordinance (CVMC Section 8.25.095) is designed as a means of achieving compliance with California Green Building Standards Code (Title 24, Part II, Sections 4.408 and 5.408).

5.16.1.2 Existing Conditions

Water

Water service to the proposed project would be provided by Otay Water District (OWD) (City of Chula Vista 2005). OWD purchases water from San Diego County Water Authority (SDCWA), which in turn imports water from the Metropolitan Water District (MWD). According to Appendix L1, the OWD has existing and planned facilities in the vicinity of the project site and water service can be provided by expanding the existing system. The proposed project water service would be provided by the 624 Pressure Zone (624 Zone) within the Central Area System of the OWD. The 624 Zone is fed from the SDCWA aqueduct connections that supply 624 Zone Reservoirs. The existing and projected water supply and demand for each agency are described below and are based on approved planning documents.

Regional and Local Water Supply

Metropolitan Water District (MWD)

The MWD supplies water to approximately 18.7 million people to a 5,200 square mil eservice area that includes portions of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego countries. SDCWA is one of the MWD's 26 member agencies.

To supply the more than 300 cities and unincorporated areas in Southern California with reliable and safe water, Metropolitan owns and operates an extensive water system, including the Colorado River Aqueduct, 16 hydroelectric facilities, nine reservoirs, 819 miles of large-scale pipes and five water treatment plants. It also helps its member agencies develop water recycling, storage and other local resource programs to provide additional supplies and conservation programs to reduce regional demands. Metropolitan currently delivers an average of 1.5 billion gallons of water per day to a 5,200-square-mile service area (MWD 2016a).

MWD gets its water from two sources. The first source is the Colorado River, which is connected to MWD's six-county service area through a 242-mile aqueduct. The aqueduct system is known as the Central Valley Project (CVP). The CVP is operated by the U.S. Bureau of Reclamation. The second source is water from northern California, which supplies water through a series of dams, aqueducts, pipelines, and other facilities known as the State Water Project (SWP). The SWP is operated by the California Department of Water Resources (DWR). From the Colorado River Agreement (CRA), MWD is apportioned 550,000 acre-feet of water per year (AFY) from the Colorado River. Despite this low apportionment, MWD was able to transport up to 1.2 million acre-feet (MAF) through the CRA in past years by relying on unused apportionments from Arizona, Nevada, and California agricultural agencies. However, because MWD's firm water supply from CRA is only 550,00 AF that is the number planning agencies must rely on for development. To supplement this supply, MWD also has several existing programs and additional programs are being developed in cooperation with other agencies.

From SWP, MWD is contractually entitled to receive 1,911,000 AF of water; however, the level of SWP supply development, state and federal environmental regulations, and other factors have restricted and, in some cases, reduced the actual amount of available SWP water. As a result of these and other limitations, MWD estimated that actual SWP supplies will be 701,000 AF in a dry year and 566,000 AF during multiple dry years, with Delta improvements.

In May 2016, the MWD adopted its 2015 Regional UWMP, which is an update to its prior 2010 Regional UWMP. In its 2015 UWMP, MWD evaluated water supply reliability, over a 20-year period, for average, single-dry, and multiple-dry years. To complete its most recent water supply reliability assessment, MWD developed estimates of total retail demands for the region factoring in the impacts of conservation. After estimating demands, the water reliability analysis identified current supplies and supplies under development to meet projected demands. MWD's reliability assessment showed that MWD can maintain reliable water supplies to meet projected demands through the year 2040. MWD also identified buffer supplies, including other SWP groundwater storage and transfers, which could serve to supply additional water needs.

Imported Supplies

Colorado River: The Colorado River was MWD's original source of water after MWD's establishment in 1928. MWD has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. The CRA, which has a capacity of 1.2 MAF a year, is owned and operated by MWD. It transports water from Lake Havasu, at the border of the state of California and Arizona, approximately 242 miles to its terminus at Lake Mathews in Riverside County. Over the years, Metropolitan increased reliable supply from the CRA through programs that it helped fund and implement including: farm and irrigation district conservation programs, improved reservoir system operations, land management programs, and water transfers and exchanges through arrangements with agricultural water districts in southern California, San Diego County Water Authority, and entities in Arizona and Nevada that use Colorado River water, and the U.S. Department of the Interior, Bureau of Reclamation (USBR) (MWD 2016a).

State Water Project (SWP): MWD imports water from the SWP, owned by the state of California and operated by the California DWR. The SWP transports Feather River water stored in and released from Oroville Dam and conveyed through the Bay-Delta, as well as unregulated flows diverted directly from the Bay-Delta south via the California Aqueduct to four delivery points near the northern and eastern boundaries of MWD's service area (MWD 2016a).

In 1960, MWD signed a contract with the California DWR for SWP water supplies. MWD is one of 29 agencies that have long-term contracts for water service from the California DWR, and is the largest agency in terms of the number of people it serves (nearly 19 million), the share of SWP water that it has contracted to receive (approximately 46%), and the percentage of total annual payments made to DWR by agencies with State water contracts (approximately 53% in 2015) (MWD 2016a).

Local Supplies

Approximately 50% of the region's water supplies come from resources controlled or operated by local water agencies. These resources include water extracted from local groundwater basins, catchment of local surface water, non-MWD imported water supplied through the Los Angeles Aqueduct, and Colorado River water exchanged for MWD supplies (MWD 2016a).

Groundwater

The groundwater basins that underlie the region provide nearly 35% of the water supply in Southern California. The major groundwater basins provide an annual average supply of approximately 1.35 MAF. Natural recharge of the groundwater basins is supplemented by active recharge of captured stormwater, recycled water, and imported water to support this level of annual production (MWD 2016a).

Estimates indicate that available storage space in the region's groundwater basins in mid-2015 is approximately 4.8 MAF. Successive dry years have resulted in groundwater depletions that will need to be replaced with natural recharge during wet years and active spreading of captured stormwater, recycled water, and imported water. Groundwater basin managers and water suppliers have taken steps to store water in advance of dry years to soften the potential impact on groundwater aquifers and to maintain reliable local water supplies during dry years (MWD 2016a).

Recycling, Groundwater Recovery, and Seawater Desalination

Recycling and groundwater recovery are local resources that add balance to Southern California's diverse water portfolio. In addition to replenishing groundwater basins described above, water recycling provides extensive treated wastewater for applicable municipal and industrial uses. Common uses of recycled water include landscape irrigation, agricultural irrigation, and commercial and industrial applications. Groundwater recovery employs additional treatment techniques to effectively use degraded groundwater supplies that were previously not considered viable due to high salinity or other contamination (MWD 2016a).

While water recycling and groundwater recovery projects in the Southern California region are primarily developed by local water agencies, many newer projects have been developed with financial incentives provided through Metropolitan's Local Resources Program (LRP). The LRP is a performance-based program that provides incentives to expand water recycling and support recovery of degraded groundwater. In 2015, the regional water production from water recycling and groundwater recovery totaled approximately 530 trillion acre feet (TAF), of which 244 TAF was developed with MWD funding assistance (MWD 2016a).

Seawater desalination represents a significant opportunity to diversify the region's water resource mix with a new, locally controlled, reliable potable supply. MWD supports seawater desalination to its member agencies by providing technical assistance, regional facilitation of research and information exchanges, and financial incentives through the LRP.

San Diego County Water Authority (SDCWA)

The SDCWA service area covers approximately 951,000 acres and encompasses the western third of San Diego County. SDCWA has 24 member agencies, 15 of which provide water to unincorporated areas of San Diego County. SDCWA is responsible for ensuring a safe and reliable water supply to support the region's economy and quality of life for over 3 million residents. SDCWA's 24 member agencies purchase water from the SDCWA for retail distribution within their service territories. A 36-member Board of Directors consisting of member agency representatives governs the Water Authority. The member agencies' 6 cities, 5 water districts, 8 municipal water districts, 3 irrigation districts, a public utility district, and a federal military reservation have diverse and varying water needs. In terms of land area, the City of San Diego is the largest member agency with 210,726 acres. The smallest is the City of Del Mar, with 1,159 acres. Some member agencies, such as the cities of National City and Del Mar, use water almost entirely for municipal and industrial purposes. Others, including Valley Center, Rainbow, and Yuima Municipal Water Districts, deliver water that is used mostly for agricultural production (SDCWA 2016).

The SDCWA is one of 26 member agencies of Metropolitan. The SDCWA is MWD's largest member agency in terms of purchases. Because of the County's semi-arid climate and limited local water supplies, SDCWA has historically imported between 70 and 95 % of the water used in the San Diego region from MWD. In 2008, MWD provided 71 % of the San Diego region's water supply. Most of this water is obtained from the Colorado River and the SWP through a system of pipes, aqueducts, and associated facilities. Through development of new local water supply sources such as the Carlsbad Desalination Plant, SDCWA has become increasingly less reliant on MWD water supplies in recent years. To reduce its dependency on MWD and diversify its supplies, the SDCWA in recent years has undertaken several initiatives, including the following (SDCWA 2016):

- **Carlsbad Seawater Desalination Water Purchase Agreement:** To further help diversify regional supplies, the SDCWA has entered into a Water Purchase Agreement under which it agrees to purchase up to 56,000 acre-feet/year (AFY) of desalinated water from the plant in the City of Carlsbad, operated by an affiliate of Poseidon Resources Inc. The plant began operation in December 2015.
- **Imperial Irrigation District Transfer:** The SDCWA signed a Water Conservation and Transfer Agreement with the Imperial Irrigation District in 1998. Through the transfer agreement, the SDCWA is purchasing water from the Imperial Irrigation District at volumes that will gradually increase year to year, reaching 200,000 acre-feet/year in 2021. The water is physically delivered to San Diego via Metropolitan's Colorado River Aqueduct.
- **All-American and Coachella Canal Lining Conserved Water**: In 2003, as part of the execution of the Quantification Settlement Agreement on the Colorado River, the SDCWA was assigned rights to 77,700 acre-feet/year of conserved water from the All-American and Coachella Canals. As with the Imperial Irrigation District transfer water, the water is physically delivered to San Diego via MWD's Colorado River Aqueduct.
- **Water Transfer and Banking Programs:** The SDCWA has entered into water transfer and water banking arrangements with Central Valley area agricultural agencies and groundwater storage interests. These projects are designed to make additional water available to the SDCWA during dry-year supply shortages from MWD.

In June 2016, the SDCWA adopted its 2015 UWMP, updating the previously adopted 2010 UWMP. Sections 4, 5, and 6 of SDCWA's 2015 UMWP contain documentation of SDCWA's existing and planned water supplies, including MWD supplies (imported Colorado River water and SWP water), SDCWA supplies, and local member agency supplies (surface water reservoirs, water recycling, groundwater, and groundwater recovery). SDCWA supplies include (1) IID water transfer supplies, (2) Supplies from conservation projects to line the All-American Canal and the Coachella Canal, located in Imperial and Coachella Valleys, and (3) development of a seawater desalination facility at Encina Power Plant in Carlsbad, which is anticipated to produce 56,000 AFY of additional water supplies (see Table 5.16-1).

Table 5.16-1. Projected Normal Year Water Supplies (AFY)

Water Source	2020	2025	2030	2035	2040
Water Authority Supplies					
IID Water Transfer	190,000	200,000	200,000	200,000	200,000
Supply from MWD	136,002	181,840	207,413	224,863	248,565
Coachella Canal and All American Canal Lining Projects	80,200	80,200	80,200	80,200	80,200
Regional Seawater Desalination	50,000	50,000	50,000	50,000	50,000
Member Agency Supplies					
Surface Water	51,580	51,480	51,380	51,280	51,180
Water Recycling	40,459	43,674	45,758	46,118	46,858

Table 5.16-1. Projected Normal Year Water Supplies (AFY)

Water Source	2020	2025	2030	2035	2040
Groundwater	17,940	19,130	20,170	20,170	20,170
Seawater Desalination	6,000	6,000	6,000	6,000	6,000
Brackish Groundwater Recovery	12,100	12,500	12,500	12,500	12,500
Total Projected Supplies	**587,581**	**648,124**	**676,721**	**676,721**	**718,778**

Source: Appendix L1.

Section 9 of the SDCWA's 2015 UMWP evaluates water supply reliability in average, single-dry and multiple-dry years. Based on SDCWA's water supply reliability assessment, SDCWA concluded that water supplies would be sufficient through 2040 (see Table 5.16-2 and Table 5.16-3).

Based on the imported and member agency local water sources discussed above, SDCWA estimated that it, along with member agency local sources will be able to supply 587,581 AF of water in 2020, as demonstrated in Table 5.16-2, Table 5.16-3, and Table 5.16-4. The reason that supplies exactly met demands in Table 5.16-2 is that SDCWA only imports that amount of water necessary to meet demand. In Tables 5.16-3 and Table 5.16-4, years that show a deficit would require the use of water storage offsets and management actions to balance demand and supplies. These tables indicate that SDCWA has adequate supply to meet projected demands.

Table 5.16-2. Average/Normal Water Year Supply and Demand Assessment (AFY)

Water Source	2020	2025	2030	2035	2040
Member Agency Supplies					
Surface Water	51,580	51,480	51,380	51,280	51,180
Water Recycling	40,459	43,674	45,758	46,188	46,858
Groundwater	17,940	19,130	20,170	20,170	20,170
Brackish Groundwater Recovery	12,100	12,500	12,500	12,500	12,500
Seawater Desalination	6,000	6,000	6,000	6,000	6,000
Potable Reuse	3,300	3,300	3,300	3,300	3,300
Water Authority Supplies					
IID Water Transfer	190,000	200,000	200,000	200,000	200,000
Supply from MWD	136,002	181,840	207,413	224,863	248,565
Coachella Canal and All American Canal Lining Projects	80,200	80,200	80,200	80,200	80,200
Carlsbad Desalination Plant	50,000	50,000	50,000	50,000	50,000
Total Projected Supplies	**587,581**	**648,124**	**676,721**	**694,431**	**718,773**
Total Estimated Demands	**587,581**	**648,124**	**676,721**	**694,431**	**718,773**
Difference	*0*	*0*	*0*	*0*	*0*

Source: Appendix L4.

Table 5.16-3. Single Dry Water Year Supply and Demand Assessment (AFY)

Water Source	2020	2025	2030	2035	2040
Member Agency Supplies					
Surface Water	6,004	6,004	6,004	6,004	6,004
Water Recycling	40,459	43,674	45,758	46,188	46,858
Groundwater	15,281	15,281	15,281	15,281	15,281
Brackish Groundwater Recovery	12,100	12,500	12,500	12,500	12,500
Seawater Desalination	6,000	6,000	6,000	6,000	6,000
Potable Reuse	3,300	3,300	3,300	3,300	3,300
Water Authority Supplies					
IID Water Transfer	190,000	200,000	200,000	200,000	200,000
Supply from MWD	263,340	264,740	263,340	260,680	258,720
Coachella Canal and All American Canal Lining Projects	80,200	80,200	80,200	80,200	80,200
Carlsbad Desalination Plant	50,000	50,000	50,000	50,000	50,000
Total Projected Supplies	**666,684**	**681,699**	**682,383**	**680,083**	**678,863**
Total Estimated Demands	**629,198**	**694,147**	**725,006**	**743,990**	**770,765**
Difference	*37,486*	*(12,448)*	*(42,623)*	*(63,907)*	*(91,902)*

Source: Appendix L1.

Table 5.16-4. Multiple Dry Water Year Supply and Demand Assessment (AFY)

	Near Term			Long Term		
Scenario	*2017*	*2018*	*2019*	*2036*	*2037*	*2038*
Multiple Dry Years						
Demands	491,000	495,910	500,869	749,030	756,521	764,086
Supply	525,710	558,634	586,587	720,579	678,564	642,327
Potential Surplus or (Shortage)[1]	*34,710*	*62,724*	*85,718*	*(28,454)*	*(77,957)*	*(121,759)*

Source: Appendix L1.

1 Potential shortages would be offset through carryover storage and management actions.

Otay Water District (OWD)

Otay Water District is located in the southern half of San Diego County and was created in 1956. The OWD joined the SDCWA as a member agency in the same year. The SDCWA is the agency responsible for the supply of imported water into the San Diego County through its membership in MWD (OWD 2016).

The OWD is a California special district authorized under the provisions of the Municipal Water District Law of 1911 and is revenue neutral, i.e., each end user pays their fair share of costs for capital improvements, water acquisition, and the operation and maintenance of facilities. Its elected Board of Directors sets the OWD ordinances, policies, taxes, and rates for providing wastewater, potable water, and recycled water services. The OWD's water service area is generally located within the south central portion of San Diego County and includes approximately 126 square miles. The topography of the service area is diverse, consisting of a variety of valleys, hills, mountains, mesas, lakes and rivers. The service area includes both urban and rural development. The major transportation arteries serving the area include State Highway 94

in the north, Interstate 805 in the southwest and the newly constructed State Route 125 to the east. Interstate 905 and State Highway 11 are in the process of being constructed in the Otay Mesa area (OWD 2016).

Once water is made available by SDCWA, it is transferred across San Diego County in two aqueducts containing five large-diameter pipelines. The first Aqueduct includes Pipelines 1 and 2, and the second Aqueduct includes Pipelines 3, 4 and 5. The OWD maintains several connections to Pipeline 4, which delivers filtered water from the MWD filtration plant at Lake Skinner in Riverside County.

In San Diego County, OWD provides water services to southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern Chula Vista, and Otay Mesa along the international border with Mexico. OWD covers approximately 80,000 acres and has approximately 47,000 connections. OWD has approximately 709 miles of pipelines, 24 pump stations, and 40 reservoirs with a total storage capacity of 226 million gallons (MG). OWD provides approximately 90 % of its water service to residential land uses, and 10 % to commercial and industrial land uses. Average annual consumption for OWD is approximately 30,000 AF. OWD maintains five major systems to supply and deliver water, which include Hillsdale, Regulatory, La Presa, Central, and Otay Mesa.

In addition, OWD's Flow Control Facility No. 14 and the Jamacha Road Pipeline delivers filtered water from the R.M. Levy Water Treatment Plant which is owned and operated by the Helix Water District. However, this connection currently supplies water to the north portion of OWD only. Furthermore, OWD maintains a connection to the City of San Diego's water system in Telegraph Canyon Road and has an agreement which allows the District to receive water from the Lower Otay Filtration Plant.

In June 2016, OWD's Board of Directors adopted the updated OWD 2015 UWMP. Sections 2, 3 and 4 of the 2015 UWMP provides an overview of OWD's service area, its current water supply sources, supply reliability, water demands, measures to reduce water demand, and planned water supply projects and programs. Section 5 of the 2015 UWMP contains OWD's water service reliability assessment. This section states that the level of reliability is based on the documentation in the UWMP's prepared by MWD and SDCWA and that these agencies have determined they will be able to meet potable water demands through 2040, during normal and dry year conditions. According to the 2015 UMWP, OWD currently relies on MWD and SDCWA for its potable supply, and OWD has worked with these agencies to prepare consistent demand projections for OWD's service area.

The OWD's service area has experienced growth in the past five years, and the service area population is expected to be approximately 285,340 people by 2040. The OWD serves a wide spectrum of communities including southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern City of Chula Vista, East Lake, Otay Ranch and Otay Mesa areas. The water purveyors that border the District include Padre Dam Municipal Water District (Padre Dam MWD) on the north, Helix WD on the northwest, and the Sweetwater Authority, and the City of San Diego on the west. The southern boundary of the OWD is the international border with Mexico (OWD 2016).

The projected supply and demand comparison for normal year, single dry year, and multiple dry year scenarios are summarized in Table 5.16-5. OWD's potable water supply is expected to be adequately supplied by SDCWA during normal year scenarios and single dry year scenarios. Water demand is anticipated to increase in dry years. In the multiple dry year scenario where shortages may take place, the SDCWA would utilize its carryover storage supply capacity during dry years. In years where shortages may still occur, after utilization of the carryover storage, additional regional shortage management measures, consistent with the SDCWA's Water Storage and Drought Response Plan, would be taken to fill the supply shortfall (OWD 2016). Additionally, implementation of conservation measures, anticipated increase in potable water supplies, and anticipated increased recycled water supply would help to alleviate potential shortages.

Table 5.16-5. Otay Water District Projected Water Supply and Demand

Year-Type	2020	2025	2030	2035	2040
Water Supply[1]					
Normal Year	45,748	51,883	54,540	55,455	62,792
Single Dry Year	45,748	56,213	61,125	63,932	75,087
Multiple Dry Year: 1st Year	46,346	52,239	54,832	56,138	n/a
Multiple Dry Year: 2nd Year	48,769	54,469	57,290	58,714	n/a
Multiple Dry Year 3rd Year	51,823	57,467	58,024	57,153	n/a
Water Demand[3]					
Normal Year	45,748	51,883	54,540	55,455	62,792
Single Dry Year	45,748	56,213	61,125	63,932	75,087
Multiple Dry Year: 1st Year	46,346	52,239	54,832	56,138	n/a
Multiple Dry Year: 2nd Year	48,769	54,469	57,290	58,714	n/a
Multiple Dry Year 3rd Year	51,823	57,467	60,142	62,086	n/a
Difference					
Normal Year	0	0	0	0	0
Single Dry Year	0	0	0	0	0
Multiple Dry Year: 1st Year	0	0	0	0	0
Multiple Dry Year: 2nd Year	0	0	0	0	0
Multiple Dry Year 3rd Year	0	0	(2,118)	(4,933)	n/a

Source: OWD 2016.
Notes: Units in acre-feet per year (AFY).
1 SDCWA UWMP analysis shows 100% supply reliability for these conditions so total supplies are set equal to OWD projected demands.
2 OWD demand totals with additional conservation and proportional adjustment for dry year per SDCWA CWA-MAIN model during period of record.
3 Third dry year supply shortages will be addressed through drought management actions.

Additionally, 20 maintenance, replacement, and/or upgrade projects needed to serve the City of Chula Vista are included in the Fiscal Year 2020 through 2015 OWD Capital Improvement Program document (City of Chula Vista 2020). The OWD maintains a per capita demand of 118 gallons per capita per day (gpcd), or approximately 0.13 AFY (OWD 2016).

The OWD would supply water to Sunbow II, Phase 3 project from the 624 Zone of the District's Central Area System. The 624 Zone accesses water from the SDCWA aqueduct by Otay Flow Control Facilities Number 10 and 12, which fill 624 Pressure Zone reservoirs. Water is then distributed within the 624 Zone and pumped to the 711 and 980 Zone storage and distribution systems.

To receive potable water service, the Sunbow II, Phase 3 project will need to expand the existing 624 Zone to include the project's water facilities, as discussed in Section 5.16.3 below. The following details the existing potable water facilities located in the vicinity of the project.

There are three existing reservoirs in the 624 Zone, located along the SDCWA aqueduct east of the project. The 624-1 Zone reservoir is located near the SDCWA Otay No. 12 aqueduct connection and has capacity of 12.4 million gallons (MG). The 624-2 Zone reservoir is located north of Otay Lakes Road near the SDCWA Otay No. 10 connection and has a capacity of 8.1 MG. The 624-3 Zone reservoir is located just south of the 624-1 Zone reservoir and has a capacity of 30 MG.

There are major transmission lines from these reservoirs to convey water to the various 624 Zone use areas and to supply 711 Zone and 980 Zone pump stations. In the vicinity of the Sunbow II, Phase 3 project, there are 16-inch transmission lines in Medical Center Drive, Paseo Ladera, and Olympic Parkway.

Recycled Water

The OWD operates and maintains over 93 miles of recycled water transmission and distribution pipelines, pump stations and reservoirs, making it one of the largest recycled water systems in San Diego County. The District's mandatory reuse ordinance, land development conditions, and public outreach has resulted in a OWD's acceptance of recycled water as a viable local water supply for irrigation, especially during recent drought conditions. The OWD continues to successfully serve recycled water to customers within its central service area, south of the Sweetwater Reservoir and west of the Otay Lakes Reservoirs. The majority of the area represents the Otay Ranch GPD area within the City of Chula Vista (OWD 2016).

In order to serve the OWD's existing demand for recycled water, the OWD entered into an agreement to purchase recycled water from the City of San Diego's South Bay Water Reclamation Plant (SBWRP). The SBWRP has a rated capacity of 15 mgd and is located at Monument and Dairy Mart Roads near the international border, adjacent to the Tijuana River. The SBWRP receives wastewater flow from the Grove Avenue Pump Station that scalps flow from the existing interceptor system that conveys flow northward to the Point Loma Treatment Plant for treatment and ocean outfall disposal. The existing interceptor system flows are thereby reduced, freeing up additional capacity for future growth in the South Bay region. The SBWRP in essence is a scalping plant and is designed for a relatively constant flow rate depending upon recycled water demands and interceptor capacity limitations.

The OWD has two sources of recycled water supply: Recycled water produced locally at the OWD's Ralph W. Chapman Water Recycling Facility (RWCWRF) and a recycled water supply produced at the City of San Diego's SBWRP. The RWCWRF is located near the intersection of Campo Road/Highway 94 and Singer Lane within the Middle Sweetwater River basin. The agencies that participate in recycled water planning for the OWD's service area are as follows:

- Otay Water District (OWD) – Owns and operates RWCWRF and the recycled water distribution network.
- City of San Diego Metropolitan Wastewater Department (MWWD) – Owns and operates regional interceptors, SBWRP, and Point Loma Wastewater Treatment Plant (WWTP).

The RWCWRF has the ability to produce approximately 1.3 mgd of recycled water meeting Title 22 requirements. The RWCWRF is a scalping treatment facility: wastewater that is not treated by the facility for beneficial reuse continues to flow in the Rancho San Diego Outfall Facilities to the City of San Diego Metropolitan Wastewater System. Some of this wastewater is treated by MWWD at its SBWRP at the secondary level, and the remainder is sent to the Point Loma WWTP for treatment at the advanced primary level and disposed through an ocean outfall. At RWCWRF, tertiary treatment of the 1.3 mgd has the ability to reliably produce approximately 1,100 AFY of recycled water. The RWCWRF provides tertiary treatment that meets the State of California's Title 22 requirements for reuse. Effluent from the plant is pumped to lined and covered reservoirs in the District's property located north of Proctor Valley Road adjacent to the Rolling Hills Ranch Development project.

Table 5.16-6 shows the projected recycled water demand up to 2040.

Table 5.16-6. Projected Recycled Water Demand

	2020	2025	2030	2035	2040
Total (Acre-Feet)	5,670	5,900	6,000	6,200	6,500

Source: OWD 2016.

Sewer/Wastewater

The City maintains and operates sewer facilities that feed into a larger regional system for treatment and disposal. Chula Vista relies on the City of San Diego Metropolitan (Metro) Sewage System for treatment and disposal of the wastewater generated within the project site (City of Chula Vista 2005). The Metro sewer system treats wastewater from the City of San Diego and 15 other cities and districts, including Chula Vista. Flows are conveyed to the Point Loma Wastewater Treatment plant, which has a maximum daily treatment capacity of 240 mgd and currently treats approximately 175 mgd (Metro Wastewater n.d.a.).

The project proposes the development of 718 multi-family residential units and 0.9 acres of Community Purpose Facility (Appendix L4). The sewer generation factor, based on analysis done within the Sewer System Evaluation for Sunbow II, Phase (Appendix L4), was estimated to be 182 gpd/unit for multi-family residential units and 1,313 gpd/ac for Community Purpose Facilities (summarized in Table 5.16-7).

Table 5.16-7. Sewer Generation Factor

Land Use	Generation Factor
Multi-Family Residential Units	182 gpd/unit
Community Purpose Facility	1,313 gpd/ac

Source: Appendix L4.

The City of Chula Vista operates and maintains its own sanitary collection system that connects to the Metro sewerage system for treatment and disposal. The Metro sewerage system treats wastewater from the City of San Diego and 15 other cities and districts, including Chula Vista. The San Diego Metropolitan Sewer Authority regulates the three wastewater treatment plants: (1) Point Loma Wastewater Treatment Plan; (2) Southbay Water Reclamation Plant; and (3) North City Water Reclamation Plant. Currently, the three combined treatment plants have a maximum permitted treatment capacity of 285 mgd of wastewater for the City of San Diego and 15 other participating agencies. All sewer flows from the project will be conveyed to the Poggi Canyon Interceptor Sewer located in Olympic Parkway adjacent to the project site (Appendix L4).

The available capacity in the Poggi Canyon Interceptor was evaluated in the April 2009 Poggi Canyon Basin Gravity Sewer Development Impact Fee (DIF) Update prepared by PMC (Appendix L4). Available capacity in the interceptor has been updated several times in recent years by proposed developments within the Poggi Canyon Basin. All previous studies have been based on industrial land use for the project site.

Since there are planned improvements to the proposed Poggi Canyon Interceptor prior to the full buildout of development, it is necessary to establish the development thresholds at which these improvements will be required. The improvements to critical sections of the Poggi Canyon Interceptor will be funded from the DIF that has been collected from all units that convey flow to the Poggi Canyon Interceptor. The City shall perform flow metering of critical reaches of the Poggi Canyon Interceptor to assist in determining the timing of the work to upsize these critical pipe segments.

Solid Waste

The City of Chula Vista's Public Works Department and Environmental Services Division oversees waste management in the City for residences and businesses in accordance with the goals and policies of the adopted General Plan and State Statues (AB 341). Republic Services (formerly known as Allied Waste Management)

currently serves the City of Chula Vista as the sole solid waste and recycling service provider for residential, commercial and industrial customers. The City disposes of solid waste, yard waste, and C&DD at the Otay Landfill, which is anticipated to close in 2028. The City is currently working on further waste diversion plans, in addition to the C&DD Ordinance to help extend the lifespan of the Otay Landfill; the Sycamore Canyon Landfill will be utilized as the City's primary landfill once the Otay Landfill closes. The mixed debris that are required to be recycled per the C&DD Ordinance are processed at one of two C&D facilities in San Diego: the Otay Landfill run by Republic Services and EDCO's C&D facility in Lemon Grove. Both of these C&D facilities are open to the public, as neighboring cities have similar ordinances and solid waste requirements (City of Chula Vista 2014). In September 12, 2019, the County of San Diego issued a Major Use Permit Minor Deviation, MUP 76-046WM ("2019 MUP") that allowed for the construction and operation of a composting operation, however, restricted such composting activities from being located within 1,000 feet from residential development. The Otay Landfill has requested a CMHF Permit for the composting operation within the active Otay landfill disposal area (230 acres) for processing up to 200 TPD of green waste, food waste, and organic/agriculture waste using a mobile covered aerated composting system (GORE® Covers technology).

In addition, the Environmental Services Division offers bulky item collection, composting, construction and demolition debris, electronic waste, hazardous waste, reuse, sharps waste disposal, special services, universal waste and yard waste programs and services. The City of Chula Vista runs its own household hazardous waste (HHW) program and collection facility to help manage the hazardous waste disposal throughout the City. The hazardous waste disposal facility is part of the City's effort to divert household toxics and hazardous waste from their landfill facilities. Residential composting is encouraged by the City through the availability of composting education and subsidized compost bins. The City is currently working on a food waste pilot program, in efforts to divert up to approximately 25% of the solid waste stream (organics) from their landfills (City of Chula Vista 2014).

Chula Vista's CLEAN business program promotes businesses which implement solid waste reduction measures and practices, as well as energy conservation, water conservation and pollution prevention measures. The City of Chula Vista's Environmental Services Division also manages special events solid waste disposal with the implementation of the Special Events Recycling and Solid Waste Management Plan (City of Chula Vista 2014).

Stormwater Drainage

Existing site drainage patterns includes a 117.3-acre hydrologic catchment primarily consisting of natural grades and hills all covered by native vegetations and shrubs. The site is accessible from Olympic Parkway through two separate bridges crossing Poggi Canyon creek on the north side. The Poggi Canyon creek flows from northeast to southwest and accepts a large amount of storm runoff from surrounding area. It is also downstream of the on-site runoff from both the project site existing and proposed conditions. The local high points are in the southern boundary of the site adjacent to the Otay landfill and make the overall on-site surface flow pattern south to north (Appendix I1).

A small portion of the site in the southwest corner was occupied by a water tank that is serving the nearby residential areas.

Based on the site topography, the existing condition catchment was divided into seven sub catchments. All on-site runoff from the project sub-catchment under design event will flow from south via natural valley to north into Poggi Canyon creek and eventually confluence at the northwest corner of the projects catchment.

Electric Power, Natural Gas. and Telecommunication Facilities

As discussed in Section 4.4.3.4, telephone, cable television, and internet service would be provided by companies such as Cox Communications, Time Warner, and AT&T. Gas and electric services would be provided by San Diego Gas & Electric Company.

5.16.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to utilities and service systems is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). A significant impact would occur if the project would:

A. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects.
B. Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
C. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
D. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
E. Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

5.16.3 Impacts

A. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects.

Proposed utility improvements are described in Section 4.4.3, Public Service and Utilities, of this EIR. These utility improvements are included as a part of the project, and the associated impacts are addressed in this EIR.

Water

Water service will be provided by the Otay Water District (OWD). Water supply requirements specified in the California Fire Code (Section 404 of the Wildland-Urban Interface Code and Appendix B – Fire Flow Requirements for Buildings, Appendix C – Fire Hydrant Locations and Distribution {Chula Vista revisions – Sections 15.36.050 and 15.36.055}) including for hydrants and interior sprinklers will be provided for the proposed project. A water system would be installed in accordance with the standards of the OWD and would be maintained and operated by OWD. One existing OWD waterline and one existing OWD recycled water line are present along Olympic Parkway. The proposed project would receive water by expanding the existing 624 Pressure Zone, located within the Central Area System of OWD, through creating two domestic service connections and two fire service connections transmission lines within ~~Olympic Parkway, directly to the north of Streets A and B~~public streets. In addition, an on-

site loop would be constructed for domestic and fire protection systems and would include a proposed public 12-inch OWD waterline~~, an 8-inch diameter private domestic waterline, an 8-inch diameter private fire protection waterline,~~ and an 8-inch-diameter public OWD recycled water line, to be constructed within Streets A and B, and an 8-inch-diameter private domestic waterline, an 8-inch-diameter private fire protection waterline, and a 6-inch private recycled waterline, to be constructed outside of the public streets. The proposed water and recycled water systems are shown on Figure 4-13. Details regarding the overview of the water service and supply are provided in Appendix L. The final fire flow and duration will be determined during a future review of the water service overview would occur before final approval by the Chula Vista Fire Department.

The development pads on the project will range in elevation from approximately 370 feet to 420 feet. With service provided from the 624 Zone, this will result in maximum static pressure ranging from 88 to 110 psi. The proposed water and recycled water systems are shown on Figure 4-13.

Table 5.16-8 provides the duty factors used in projecting the total average demand for the proposed project.

Table 5.16-8. Water Duty Factors

Land Use Designation	Unit Domestic Demand	Required Fire Flow (gpm)	Required Fire Flow Duration (hours)
Multi-Family (>10 DU/AC)	170 gpd/unit	2,500	2
Park/CPF	1,900 gpd/ac	—	—

Source: Appendix L1.

Table 5.16-9 provides the projected potable water demand for Sunbow II, Phase 3 project. The total estimated average potable water use is 0.12 mgd, or approximately 136.72 AFY. This demand would be supplied from the OWD's 624 Zone. As discussed above, there are three existing reservoirs in the 624 Zone, located along the SDCWA aqueduct east of the project. The 624-1 Zone reservoir is located near the SDCWA Otay No. 12 aqueduct connection and has capacity of 12.4 million gallons (MG). The 624-2 Zone reservoir is located north of Otay Lakes Road near the SDCWA Otay No. 10 connection and has a capacity of 8.1 MG. The 624-3 Zone reservoir is located just south of the 624-1 Zone reservoir and has a capacity of 30 MG. There are major transmission lines from these reservoirs to convey water to the various 624 Zone use areas and to supply 711 Zone and 980 Zone pump stations. In the vicinity of the project, there are 16-inch transmission lines in Medical Center Drive, Paseo Ladera, and Olympic Parkway. This existing OWD water infrastructure has capacity to serve the project.

Table 5.16-9. Sunbow II, Phase 3 Projected Potable Water Demands

Neighborhood	Land Use Designation	Gross Acres	Quantity, Units	Water Duty Factor	Total Average Water Demand, GPD
R-1	MF Residential	8.5	131	170 gpd/unit	22,270
R-2	MF Residential	4.6	73	170 gpd/unit	12,410
R-3	MF Residential	8.1	108	170 gpd/unit	18,360
R-4	MF Residential	8.2	118	170 gpd/unit	20,060
R-5	MF Residential	7.1	104	170 gpd/unit	17,680
R-6	MF Residential	7.6	184	170 gpd/unit	31,280
		Total	**718**	**N/A**	**122,060**

Source: Appendix L1.

The proposed water infrastructure improvements shown on Figure 4-13 and existing OWD infrastructure would serve the project needs and no additional water improvements that would result in environmental impacts would be necessary to serve the project. OWD has a potable water storage capacity of 218.9 million gallons (OWD 2020). As shown in Table 5.16-9, the project would have a potable water demand of 122,060 GPD. Additionally, while the project would provide potable water to residents, recycled water is proposed to be used at all common landscaped areas within the project as well as the irrigated areas of the private open space/CPF. Therefore, impacts would be **less than significant.**

Recycled Water

Recycled water would be used for irrigation of manufactured slopes and common areas. Table 5.16-10 provides the projected recycled water demands for the project. The project's total average demand is 0.024 mgd, or approximately 27.45 AFY. In Table 5.16-6, the City's project recycled water demand increases by 230 AFY from 2020 to 2025, 100 AFY from 2025 to 2030, 200 AFY from 2030 to 2040. The 27.45 AFY projected recycled water demand from the project would be adequately considered within the OWD's projected recycled water demands.

Table 5.16-10. Sunbow II, Phase 3 Projected Recycled Water Demands

Land Use Designation	Quantity	Irrigation Factor	Total Average Demand, GPD
Irrigated Slopes	12 ac	1,900 gpd/ac	22,800
Private Open Space/CPF	0.9 ac	1,900 gpd/ac	1,710
		Total	**24,510**

Source: Appendix L1.

Recycled water is proposed to be used at all common landscaped areas within the project as well as the irrigated areas of the private open space/CPF. There is a 680 Zone recycled water line in Olympic Parkway adjacent to the project site. The project would connect to this line and set a meter(s) such that all on-site irrigation piping will be private outside of public streets. Service from the 680 Zone will result in static pressures of 113 psi and 134 psi in the development areas. Pressures at irrigated slopes will vary from this and the landscape architect will verify the ability to serve all irrigated areas of the project from the 680 Zone.

These improvements would serve the project needs and no additional water improvements that would result in environmental impacts would be necessary to serve the project. Therefore, impacts would be **less than significant.**

Sewer/Wastewater

The proposed on-site sewer system for the project consists of gravity sewer lines that will convey flow to the Poggi Canyon Interceptor in Olympic Parkway. Based on the average flow presented in Table 5.16-11 and a peak factor of 2.33 from the City Subdivision Manual, the projected peak flow for the project is 0.31 mgd. An 8-inch gravity sewer line with a minimum slope of 1.0 % is adequate to convey this total project flow. It is anticipated that an 8-inch public sewer line will be constructed on site to convey flows to the point of connection with the Poggi Canyon Interceptor. Private sewer lines will be connected to this 8-inch public sewer line and extended to the proposed building sewer laterals. The proposed sewer plan is shown on Figure 4-14.

The proposed project would receive sewer service by construction of on-site 8-inch gravity sewer line(s) connecting to the Poggi Canyon Interceptor in Olympic Parkway. The projected flows from the proposed project are slightly lower than were projected in previous Poggi Canyon Basin Studies and, therefore, the proposed project does not require

any new improvements to the Poggi Canyon Interceptor or accelerate any previously identified improvements. Based on flow monitoring by the City, the timing for replacement of the critical reaches would be determined and implemented by the City. The project would fund their fair share of Poggi Canyon Interceptor improvements through the payment of the Poggi DIF (Appendix L4).

Table 5.16-11 provides a comparison between projected sewer flower from the Poggi Development Impact Fee (DIF) study based on the current land use plan with updated sewer generation factors, as analyzed in Appendix L4. The increased sewer flows would be 4,642 gpd, or approximately 5.2 AFY.

Table 5.16-11. Sunbow II, Phase 3 Sewer Flow Summary

Land Use	Acres	Building Units	Generation Factor	Average Flow (gpd)
2009 Poggi Canyon Basin DIF Sewer Flow				
Industrial	54.6[1]	—	2,500 gpd/ac	136,500
Current Proposed Sewer Flow				
Multi-family Residential Units	—	718	182 gpd/unit	130,676
Community Purpose	0.9	—	1,313 gpd/ac	1,182
			Subtotal	*131,858*
			Increased Sewer Flow	**(4,642)**
			Increased Sewer EDUs[2]	**(20)**

Source: Appendix L4.
Notes:
1 From 2009 Poggi Basin DIF Study.
2 Based on 230 gpd/Equivalent Dwelling Units (EDUs).

As discussed earlier, wastewater flows are conveyed to the Point Loma Wastewater Treatment plant, which has a maximum daily treatment capacity of 240 mgd and currently treats approximately 175 mgd (Metro Wastewater n.d.a). The proposed project would result in an increased sewer flow of 4,642 gpd, or 0.0046 mgd, which can be adequately accommodated by the Point Loma Wastewater Treatment plant.

These improvements would serve the project needs and no additional water improvements that would result in environmental impacts would be necessary to serve the project. Therefore, impacts would be **less than significant.**

Stormwater Drainage

Hydrology is also discussed in detail in Section 5.9, Hydrology and Water Quality, of this EIR. The storm drain and storm water quality control facilities are proposed to meet the city requirements. According to Appendix I1, the proposed project would create 10,000 square feet or more of impervious surfaces. Specifically, the total impervious area would be 1,599,328.2 square feet (Appendix I1).

The development of the site will include adding the storm drains, curb inlets, cleanouts along the proposed on-site private roads and parking spaces to collect and convey the storm runoff to the two proposed detention and water quality control basins located at the northeast and northwest part of the development area.

The on-site runoff from the site will be collected by proposed curb inlets and storm drain systems which will convey the stormwater through the on-site Biofiltration and Modular Wetland BMPs for water quality control. The outflow of these BMPs discharges into Poggi Canyon Creek whose ultimate downstream destination is San Diego Bay.

Since the proposed development will increase runoff generated by the project site, the project will use on-site detention facilities to mitigate for the increase in peak flow. As a result, the mitigated Q100 of proposed condition demonstrates 25.07 cfs flow rate reduction compare to that of the existing condition (Appendix I2). Runoff generated by the project will not exceed pre-project peak flow rates, and runoff velocities will be dissipated by rock riprap at storm drain outfalls. Riprap design (per SDRSD D-40) will be provided with hydraulics during the final engineering stage.

Due to the grading of the site, drainage pathways would be altered slightly such that some of the independent small sub-catchments in the center portion of the project site were combined into bigger sub-catchments. However, the designated flow would still be within the capacity of water quality facilities (Appendix I1). Therefore, impacts would be **less than significant**.

Electric Power, Natural Gas and Telecommunication Facilities

Proposed power, natural gas, and telecommunications facilities improvements would include connections to existing service lines located in the adjacent roadways. The project would connect to existing dry utilities. Refer also to Section 5.5, Energy, for a discussion of energy consumption. Therefore, impacts would be **less than significant.**

B. Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

A Water Supply Assessment (WSA) was prepared for the project by OWD at the request of the City and was approved by the OWD Board of Directors on January 6, 2021. The WSA is included with this EIR as Appendix L2. The following analysis is based on the WSA as well as the Otay Water District's (OWD) Urban Water Management Plan (UWMP) (OWD 2016).

The project would construct 718 dwelling units and have an anticipated water usage of 122,060 gallons per day, or approximately 136.72 AFY (Table 5.16-9). This is 84.7 AFY higher than the projected demands in the OWD's 2015 Facilities Master Plan which estimated 52 AFY for 54.7 acres of industrial use. However, the projected 84.7 AFY increase in demand is accounted for through the Accelerated Forecasted Growth demand increment of the SDCWA's 2015 UWMP. Additionally, the project would use recycled water for irrigation of manufactured slopes and common areas. The projected recycled water demand for the project is 24,510 gpd, or about 27.5 AFY (Appendix L2).

As documented in the SDCWA's 2015 UWMP, the SDCWA is planning to meet future and existing water demands which include the demand increment associated with the accelerated forecasted growth. The SDCWA will assist its member agencies in tracking the environmental documents provided by the agencies that include water supply assessments and verifications reports that utilize the accelerated forecasted growth demand increment to demonstrate supplies for the development. In addition, the next update of the demand forecast for the SDCWA's 2020 UWMP will be based on SANDAG's most recently updated forecast, which will include the project. Therefore, based on the findings presented in the WSA, the project would result in no unanticipated water demands (Appendix L2).

As discussed in the WSA, the SDCWA and MWD have an established process that ensures water supplies are planned to meet future growth. The SDCWA and 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 urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment for proposed land developments that are not within the OWD, SDCWA, or MWD jurisdictions or that have revised land use plans with lower or higher land use intensities than reflected in the existing growth forecasts. The OWD, SDCWA, and MWD 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 annexations or revised land use planning decisions. This process would be utilized by the SDCWA and MWD to document the water supplies necessary to serve the demands of the project, along with existing and other projected future users, as well as the actions necessary to develop any required water supplies (Appendix L2).

Additionally, the OWD 2015 UWMP includes a water conservation component to comply with Senate Bill 7 of the Seventh Extraordinary Session (SBX 7-7), 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 requires each urban retail water supplier to develop urban water use targets to help meet the 20 percent reduction goal by 2020 (20x2020), and an interim water reduction target by 2015. OWD adopted Method 1 to set its 2015 interim and 2020 water use targets. Method 1 requires setting the 2020 water use target to 80 percent of baseline per capita water use target as provided in the State's 20x2020 Water Conservation Plan. The OWD 2015 target was 172 gallons per capita per day (gpcd) which it met (2015 actual was 124 gpcd) and the 2020 gpcd target (80 percent of baseline) is 153 gpcd. The OWD recent per capita water use has been declining and current water use meets the 2020 target as calculated using Method 1. The decline in per capita water use was due to drought water use restrictions, increased water costs, and economic conditions. OWD's effective water use awareness campaign and enhanced conservation mentality of its customers has resulted in long-term carryover of these reduced rates (Appendix L2).

The WSA findings show that based on a normal water supply year, the projected potable and recycled water supply is being planned for and is intended to be acquired to meet the estimated water demand targets of the OWD per the OWD 2015 UWMP. Table 5.16-12 presents the forecast balance of water demands and required supplies for the OWD service area under average or normal year conditions.

Table 5.16-12. Projected Balance of Water Demands and Supplies Normal Year Conditions (Acre Feet)

Description	FY 2025	FY 2030	FY 2035	FY 2040
Demands				
OWD Demands	54,771	57,965	59,279	65,913
Active Conservation Savings	(1,844)	(1,585)	(1,538)	(1,587)
Accelerated Forecast Growth (AFG) – Planning Area 12	46	46	46	46
AFG – Otay Sunroad EOM SPA	836	836	836	836
AFG – University Innovation District	11.7	11.7	11.7	11.7
AFG – Sunbow II, Phase 3	84.7	84.7	84.7	84.7
Passive Conservation Savings	(4,497)	(5,489)	(6,040)	(6,744)
Total Demand	**49,408.4**	**51,869.4**	**52,679.4**	**58,560.4**
Supplies				
Water Authority Supply	43,508.4	45,869.4	46,479.4	52,060.4
Recycled Water Supply	5,900	6,000	6,200	6,500

Table 5.16-12. Projected Balance of Water Demands and Supplies Normal Year Conditions (Acre Feet)

Description	FY 2025	FY 2030	FY 2035	FY 2040
Total Supply	49,408.4	51,869.4	52,679.4	58,560.4
Supply Surplus	0	0	0	0

Source: Appendix L2

Further, based on dry year forecasts, the estimated water supply is also being planned for and is intended to be acquired to meet the projected water demand, during single dry and multiple dry year scenarios. On average, the dry-year demands are about 6.64 percent higher than the normal year demands. However, as shown in Table 5.16-13, the OWD recycled water supply is assumed to be drought-proof and not subject to reduction during dry periods. These findings from the WSA assess, demonstrate, and document that sufficient water supplies are planned for and are intended to be acquired for the project's proposed water demands. In addition, the actions necessary to develop these supplies are and will be further documented, to serve the project and the existing and other reasonably foreseeable planned development projects within the OWD in both normal and single and multiple dry year forecasts for a 20-year horizon. Refer to Appendix L2 for further details.

Table 5.16-13. Projected Balance of Water Demands and Supplies Single Dry and Multiple Dry Year Conditions (Acre Feet)

	Normal Year	Single Dry Year	Multiple Dry Years		
	FY 2011	*First Dry Year*	*First Dry Year*	*Second Dry Year*	*Third Dry Year*
Demands					
OWD Demands	37,176	38,749	38,844	40,378	42,430
Total Demand	37,176	38,749	38,844	40,378	42,430
Supplies					
Water Authority Supply	33,268	33,877	33,972	35,240	37,026
Recycled Water Supply	3,908	4,872	4,872	5,138	5,404
Total Supply	37,176	34,639	38,844	40,378	42,430
Supply Surplus	0	0	0	0	0

Source: Appendix L2

The findings above show that sufficient water supplies are planned for and are intended to be acquired for the project. Additionally, the actions necessary to develop these supplies are and will be further documented, to serve the project and the existing and other reasonably foreseeable planned development projects within the OWD in both normal and single and multiple dry year forecasts for a 20-year planning horizon. Furthermore, in evaluating the availability of sufficient water supplies, the project development proponents would be required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the OWD Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current SDCWA and MWD UWMP, Integrated Resource Plans, Master Plans, and other planning documents. Refer to Appendix L2 for further details. Thus, regional water suppliers along with OWD 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 OWD service area. Therefore, impacts would be **less than significant**.

C. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

See discussion of Sewer/Wastewater under Threshold A. Impacts would be **less than significant.**

D. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Solid waste management services for the City of Chula Vista are provided by Republic Services. Solid waste is collected curbside once a week and transported to the Otay Landfill in the City of Chula Vista. The Otay Landfill currently has a projected life span of 15-years, and a maximum permitted throughput of 5,830 tons per day (CalRecycle 2016a). However, the Otay Landfill is projected to close in 2030. Construction of the proposed project would result in a temporary increase in solid waste generation, while operation would result in a long term, permanent, incremental increase in solid waste generation.

Additionally, under the current franchise agreement between the City of Chula Vista and Republic Services, solid waste would be disposed of at the Sycamore Landfill once the Otay Landfill meets its permitted capacity and terminates solid waste services (City of Chula Vista 2012a). The Sycamore Landfill has a remaining capacity of 47,388,428 cubic yards and projected cease operation date of December 2031 (CalRecycle 2016b). As such, solid waste service would continue following closure of the Otay Landfill and permitted capacity would be available to accommodate the proposed project. Impacts would be **less than significant**.

E. Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

The State of California has mandated the at least 50% of the solid waste generated by a City or County be diverted from landfills. Additionally, the State has set per capita disposal rates of 5.3-pounds per person per day for the City of Chula Vista (Atlantis Group 2017). To maintain these targets, the following programs must be implemented per Chula Vista Municipal Code Sections 8.23, Solid Waste and Recycling Contract or Franchise; 8.24, Solid Waste and Litter; 8.25, Recycling; and 19.58.340, Trash Enclosures:

1. All new construction and demolition projects in the City are required to divert from landfill disposal 100-percent of inert waste, to include asphalt, concrete, bricks, tile, trees, stumps, rocks, and associated vegetation and soils resulting from land clearing, and not less than 50-percent of the remaining waste generated, via reuse or recycling, unless a partial or full diversion exemption has been granted pursuant to CVMC 8.25.095, in which case the diversion requirement shall be the maximum feasible diversion rate established by the Waste Management Report Compliance Official for the project (CVMC 8.25.020(06)). Contractors will be required to put up a performance deposit and prepare a Waste Management Report Form to ensure that all materials are responsibly handled. Upon verification that the diversion goals have been met the performance deposit will be refunded (CVMC 8.25.095).
2. The City of Chula Vista's Recycling and Solid Waste Planning Manual, adopted by City Council, provides information for adequate space allocated to recycling and solid waste within individual projects, based upon the type of project and collection service needed. Republic Services is the City of Chula Vista contracted service provider for all commercial, industrial, and residential services within the city limits.
3. Plans are subject to approval by the City Manager or designee, who is the Environmental Services Program Manager in the Public Works Department.

4. Additionally, the City of Chula Vista encourages the use of compost materials to be incorporated into the soil of all new construction projects to improve soil health, water retention, less water run-off, and filtration of water run-off prior to entering storm drains and creeks on the way to San Diego Bay. The yard trimmings collected in Chula Vista are composted at the Otay Landfill and may be available for purchase.

The proposed project would be constructed and operated in compliance with all applicable federal, state, and local statues and regulations relating to solid waste. Thus, impacts would be **less than significant**.

5.16.4 Level of Significance Prior to Mitigation

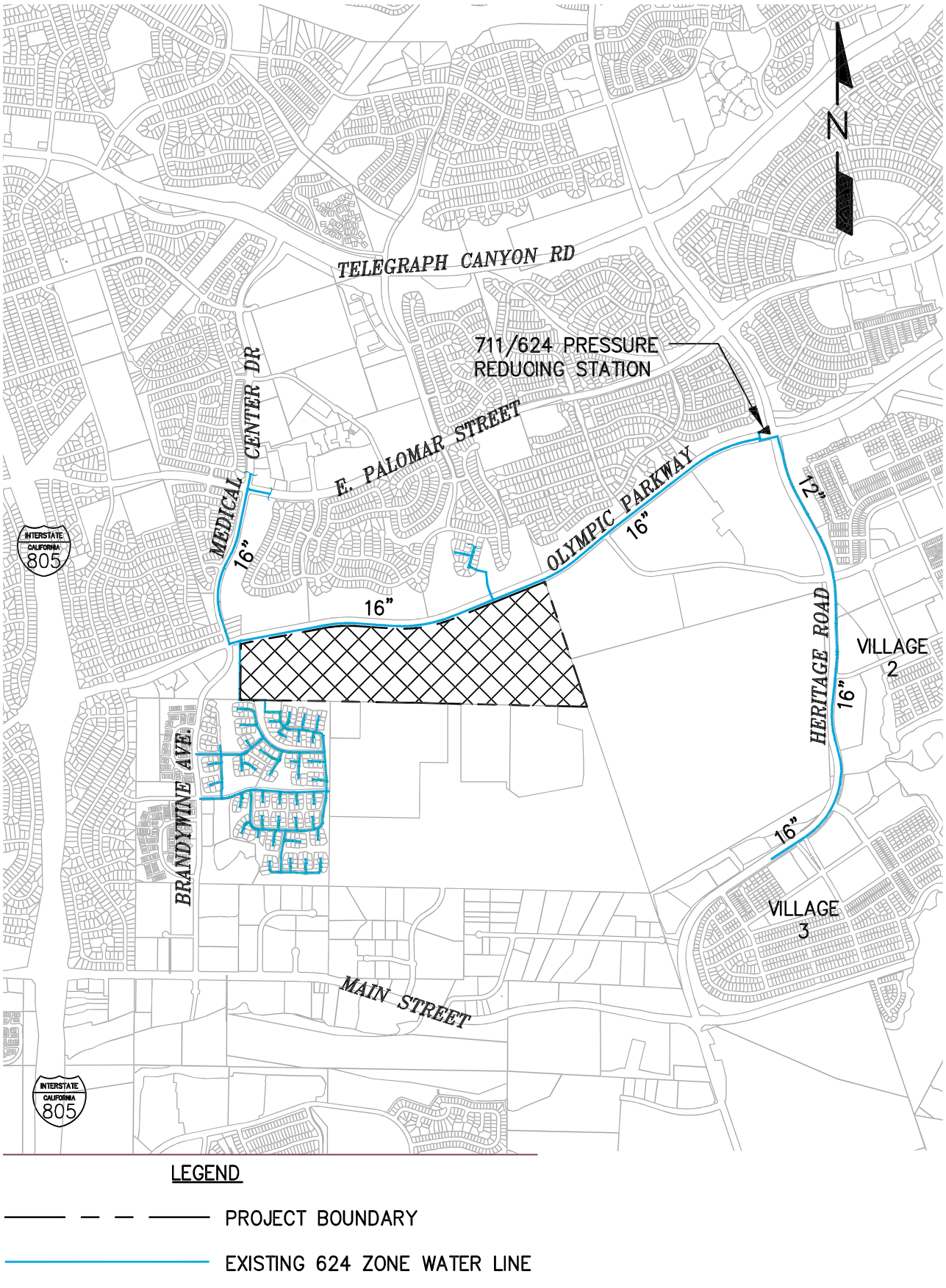
No significant impacts would occur as a result of the proposed project related to public utilities. Impacts would be **less than significant**.

5.16.5 Mitigation Measures

Impacts were found to be less than significant.

5.16.6 Level of Significance After Mitigation

No significant impacts would occur as a result of the proposed project related to public utilities. Impacts would be **less than significant**.



SOURCE: Dexter Wilson Engineering 2020

FIGURE 5.16-1

Existing Water Facilities

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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5.17 Wildfire

This section of the environmental impact report (EIR) describes the existing wildfire conditions within the vicinity of the project site, identifies associated regulatory requirements, evaluates potential impacts associated with wildfire and contribution to regional wildfire conditions, and identifies mitigation measures related to implementation of the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project). Potential wildfire impacts resulting from construction and operation of the proposed project were evaluated based on a review of existing resources and applicable laws, regulations, guidelines, and standards. This section focuses on the effect of the proposed project on wildfire risk. Fire protection services for the proposed project are addressed in Section 5.13, Public Services, of this EIR. A Fire Protection Plan (FPP), which evaluated and identified potential fire risks associated with the project, was prepared for the project by Dudek and has been included as Appendix H3 of this EIR.

5.17.1 Existing Conditions

5.17.1.1 Regulatory Framework

Federal

National Fire Protection Association Codes, Standards, Practices, and Guides

National Fire Protection Association codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by the American National Standards Institute. This process brings together professionals representing varied viewpoints and interests to achieve consensus on fire and other safety issues. National Fire Protection Association standards are recommended guidelines and nationally accepted good practices in fire protection, but are not laws or codes unless adopted as such or referenced as such by the California Fire Code (CFC) or the local fire agency.

Federal Wildland Fire Management Policy

The Federal Wildland Fire Management Policy was developed in 1995, updated in 2001, and again in 2009, by the National Wildfire Coordinating Group, a federal multiagency group that establishes consistent and coordinated fire management policy across multiple federal jurisdictions. An important component of the Federal Wildland Fire Management Policy is the acknowledgement of the essential role of fire in maintaining natural ecosystems. The Federal Wildland Fire Management Policy and its implementation are founded on the following guiding principles, found in the Guidance for Implementation of Federal Wildland Fire Management Policy (National Wildfire Coordinating Group 2009):

- Firefighter and public safety is the first priority in every fire management activity.
- The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
- Fire management plans, programs, and activities support land and resource management plans and their implementation.
- Sound risk management is a foundation for all fire management activities.

- Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
- Fire management plans and activities are based upon the best available science.
- Fire management plans and activities incorporate public health and environmental quality considerations.
- Federal, state, tribal, local, interagency, and international coordination and cooperation are essential.
- Standardization of policies and procedures among federal agencies is an ongoing objective.

National Fire Plan

The National Fire Plan, officially titled Managing the Impacts of Wildfire on Communities and the Environment: A Report to the President In Response to the Wildfires of 2000, was a presidential directive in 2000 as a response to severe wildland fires that had burned throughout the United States. The National Fire Plan focuses on reducing fire impacts on rural communities and providing assurance for sufficient firefighting capacity in the future. The plan addresses the following five key points: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The plan provides technical, financial, and resource guidance and support for wildland fire management across the United States. The U.S. Forest Service and the Department of the Interior are working to successfully implement the key points outlined in the plan (DOI and USDA 2000).

International Fire Code

Created by the International Code Council, the International Fire Code addresses a wide array of conditions hazardous to life and property, including fire, explosions, and hazardous materials handling or usage (although not a federal regulation, but rather the product of the International Code Council). The International Fire Code places an emphasis on prescriptive and performance-based approaches to fire prevention and fire protection systems. Updated every 3 years, the International Fire Code uses a hazards classification system to determine the appropriate measures to be incorporated to protect life and property (often times these measures include construction standards and specialized equipment). The International Fire Code uses a permit system (based on hazard classification) to ensure that required measures are instituted (ICC 2017).

International Wildland–Urban Interface Code

The International Wildland–Urban Interface Code is published by the International Code Council and is a model code addressing wildfire issues (ICC 2014).

State

California Government Code

Sections 51175–51189 of the California Government Code provide guidance for classifying lands in California as fire hazard areas and requirements for management of property within those lands. The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for classifying Fire Hazard Severity Zones (FHSZs) based on statewide criteria, and makes the information available for public review. Further, local agencies must designate, by ordinance, Very High FHSZs within their jurisdiction based on the recommendations of CAL FIRE.

Section 51182 of the California Government Code sets forth requirements for maintaining property within fire hazard areas, such as defensible space, vegetative fuels management, and building materials and standards. Defensible space around structures in fire hazard areas must consist of 100 feet of fuel modification on each side

of a structure, but not beyond the property line unless findings conclude that the clearing is necessary to significantly reduce the risk of structure ignition in the event of a wildfire. Clearance on adjacent property shall only be conducted following written consent by the adjacent owner. Further, trees must be trimmed from within 10 feet of the outlet of a chimney or stovepipe, vegetation near buildings must be maintained, and roofs of structures must be cleared of vegetative materials. Exemptions may apply for buildings with an exterior constructed entirely of nonflammable materials.

California Code of Regulations

Title 14 Natural Resources

Title 14, Division 1.5, Chapter 7, Subchapter 3, Fire Hazard, also sets forth requirements for defensible space if the distances specified in Section 51182 of the California Government Code (outlined above) cannot be met. For example, options that have similar practical effects include noncombustible block walls or fences, 5 feet of noncombustible material horizontally around the structure, installing hardscape landscaping or reducing exposed windows on the side of the structure with a less-than-30-foot setback, or additional structure hardening such as those required in the California Building Code, California Code of Regulations Title 24, Part 2, Chapter 7A.

Title 24 California Building Standards Code

California Building Code

Part 2 of Title 24 of the California Building Standards Code contains the California Building Code (CBC). Chapter 7A of the California Building Code regulates building materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a fire hazard area. Fire hazard areas as defined by the California Building Code include areas identified as a FHSZ within a State Responsibility Area or a wildland–urban interface fire area. The purpose of Chapter 7A is to establish minimum standards for the protection of life and property by increasing the ability of structures located in a fire hazard area to resist the intrusion of flames or burning embers projected by a wildfire, and to contribute to a systematic reduction in structural losses from a wildfire. New buildings located in such areas must comply with the ignition-resistant construction standards outlined in Chapter 7A.

California Fire Code

Part 9 of Title 24 of the California Building Standards Code contains the CFC, which incorporates by adoption the International Fire Code with necessary California amendments. The purpose of the CFC is to establish the minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. Chapter 49 of the CFC contains minimum standards for development in the wildland–urban interface and fire hazard areas.

The CFC and Office of the State Fire Marshal provide regulations and guidance for local agencies in the development and enforcement of fire safety standards. The CFC is updated and published every 3 years by the California Building Standards Commission. The 2016 CFC took effect on January 1, 2017, and the 2019 CFC took effect on January 1, 2020. The City adopted the 2016 CFC with local amendments in August 2018.

California Public Resources Code

California Public Resources Code Section 4290 requires minimum fire safety standards related to defensible space that are applicable to residential, commercial, and industrial building construction in State Responsibility Area lands and lands classified and designated as Very High FHSZs. These regulations include road standards for fire apparatus access, standards for signs identifying roads and buildings, fuel breaks and green belts, and minimum water supply requirements. It should be noted that these regulations do not supersede local regulations, which are equal to or exceed minimum regulations required by the state.

California Public Resources Code Section 4291 requires a reduction of fire hazards around buildings located adjacent to a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered in flammable material. It is required to maintain 100 feet of defensible space around all sides of a structure, but not beyond the property line unless required by state law, local ordinance, rule, or regulations. Further, California Public Resources Code Section 4291 requires the removal of dead or dying vegetative materials from the roof of a structure, and trees and shrubs must be trimmed from within 10 feet of the outlet of a chimney or stovepipe. Exemptions may apply for buildings with an exterior constructed entirely of nonflammable materials.

Fire Hazard Severity Zones

CAL FIRE maps FHSZs based on fuel loading, slope, fire history, weather, and other relevant factors as directed by California Public Resources Code, Sections 4201–4204, and California Government Code, Sections 51175–51189. FHSZs are ranked from Moderate to Very High, and are categorized for fire protection within a Federal Responsibility Area, State Responsibility Area, or Local Responsibility Area under the jurisdiction of a federal agency, CAL FIRE, or local agency, respectively. The project site is within a wildland-urban interface (WUI) location that is in an area statutorily designated a Local Responsibility Area (LRA) Non-Fire Hazard Severity Zone (FHSZ) by the City and CAL FIRE (CAL FIRE 2009).

California Strategic Fire Plan

The 2018 Strategic Fire Plan for California reflects CAL FIRE's focus on fire prevention and suppression activities to protect lives, property, and ecosystem services, as well as natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation. The Strategic Fire Plan for California provides a vision for a natural environment that is more fire resilient, buildings and infrastructure that are more fire resistant, and a society that is more aware of and responsive to the benefits and threats of wildland fire, all achieved through local, state, federal, tribal, and private partnerships (CAL FIRE 2018). Plan goals include the following:

- Identify and evaluate wildland fire hazards and recognize life, property, and natural resource assets at risk, including watershed, habitat, social, and other values of functioning ecosystems. Facilitate the collaborative development and sharing of all analyses and data collection across all ownerships for consistency in type and kind.
- Promote and support local land use planning processes as they relate to (a) protection of life, property, and natural resources from risks associated with wildland fire; and (b) individual landowner objectives and responsibilities.
- Support and participate in the collaborative development and implementation of local, county, and regional plans that address fire protection and landowner objectives.
- Increase fire prevention awareness, knowledge, and actions implemented by individuals and communities to reduce human loss, property damage, and impacts to natural resources from wildland fires.

- Integrate fire and fuels management practices with landowner/land manager priorities across jurisdictions.
- Determine the level of resources necessary to effectively identify, plan, and implement fire prevention using adaptive management strategies.
- Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.
- Implement post-fire assessments and programs for the protection of life, property, and natural resource recovery.

Mutual Aid Agreements

The California Disaster and Civil Defense Master Mutual Aid Agreement, as provided by the California Emergency Services Act, provides statewide mutual aid between and among local jurisdictions and the state. The statewide mutual aid system exists to ensure that adequate resources, facilities, and other supports are provided to jurisdictions whenever resources prove to be inadequate for a given situation. Each jurisdiction controls its own personnel and facilities, but can give and receive help whenever needed.

Local

San Diego County Emergency Operations Plan

The San Diego County Emergency Operations Plan (EOP) is a comprehensive emergency management system that provides for a planned response to disaster situations associated with natural disasters, technological incidents, and nuclear defense operations. The EOP is for use by the County and all cities, including the City of Chula Vista, within the county to respond to major emergencies. The EOP includes operational concepts relating to various emergency situations, identifies components of the Emergency Management Organization and describes the overall responsibilities for protecting life and property and assuring the overall well-being of the population. The plan also identifies the sources of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies, and the private sector (County of San Diego 2018).

San Diego County Multi-Jurisdictional Hazard Mitigation Plan

The San Diego County Multi-Jurisdictional Hazard Mitigation Plan was originally prepared in July 2010 and updated in October 2017 to meet federal and state requirements for disaster preparedness to make the county eligible for funding and technical assistance from state and federal hazard mitigation programs. The plan includes a risk assessment to enable local jurisdictions to identify and prioritize appropriate mitigation actions to reduce losses from potential hazards, including flooding, earthquakes, fires, and man-made hazards. To address potential hazards, the plan then incorporates mitigation goals and objectives, mitigation actions and priorities, an implementation plan, and documentation of the mitigation planning process for each of the 22 participating jurisdictions, including Chula Vista (County of San Diego 2017).

City of Chula Vista Multiple Species Conservation Program Subarea Plan

The Multiple Species Conservation Program (MSCP) is a comprehensive, long-term habitat conservation plan which addresses the needs of multiple species and the preservation of natural vegetation communities in San Diego County. Because fire is a natural feature of the Chula Vista Subarea, under normal circumstances natural re-growth of habitat is expected. However, the Wildlife Agencies have indicated that certain Repetitive Fires within the same location of the Chula Vista MSCP Preserve may adversely affect the Covered Species conserved by the Subarea Plan as a result of habitat type conversion from existing habitat(s) to invasive or non-native weeds. In order to

further reduce the risk of fire, the City has instituted a special weed abatement and brush management program focused particularly on the edges between urban areas and open space Preserve lands. Brush management is required to be undertaken in the City in areas where urban development interfaces with open space, in order to reduce fire fuel loads and reduce potential fire hazard (City of Chula Vista 2003).

Chula Vista General Plan

The following objectives and policies from the City of Chula Vista General Plan (General Plan) are relevant to the proposed project (City of Chula Vista 2005):

- **Objective E 16**: Minimize the risk of injury and property damage associated with wildland fire hazards.
- **Policy E 16-1**: Implement brush management programs which are consistent with the Chula Vista MSCP Subarea Plan and the City's Urban-Wildland Interface Code, within urban development and open space interface areas in order to reduce potential wildland fire hazards. Brush management guidelines within the MSCP Subarea Plan and the Urban-Wildland Interface Code shall include limits and measures to prevent increased risk of erosion.

City of Chula Vista Municipal Code

Title 15, Chapter 15.36 of the City of Chula Vista's Municipal Code (CVMC) (City of Chula Vista 2020) contains the California Fire Code, 2019 Edition, with local amendments. A city, county, or city and county may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions. The code contains provisions for fire prevention and safety, reflecting regulations set forth by the CFC, such as requirements for emergency planning and preparedness (Section 15.36.045), fire protection systems (Section 15.36.055 and 15.36.060), and vegetation management and clearance (Section 15.36.065).

Chapter 15.34, Section 15.34.010 of the CVMC (City of Chula Vista 2020) defines that the City Council of the City of Chula Vista (City) designates very high fire hazard severity zones as recommended by the Director of CAL FIRE and as designated on a map titled "Very High Fire Hazard Severity Zones (VHFHSZ) – Local Responsibility Areas (LRA)," dated April 3, 2008, and filed with the office of the City Clerk. (Ord. 3113 § 1, 2008).

Fire Protection Plan

A Fire Protection Plan (FPP) was prepared for the proposed project in September 2020. The FPP evaluates and identifies the potential fire risk associated with the project's land uses and identifies requirements for water supply, fuel modification and defensible space, emergency access, building ignition and fire resistance, fire protection systems, and wildfire emergency pre-planning, among other pertinent fire protection criteria. The purpose of the FPP is to generate and memorialize the fire safety requirements of the City along with project-specific measures based on the site, its intended use, and its fire environment.

5.17.1.2 Existing Setting

Wildfire is a continuous threat in Southern California, and is particularly concerning in the WUI, the geographic area where urban development either abuts or intermingles with wildland or vegetative fuels. Since the City receives limited precipitation, the potential for wildland fires represents a significant hazard within areas of the City (City of Chula Vista 2005). As discussed in Section 5.17.1.1, Regulatory Framework, the project site is within a WUI location that is in an area statutorily designated an LRA Non-FHSZ by the City and CAL FIRE (CALFIRE 2009). While the

project site is not designated as a FHSV by CALFIRE, the General Plan has determined its own fire hazard zones (FHZ) to acknowledge areas that are potentially susceptible to wildfire. As such, the General Plan designates the project site as a High Hazard area which suggests the area may contain substantial forest fire risk and hazards (City of Chula Vista 2005). Fire Station 3 is located 0.2 miles northwest of the project site.

Surrounding Area

The project site is located in a predominantly residential area of the City. It is bounded to the north by an open space preserve, which runs along the southern side of Olympic Parkway. Further north of Olympic Parkway is a single-family residential community. The future Otay Ranch Village 2 development is immediately to the east of the project site; however, the land is currently undeveloped and will be developed in the future. The Otay Landfill and City open space/future community park are located to the south-southeast. Both the City and the County of San Diego own undeveloped land to the south of the project site. Brandywine Avenue and existing residential communities border the western and southwestern edges, respectively, of the project site.

Topography

Approximately 19.2 acres of open space, located in the northern portion of the project site, would consist of the Poggi Canyon Creek, parallel to Olympic Parkway (see Figure 4-8, Proposed Poggi Creek Conservation Easement and MSCP Boundary). The general topography of the project site is moderately hilly and slopes downward to the north toward Poggi Canyon Creek and the south side of Olympic Parkway. Elevations range from approximately 455 feet above mean sea level (amsl) at the southeast property boundary to 228 feet amsl in the northwestern end of the project site. Topographic features that may present a fire spread facilitator are the narrow sub-drainages that trend south to north which may serve to funnel winds. From a regional perspective, the northeast to southwest alignment of Poggi Canyon is conducive to channeling and funneling wind towards the project site.

Climate

Throughout Southern California, including at the project site, climate has a large influence on fire risk. Local climate is typical of a Mediterranean area, with warm, dry summers and wetter winters. Precipitation typically occurs between December and March. The prevailing wind is an on-shore flow from the Pacific Ocean, which is approximately 6.6 miles to the west, Santa Ana winds, which typically occur in the fall, from the northeast can gust to 50 miles per hour (mph) or higher. Drying vegetation (fuel moisture of less than 5% for 1-hour fuels is possible) during the summer months becomes fuel available to advancing flames should an ignition occur. Extreme conditions, used in fire modeling for this site, include 92°F temperatures in summer and winds of up to 50 mph during the fall. Relative humidity of 12% or less is possible during fire season. The site is within the coastal influence area and would be expected to, on average, include higher humidity and resulting plant moisture, than more inland areas.

Vegetation Communities

The project site is currently undeveloped land with four native or naturalized vegetation communities and one land cover type that were mapped on the site. The acreage of each on-site vegetation community or land cover type is provided in Table 5.17-1. There are three pre-dominant vegetation types mapped on the project site, including Diegan coastal sage scrub, native grasslands, and non-native grasslands which encompass approximately 22%, 25%, and 46% of the property, respectively. Smaller areas of wetlands/non-wetlands waters, disturbed habitat, and the Poggi Creek Maintenance area are also present on the project site.

Table 5.17-1. Proposed Project Vegetation Communities and Land Cover Types

Vegetation Community or Land Cover Type	Total Acres	Inside Preserve (Acres)	Outside Preserve (Acres)
Diegan coastal sage scrub	29.8	22.6	7.2
Native grassland	33.6	27.4	6.2
Non-native grassland	62.2	4.4	57.8
Non-native vegetation	0.4	0.3	0.1
Southern willow scrub (including seep)	1.3	0.4	0.9
Mulefat scrub	<0.1	<0.1	0.0
Coastal and valley freshwater marsh	8.4	7.0	1.4
Total	**135.7**	**62.1**	**73.6**

Source: Appendix H3.

Vegetation Dynamics

Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (bark thickness, leaf size, branching patterns), and overall fuel loading. For example, the native shrub species that compose the chaparral plant communities on site are considered to exhibit higher potential hazard (higher intensity heat and flame length) than grass dominated plant communities (fast moving, but lower intensity) if ignition occurred. The corresponding fuel models for each of these vegetation types are designed to capture these differences. Additionally, vegetative cover influences fire suppression efforts through its effect on fire behavior. For example, while fires burning in grasslands may exhibit lower flame lengths and heat outputs than those burning in native shrub habitats, fire spread rates in grasslands are often more rapid.

A critical factor to consider is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes disrupts plant succession, setting plant communities to an earlier state where less fuel is present for a period of time as the plant community begins its succession again. In summary, high-frequency fires tend to convert shrublands to grasslands or maintain grasslands, and fire exclusion tends to convert grasslands to shrublands over time as shrubs sprout back or establish and are not disturbed by repeated fires.

In general, biomass and associated fuel loading will increase over time, assuming that disturbance (e.g., fire, grazing, or farming) or fuel reduction efforts are not diligently implemented, which would not occur on this site due to the funded maintenance entity. It is possible to alter successional pathways for varying plant communities through manual alteration. This concept is a key component in the overall establishment and maintenance of the proposed FMZs for the project site. The FMZs will consist of irrigated and maintained landscapes that will be subject to regular “disturbance” in the form of maintenance and will not be allowed to accumulate excessive biomass over time, which results in reduced fire ignition, spread rates, and intensity. In contrast, conditions outside the FMZs, where the wildfire threat will exist post-development, are classified as medium to heavy fuel loads due to the maturity of the vegetation, which haven’t burned for many decades.

Fire History

The project site has been subject to one wildfire during the recorded fire history period. The Maxwell Fire in 1984 burned along the southern portion of the project site. In addition to the one fire burning on the project site, the majority of other large wildfires historically start east of the proposed project site area and are typically contained east of Lower Otay Lake.

The lack of recent fire history does not indicate that a fire cannot occur in the vegetation that would be adjacent to the proposed site. It is expected that fires have not consistently spread into the proposed project site area due to three factors: the position of the surrounding urban developments which are newer, ignition resistant construction; the position of lower Otay Lake to the east, which presents a very wide firebreak; and the effective wildland fire fighting capabilities of Chula Vista Fire Department (CVFD).

5.17.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to wildfire is based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). As mentioned previously, the project site is within a WUI location that is in an area statutorily designated an LRA Non-FHSZ by the City and CAL FIRE (CALFIRE 2009). However, the project site is within a City designated FHZ and is considered a High Hazard area (City of Chula Vista 2005). Thus, a significant impact associated with wildfire would occur if the project would:

A. Substantially impair an adopted emergency response plan or emergency evacuation plan.
B. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
C. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
D. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

5.17.3 Impacts

A. Substantially impair an adopted emergency response plan or emergency evacuation plan.

The project site is located within a City designated FHZ. As seen in Figure 9-9, Wildland Fire Hazards Map, of the General Plan, the project site is designated as a High Hazard area (City of Chula Vista 2005). In the event of an emergency, response to the project site would be serviced by the City of Chula Vista Fire Department, Police Department, and other responsible agencies. Additionally, the City is part of the San Diego County Emergency Operations Plan (SDCEOP) which includes a detailed evacuation response plan in the event that evacuation is required. As stated in the SDCEOP, major ground transportation corridors shall be used as primary evacuation routes in the event of an emergency. As such, Olympic Parkway, which provides access to the project site, would be the closest evacuation route. During construction of the project, a temporary increase in traffic on roadways surrounding the project site may occur due to increased truck loads or the transport of construction equipment to and from the project site during the construction period. However, all construction activities including staging would occur in accordance with City requirements (such as CVMC Chapter 12.12, which prohibits street obstructions), which would ensure that adequate emergency access to the project site in the event of an emergency or evacuation order would be provided during construction of the project (City of Chula Vista 2020). Furthermore, because the project site is included in the General Development Plan as a planned community (City of Chula Vista 1989), it is incorporated into the City's existing emergency disaster programs, including all fire and emergency services and mutual aid agreements.

Upon completion of construction, direct access to the project site would be provided by two proposed public streets, Street "A" and Street "B" (Streets A and B). Street A would extend south from Olympic Parkway, through the project site, and curve to the east to connect with Street B. Street B would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figure 4.6, Illustrative Concept Plan, and Figure 4.9, Vehicular Circulation Plan). The proposed driveways and roadways providing access to the project site would comply with the requirements of the Chula Vista Fire Code (including 2019 Fire Code and 2018 Urban–Wildland Interface Code), and would be reviewed and approved by Chula Vista Fire Department (CVFD). Additionally, all on-site roads would be constructed to current Fire Codes and City of Chula Vista or County of San Diego Standards for public and private roads, including minimum 24-foot-wide, unobstructed road widths.

As discussed in the FPP, early evacuation for any type of wildfire emergency near the project site is the preferred method of providing for resident safety, consistent with the City's current approach. As such, each property owner would be individually responsible to adopt, practice, and implement a "Ready, Set, Go!" (International Fire Chiefs Association 2013) approach to site evacuation. The "Ready, Set, Go!" concept is widely known and encouraged by the state of California and most fire agencies. Pre-planning for emergencies, including wildfire emergencies, focuses on being prepared, having a well-defined plan, minimizing potential for errors, maintaining the site's fire protection systems, and implementing a conservative (evacuate as early as possible) approach to evacuation and site uses during periods of fire weather extremes.

Therefore, through compliance with existing regulations and recommendations of the FPP, the proposed project would not interfere with an adopted emergency response or emergency evacuation plan; impacts would be **less than significant**.

B. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

As stated in Section 5.17.1, Existing Conditions, the project site is within a WUI location that is in an area statutorily designated an LRA Non-FHSZ by the City and CAL FIRE (CALFIRE 2009). However, the project site is within a City designated FHZ and is considered a High Hazard area (City of Chula Vista 2005). As such, the project could result in an impact related to exacerbating wildfire risk that exposes project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of a wildfire if it would increase the risk of a wildfire occurring and the climatic, topographic, vegetation, weather conditions, and other factors that aid in increasing the severity of such an occurrence.

Construction

Construction of the project would introduce potential ignition sources to the project site, including the use of heavy machinery and the potential for sparks during welding activities or other hot work. However, the project would be required to comply with City and state requirements for activities in hazardous fire areas, including fire safety practices, to reduce the possibility of fires during construction activities. As discussed in the FPP prepared for the project, pre-construction requirements would be adhered to in order to reduce the potential of fire caused by construction-related activities. These requirements include establishing perimeter fuel modification areas that are approved by the CVFD prior to combustible materials being brought on site; reducing existing flammable vegetation by 50% on vacant lots upon commencement of construction; removing dead fuel, ladder fuel (fuel which can spread fire from ground to trees), and downed fuel; and ensuring that on-site trees/shrubs shall be properly limbed, pruned, and spaced. While vegetation management would not be required on vacant lots until constriction begins, perimeter Fuel Management Zones (FMZ) must be implemented prior to commencement of construction utilizing combustible materials. In addition, vacant lots adjacent to active construction areas/lots would be required to implement vegetation management if they are within 50 feet of the active construction area. Prior to issuance of a permit for any construction, grading, digging, installation of fences, etc., on a vacant lot, the 50 feet at the perimeter of the lot shall be maintained as a vegetation management zone.

In the event of a fire, existing vegetation located on the project site (areas proposed for open space) and in the surrounding area would be susceptible to burning and releasing pollutant concentrations. However, with adherence of the aforementioned pre-construction establishing fuel modification areas, risk associated with exposure of pollutant concentrations would be reduced greatly. Additionally, construction activities that would potentially introduce potential ignition sources would be temporary. Therefore, impacts to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be **less than significant** during construction.

Operational

As mentioned previously, the project site is located in an area statutorily designated as an LRA Non-FHSZ (CAlFIRE 2009). However, the project site is located within a City designated FHZ and is considered a High Hazard area (City of Chula Vista 2005). Thus, the project includes fire resistance-related measures that shall lessen the potential impact of the project exacerbating wildfire risk.

All new structures within the project site would be constructed to at least the California Fire Code standard. Each of the proposed buildings would comply with the enhanced ignition-resistant construction standards of the 2019 CBC (Chapter 7A) and Chapter 5 of the Urban–Wildland Interface code, except where buildings require enhanced ignition resistance as part of an alternative material and method proposal. These requirements address roofs, eaves, exterior walls, vents, appendages, windows, and doors and result in hardened structures that have been proven to perform at high levels (resist ignition) during the typically short duration of exposure to burning vegetation from wildfires. Buildings that include higher occupancies shall meet all California Fire and Building requirements for higher occupancy structures. Included in the high occupancy category are multi-family residences over three units, attached condominiums, and attached townhomes up to three stories, but less than 30 feet overall height. In addition, the project would include fire protection systems including fire hydrants, automatic fire sprinkler system, and fire alarm systems and residential hazard detectors (See Appendix H3 for further details).

Per Chapter 15.36 of the CVMC, the City shall incorporate vegetation management and clearance standards set by the California Fire Code (City of Chula Vista 2020). As such, all non-maintained combustible vegetation, and or other such accumulations of combustible vegetation materials in open space areas, as determined by the Fire Code Official, shall not be located within one hundred feet of any building or structure designated or intended for occupancy by humans or animals. As described in the FPP, FMZs shall be implemented to provide vegetation buffers that gradually reduce fire intensity and flame lengths from advancing fire by strategically placing thinning zones, restricted vegetation zones, and irrigated zones adjacent to each other. Thus, with implementation of FMZs, the spread of wildfire as well as exposure of pollutant concentrations resulting from vegetation and other materials burning would be reduced. FMZs would be located on the perimeter of all structures and along both ingress/egress roadways to and from Olympic Parkway. Roadway-adjacent fuel modification does not preclude the planting of street trees in these fuel modification zones, as long as they are not found on the Prohibited Plant List (Appendix D of the FPP) and are included in the Approved Plant Palette (Appendix C of the FPP). Typical fuel modification includes establishment of a minimum 50-foot wide irrigated zone (Zone 1) and a 50-foot wide thinned zone (Zone 2) on the periphery of the project site, beginning from the rear or side yard lot line (For further details regarding Zone 1 and Zone 2 criteria refer to Appendix H3). As discussed in the FPP, FMZ areas experience a significant reduction in flame length and intensity. Reduction of flame lengths and intensities are assumed to occur within the full 100 feet of fuel modification (a combination of Zones 1 and 2). However, due to site constraints, it is not feasible to achieve a 100-foot FMZ width on the south side of the project site. As such, it is possible that the project would exacerbate wildfire risk and impacts would be **potentially significant**. Thus, implementation of Mitigation Measure **(MM) WF-1** is required (see Section 5.17.5, Mitigation Measures).

C. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

The proposed project is primarily a residential project, with associated infrastructure and open space areas. As such, the project would include installation and maintenance of associated infrastructure including driveways and roadways, connections to service utilities (e.g., water, wastewater, electric power, natural gas, and telecommunications services), water drainage and water quality improvements (e.g., biofiltration basins), and fuel breaks (e.g., fuel modification).

Vegetation Management

As previously discussed, the General Plan designates the project site and surrounding area as a High Fire Hazard area, and implementation of FMZs and defensible space is required. FMZs are designed to provide vegetation buffers that gradually reduce fire intensity and flame lengths from advancing fire, and would reduce, rather than exacerbate, wildfire risk. Refer to the discussion in threshold b of this section for further details.

Roads

The proposed project would include construction of two on-site public streets, Street "A" and Street "B." Street "A" would extend south from Olympic Parkway, through the project site, and curve to the east to connect with Street "B." Street "B" would also extend south from the eastern portion of Olympic Parkway, adjacent to the project site (see Figures 4.6 and 4.9). The presence of increased human activity and vehicles along newly installed roads would introduce new potential ignition sources to the project area. However, vegetation management would be required along roadways within the High Fire Hazard area for roads internal and external to the project site. As stated in the FPP, combustible vegetation would be modified within 30 feet from each side of Streets "A" and "B." Roadway-adjacent fuel modification does not preclude the planting of street trees in these fuel modification zones, as long as they are not found on the Prohibited Plant List (Appendix D of the FPP) and are included in the Approved Plant Palette (Appendix C of the FPP). Additionally, construction of project roadways and connections to existing roadways would provide increased accessibility for the Chula Vista Fire Department to the project area. Therefore, vegetation management would reduce the risk of fire ignition along roadways and ensure ease of accessibility for ingress and egress of fire apparatus and would not be anticipated to exacerbate wildfire risk.

Utilities

As discussed in Section 5.13, existing utility service lines are located within the vicinity of the project site, and connection to utility service lines would be implemented as part of the project. Connections to utility service lines, including those for water, wastewater, electric power, natural gas, and telecommunications services, would be extended underground from their current locations nearby the project site to the proposed residential structures, which would decrease fire risks. However, given that the activity of connecting utilities from their current locations (i.e., within Olympic Parkway) to the project site would require ground disturbance and the use of heavy machinery associated with trenching, the installation of these utility service lines would introduce new potential sources of ignition to the site, such as the use of heavy machinery, welding, or other hot work. However, as previously discussed, vegetation management activities would occur prior to the start of construction, which would reduce the likelihood of fire ignition during installation and connection of utilities.

Further, other than lateral connections to nearby utility mains, the project would not require or result in the relocation or construction of new or expanded service utilities facilities, the construction or relocation of which could exacerbate wildfire risk or cause significant environmental effects.

Summary

Installation and maintenance of project roads, service utilities, fuel modification, drainage and water quality improvements, and other associated infrastructure would not exacerbate wildfire risks provided that the appropriate fire prevention and vegetation management activities are implemented as required by the CVMC.

Given that the activities involved with installation or maintenance of associated infrastructure would require ground disturbance and the use of heavy machinery associated with trenching, grading, site work, and other construction and maintenance activities, the installation of related infrastructure could potentially result in temporary or ongoing impacts to the environment. However, the proposed project would be required to comply with all regulatory requirements such as the CVMC and the requirements of the FPP.

Therefore, the installation and maintenance of associated infrastructure would not exacerbate wildfire risk or result in impacts to the environment beyond those already disclosed in this EIR, and impacts would be **less than significant**.

D. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The project would introduce a new residential use with associated infrastructure and open space, resulting in more impervious area to the site, which would result in more surface runoff. However, the development of the project site would include adding storm drains, curb inlets, cleanouts along the proposed on-site public and private streets and parking areas to collect and convey the storm runoff to the two proposed detention/water quality control basins located at northeast and northwest part of the development area. After the majority of the on-site runoff is treated and detained by the biofiltration basin, the outflow will confluence with the bypass storm drain and discharge into the Poggi Canyon Creek.

To analyze whether the project would create adverse impacts related to flooding, the Drainage Report prepared for the project (Appendix H2) evaluates the existing and proposed peak flows from the project site, assuming the proposed project incorporates the aforementioned attenuation measures. The findings determined that the runoff generated by the project would not exceed pre-project peak flow rates, and runoff velocities would be dissipated by rock riprap at storm drain outfalls. Refer to Appendix H2 for further details. Additionally, the project site is located in Zone X, an area of minimal flood hazard per the FEMA FIRM panel 06073C1914G effective May 16, 2012 (FEMA 2020). This area is higher in elevation than the 0.2% annual chance flood (i.e., 500-year flood). Although internal drainage patterns would be somewhat altered as a result of project development, the project would maintain adequate stormwater conveyance as to not result in an increase of surface runoff that would result in flooding on or off site. Furthermore, there is low potential for landslides to occur on the project site. With compliance to the City's Grading Ordinance, current seismic design specifications, current CBC standards, and other regulatory requirements, the potential for impacts associated with landslides would be further minimalized. In the event of a fire, the project site would potentially experience physical changes to the landscape which could result in increased risk of flooding or landslides. However, as previously discussed, under existing conditions the project has low risk for landslides and flooding. Additionally, proposed drainage improvements and adherence to the aforementioned CBC standards and regulatory requirements would further reduce potential impacts. Therefore, impacts associated with downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would be **less than significant**.

5.17.4 Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would have **potentially significant** impacts associated with the project facilitating wildfire spread or exacerbating wildfire risk. The remaining issues addressed in this section would be **less than significant**.

5.17.5 Mitigation Measures

Implementation of the mitigation measure **MM-WF-1** (see Section 5.8 of this EIR) would reduce identified significant impacts associated with wildfire to a **less-than-significant** level.

5.17.6 Level of Significance After Mitigation

Implementation of **MM-WF-1** would reduce potential impacts associated with wildfire to a **less-than-significant** level.

6 Cumulative Impacts

6.1 Introduction

Although the environmental effects of an individual project may not be significant when that project is considered independently, the combined effects of several projects may be significant when considered collectively. Such impacts are referred to as "cumulative impacts." Section 15355 of the California Environmental Quality Act (CEQA) Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Section 15130 of the CEQA Guidelines provides guidance for analyzing significant cumulative impacts in an environmental impact report (EIR). According to this section of the CEQA Guidelines, the discussion of cumulative impacts "need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness." The discussion should also focus only on significant effects resulting from a project's incremental effects and the effects of other projects. According to Section 15130(a)(1), "an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR."

Cumulative impacts can occur from the interactive effects of a single project. For example, the combination of noise and dust generated during construction activities can be additive and can have a greater impact than either noise or dust alone. However, substantial cumulative impacts more often result from the combined effect of past, present, and future projects located in proximity to the project under review. Therefore, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future developments whose impacts might compound or interrelate with those of the project under review.

6.2 Methodology

According to Section 15130(b) of the CEQA Guidelines, cumulative impact analysis may be conducted and presented by either of two methods: (1) a list of past, present, and probable activities producing related or cumulative impacts, or (2) a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified that described or evaluated regional or area-wide conditions contributing to the cumulative impact. Other than for air quality, greenhouse gas emissions, noise, and transportation/traffic, the cumulative list approach has been used in the cumulative analysis presented in this chapter, as discussed below. Air quality, greenhouse gas emissions, noise, and transportation/traffic cumulative impacts were evaluated using the summary of projections method because impacts can only be analyzed on a broad, area-wide scope, and in a cumulative context. Table 6-1 describes the geographic scope of the cumulative impact analyses.

Table 6-1. Geographic Scope of Cumulative Impact Analyses

Topic	Geographic Scope of Cumulative Impact Analyses
Aesthetics	The cumulative study area associated with aesthetics and lighting and glare impacts is the viewshed of the project, which is a geographic area from which a proposed project is likely to be seen, based on topography and land use patterns.
Air Quality	The geographic scope of cumulative impact analysis for criteria air pollutants, sensitive receptors, and air quality plans is the San Diego Air Basin. Impacts relative to objectionable odors are limited to the area immediately surrounding the odor source and are not cumulative in nature because the air emissions that cause odors disperse beyond the sources of the odor.

Table 6-1. Geographic Scope of Cumulative Impact Analyses

Topic	Geographic Scope of Cumulative Impact Analyses
Biological Resources	The geographic scope of cumulative impact analysis for biological resources includes the Chula Vista Multiple Species Conservation Program Subarea Plan area.
Cultural Resources and Tribal Cultural Resources	The geographic context for the analysis of cumulative impacts to archaeological resources, historic resources, human remains, and tribal cultural resources includes the San Diego region, which has a similar archaeological, ethnohistoric, historic, and prehistoric setting as the project site.
Energy	The City of Chula Vista is the geographic scope of cumulative impacts to energy.
Geology and Soils	Impacts relative to seismic hazards and other geologic/soil conditions (i.e., fault rupture, groundshaking, ground failure, liquefaction/collapse, landslides, lateral spreading, subsidence, and expansive soils) and septic systems are generally site specific. Similarly, impacts to paleontological resources are generally site specific.
Greenhouse Gas Emissions	Due to the nature of assessment of greenhouse gas emissions and the effects of climate change, impacts can currently only be analyzed from a cumulative context; therefore, the geographic scope for the cumulative analysis of greenhouse gas emissions and their effect on climate change is the global atmosphere.
Hazards and Hazardous Materials	The geographic context for the analysis of cumulative impacts relative to the transport, use and disposal of hazardous materials, and associated accidental releases, encompasses the roadways and freeways used by vehicles transporting hazardous materials to and from the project sites. The geographic context for the analysis of cumulative impacts relative to wildland fires and emergency response and evacuation plans is the City of Chula Vista. Impacts relative to listed hazardous materials sites and airport hazards are generally specific to the project site.
Hydrology/ Water Quality	The geographic context for the analysis of cumulative impacts relative to water quality standards, alteration of drainage patterns, mudflows, dam inundation, tsunamis, seiches, and flood hazard areas are generally site-specific.
Land Use/ Planning	Incompatibilities with adjacent land uses are generally site specific; therefore, the geographic context for the analysis of cumulative impacts relative to adjacent land use incompatibilities includes the area surrounding the project site. The geographic context for the analysis of cumulative impacts relative to physical division of an established community is generally site specific.
Noise	The area of cumulative impact that would be considered for the noise and vibration cumulative analysis would be only those cumulative projects within the immediate vicinity of the project. Exposure to aircraft noise is also a localized impact and the area of cumulative impact that would be considered for aircraft impacts would be only those projects located within 2 miles of Brown Field.
Population and Housing	The City of Chula Vista is the geographic scope of cumulative impacts to housing and population.
Public Services	The City of Chula Vista is the geographic scope of cumulative impacts for public services.
Recreation	The City of Chula Vista is the geographic scope of cumulative impacts for recreation.
Transportation	The cumulative study area associated with traffic hazards, alternative transportation, and emergency access is the study area for the project-specific transportation impact analysis (Appendix K). Impacts related to aircraft traffic are generally specific and limited to the area within 2 miles of a specific airport. The cumulative study area associated with impacts related to vehicle miles traveled (VMT) include the City.
Utilities and Service Systems	The City of Chula Vista is the geographic scope of cumulative impacts to utilities and service systems.
Wildfire	The geographic context for the analysis of cumulative impacts relative to wildland fires and emergency response and evacuation plans is the City of Chula Vista.

6.3 Cumulative Projects

6.3.1 Land Development

Other than air quality, greenhouse gas emissions, noise, and transportation/traffic, cumulative impacts for all other environmental issue areas are based on a list of projects within the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project's (project) study area that either have applications submitted or approved, are under construction, or have recently been completed. The cumulative projects identified in the study area are listed in Table 6-2 and shown on Figure 6-1.

Table 6-2. Cumulative Projects

Project No.	Name	Location	Description	Status
1	University Villages	Otay Ranch	The project encompasses Village Three, Village Eight East, and Village Ten. The development program for the project is based on the Chula Vista General Plan and the approved Otay Ranch planning documents (Otay Ranch General Development Plan (GDP), Overall Design Plan, and other SPA plans for Otay Ranch. *Village Three*: 1,638 residential units (813 single family, 457 multi-family, and 327 unallocated units); 20,000 square feet of retail (7.4 acres); 29.3 acres of industrial; 15.3 acres of parks; 4.3 acres of CPF; and 8.3 acres of school. *Village Eight East*: 3,276 residential units (943 single family and 2,333 multi-family); 20,000 square feet of retail; 4.2 acres of CPF; 30.4 required acres of parks; and 10.8 acres of school. *Village Ten*: 1,740 residential units (695 single family and 1,045 multi-family); 7.6 acres of parks; 4.3 acres of CPF; and 9.2 acres of school.	Approved
2	Eastern Urban Center (Millenia)	East of SR 125 and west of Eastlake Parkway, south of Birch Street	Designated uses and density at buildout of the project include 2,983 multi-family residential units and 3.324 million square feet of non-residential use including regional and specialty shopping, multi-use cultural arts facilities, local parks, business parks, visitor commercial, a transit station, an elementary school, and other civic facilities.	Approved
3	Village Four South Residential	Otay Ranch	275 multi-family and 75 single family homes.	Approved
4	Planning Area 12 Freeway Commercial	East of SR 125 and west of Eastlake Parkway, south of Olympic Parkway	The project includes development of 900 multi-family homes, commercial, mixed use, hotel, and park uses.	Approved

Table 6-2. Cumulative Projects

Project No.	Name	Location	Description	Status
5	Village Two	West of La Media Road, south of Olympic Parkway	The project includes development of 4,538 residential units (614 single-family and 3,924 multi-family units), 87.9 acres of industrial uses, along with commercial, parks, and open space.	Approved
6	Village Eight West	Southwest portion of Otay Ranch	The project will be built in several phases. The following components of the project were included in the project' near-term cumulative analysis: 561 single family homes, 1,773 multi-family homes, up to 50,000 SF of office uses and 250,000 SF of commercial retail, an elementary school, and 23.4 acres of parks	Approved
7	Village Nine	Southwest portion of Otay Ranch	3,959 residential units (266 single family and 3,693 multi-family); 1,200,000 square feet of commercial/office; 300,000 square feet of retail; 5 acres of CPF; 27.5 acres of parks; and 19.8 acres of school.	Approved
8	Eastlake Behavioral Health Hospital	North of Otay Lake Road, west of Hunte Parkway	The proposed project would include construction of a new single-story behavioral health acute psychiatric hospital, which would accommodate 120 beds within an approximately 97,050-square-foot single-story structure.	Project Submitted – Pending Review

6.3.2 Adopted Plans

From a regional approach, the cumulative analysis relies on the Regional Comprehensive Plan; General Development Plan (GDP); the Chula Vista General Plan; and other regional planning documents, including the Multiple Species Conservation Program (MSCP) Subarea Plan and Regional Air Quality Strategy (RAQS) in accordance with CEQA Section 15130(b)(1)(B).

6.4 Cumulative Impact Analysis

The discussion below evaluates the potential for the proposed project to contribute to an adverse cumulative impact on the environment. For issues addressed in this Draft EIR, the thresholds used to determine significance are those presented in each of the sections of Chapter 5, Environmental Analysis. For issues in which project impacts were determined to be less than significant during the preliminary environmental review process, the thresholds consist of the questions posed for that respective issue in Appendix G of the CEQA Guidelines. For each resource area, an introductory statement is made regarding what would amount to a significant cumulative impact in that resource area. Discussion is then presented regarding the potential for the identified cumulative projects to result in such a cumulative impact, followed by discussion of whether the project's contribution to any cumulative impact would be cumulatively considerable.

6.4.1 Aesthetics

As described in Section 5.1, Aesthetics, development of the proposed project would result in less than significant impacts to scenic vistas, and no impacts to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. In addition, the proposed project would not conflict with the applicable zoning as the GDP and SPA Plan amendments and Rezone would be approved concurrently with the proposed project to allow for the changes in land use and zoning. Lastly, with compliance with the CVMC and County Light Pollution Ordinance, new sources of light and glare would not result in adverse day or nighttime views in the area, and impacts would be less than significant.

The list of cumulative projects in Table 6-2 consists of primarily new residential projects, as well as industrial and commercial projects and a behavioral health hospital, which overall are similar in size, scale, and scope to the proposed project. Although the existing visual quality or character of the site and its surroundings would be impacted as a result of the proposed project and cumulative projects, none of the projects would substantially degrade a scenic resource or unique topographic feature or result in a substantial impediment to scenic views because the developments would be required to be planned land uses and include applicable development and design guidelines. Some cumulative projects would be located within already developed areas, as opposed to others which would result in the conversion of large areas of undeveloped land to developed uses (see Figure 6-1). The proposed project, in combination with the cumulative projects, would contribute to a cumulative loss of views of natural open space in the increasingly developed eastern area of Chula Vista. The project site is surrounded by existing development and would not impact scenic vistas. However, similar to the proposed project, all cumulative projects would be required to comply with the zoning of their respective sites and applicable regulations governing scenic quality, including preservation of planned open space areas. Therefore, in combination with planning future development, the project would not result in a cumulatively considerable contribution to a cumulative impact to aesthetics.

Development in the vicinity of the project site include sources of nighttime lighting in the form of interior and exterior security lighting and parking, architectural highlighting, and landscape lighting. In addition, automobile headlights streetlights and stoplights along the roadway network contribute to ambient nighttime lighting levels on the project site. Development of the proposed project would contribute new sources of light to the surrounding area. The project includes lighting performance standards to minimize the proposed projects contribution to nighttime lighting and light sources. Lighting would be consistent with lighting standards prevalent in urbanized areas would adhere to all applicable City ordinances and standards. Also, compliance with the City and state energy conservation measures currently in place would limit the amount of unnecessary interior illumination during evening and nighttime hours. Therefore, in combination with all other cumulative projects, the proposed project would not considerably contribute to lighting and glare.

6.4.2 Air Quality

See Threshold B in Section 5.2.3, for a discussion of the cumulative air quality impacts of the proposed project. As described in this section, air pollution is largely a cumulative impact. The San Diego Air Pollution Control District (SDAPCD) develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

The SDAB is a nonattainment area for ozone (O_3) under the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The poor air quality in the San Diego Air Basin (SDAB) is the result

of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., volatile organic compounds [VOCs] and NO_x for O_3) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. However, a project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the SDAB to ensure that the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents on which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As discussed in more detail in Section 5.2.1, the project would not exceed significance thresholds during construction or operation. As such, the project would result in less-than-significant impacts to air quality relative to emissions. In addition, the proposed project would implement Project Design Feature (PDF)-AQ-1, Fugitive Dust Control, and PDF-AQ-2, Architectural Coating, to ensure impacts to air quality are less than significant (see Section 4.4.8 for details). As a result, the project would not result in a cumulatively considerable contribution to criteria pollutant emissions. Cumulative impacts associated with project-generated construction and operational criteria air pollutant emissions would be **less than significant**.

6.4.3 Biological Resources

Cumulative impacts consider the potential regional effects of a project and how a project may affect an ecosystem or one of its members beyond the project limits and on a regional scale. As discussed in Section 5.3, with implementation of Mitigation Measure **(MM) BIO-1** through **MM-BIO-16**, impacts to biological resources anticipated under the proposed project would be less than significant. In addition, the proposed project would require a Multiple Species Conservation Program (MSCP) Preserve Boundary Line Adjustment (BLA) to resolve a conflict between the proposed project and mapped MSCP Preserve. In addition to the BLA, the project would be required to comply with Subarea Plan conditions for coverage. Implementation of the proposed project, in combination with cumulative projects, would contribute to the cumulative loss of biological resources within the City. However, cumulative projects would be required to implement similar mitigation as the proposed project to ensure impacts to biological resources would be less than significant. In addition, cumulative projects would be required to comply with the Subarea Plan conditions for coverage, which provides consideration for and mitigation of cumulative impacts to biological resources, and all existing regulations related to biological resources. Therefore, the proposed project, in combination with development of cumulative projects, would not result in a cumulatively considerable contribution to biological impacts.

6.4.4 Cultural Resources and Tribal Cultural Resources

A cumulative impact to cultural resources, refers to the mounting aggregate effect upon cultural resources due to modern or recent historic land use, such as residential development, and natural processes, such as erosion, that result from human acts. The issue that must be explored in a cumulative impact analysis is the aggregate loss of information and the loss of recognized cultural landmarks and vestiges of a community's cultural history.

As discussed in Section 5.4, no historic sites were identified within the project site in previous cultural investigations, records search, or the 2020 pedestrian survey. Therefore, construction and operation of the proposed project would not cause a substantial change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5, and no impact to historic resources would occur. In addition, although no cultural resources have been identified or recorded within the proposed project's area of potential effect (APE), the proximity of known sites beyond the southern boundary indicates a high sensitivity of encountering intact subsurface cultural resources. As there is potential to encounter previously unidentified subsurface cultural deposits, impacts to archaeological resources would be potentially significant and **MM-CUL-1** would be required to reduce impacts to less than significant. In addition, in the event that human remains are discovered during project grading and construction, impacts would be potentially significant and **MM-CUL-1** would reduce potentially significant impacts to a level below significance. Lastly, as discussed in Section 5.4, impacts to tribal cultural resources would be potentially significant and **MM-CUL-1** would be implemented to reduce impacts to **less than significant**.

The majority of cumulative projects in the area have centered on residential development, although commercial and industrial project and a behavioral health hospital project are also included in the cumulative projects list (see Table 6-2). Collectively, these projects reflect the eastward expansion of planned residential communities in the City and the need for improved and additional infrastructure. In addition to modern development, much of the area has been previously disturbed by agriculture activities, including plowing, disking, and grazing, including the project site. Nearly all of the land in the vicinity of the project site has been surveyed for cultural resources, and several archaeological sites located within this survey area have been identified, tested, and evaluated for significance. Some past projects in the area, including especially habitation sites and temporary camps in the general vicinity and on the Otay Mesa, have contributed to a cumulative impact on prehistoric cultural resources, since it represents the continued destruction of cultural resources. However, as discussed in Section 5.4, the proposed project would not result in impacts to any known cultural resources. In addition, **MM-CUL-1** would be implemented to reduce potential impacts to cultural resources, if any unknown resources are discovered during project implementation.

There is the potential for nearby cumulative projects, especially those that would result in ground-disturbing activities that would impact intact native soils, to inadvertently discover and adversely affect historical and archaeological resources. Cumulative projects would implement appropriate mitigation measures to reduce historical resources impacts to less than significant. Important information about prehistory would not be lost through a well-planned and executed mitigation program that documents and gathers all data from these non-replaceable and non-renewable resources. When considered with other cumulative projects, cumulative impacts to historical resources would not be cumulatively considerable.

6.4.5 Energy

Implementation of the proposed project and cumulative projects in the surrounding area would result in an increased energy demand at full buildout. A significant cumulative impact to energy resources would result if a project results in wasteful, inefficient, or unnecessary consumption of energy resources or conflicts with or obstructs

a state or local plan for renewable energy or energy efficiency. As discussed in Section 5.5, the proposed project would be required to comply with existing regulations such as Part 11 of Title 24 of the California Green Building Standards Code as well as the City's Climate Action Plan (CAP). Additionally, the proposed project includes a non-renewable energy conservation plan that incorporates project design measures to minimize energy use. The project would also implement energy reducing measures through implementation of **MM-GHG-1**, the effects of which would be increased through implementation of green building standards, impacts to energy would be **less than significant**.

San Diego Gas & Electric has indicated that without an increased import capacity, including a new substation within the Otay Ranch area, future energy needs for the eastward expansion of planned residential communities in the City could not be ensured. Construction of a new substation located south of the east end of Hunte Parkway began in 2016 and was completed in June 2018 (CPUC 2018). Therefore, infrastructure for the continued long-term delivery of energy to the area is in place and to serve the proposed and cumulative projects. Because the project would not result in the wasteful or inefficient use of energy, and because there is adequate energy infrastructure to serve the proposed and cumulative projects, the project's contribution to a significant cumulative energy impact would not be cumulatively considerable.

6.4.6 Geology and Soils

Potential cumulative impacts on geology and soils would result from projects that combine to create geologic hazards, including unstable geologic conditions, or substantially contribute to coastal erosion. Most geology and soil hazards associated with development on surrounding projects would be site-specific and can be mitigated on a project-by-project basis. Such hazards include direct or indirect substantial adverse effects to cause rupture of an earthquake fault, liquefaction, landslides, unstable geologic units, and expansive soils. Individual project mitigation for these hazards would ensure that there are no residual cumulative impacts. Proper engineering design, utilization of standard construction practices, adherence to the erosion control standards established by the City's Grading Ordinance, implementation of best management practices (BMPs) required by the Stormwater Pollution Prevention Plan (SWPPP), and implementation of the recommendations found in the Geotechnical Investigation Report (Appendix G) would ensure that the potential for geological impacts resulting from the project would be **less than significant**. Since geologic hazards are site-specific and not cumulative in nature, the proposed project would not have a cumulatively considerable impact to geologic hazards.

In addition, the potential for impacting paleontological resources vary from site to site and are dependent on specific excavation requirements for each project. As discussed in Section 5.6, the proposed project has a high potential to produce paleontological resources during planned construction activities. Thus, the project shall implement **MM-GEO-1** to reduce potential impacts in the event paleontological resources are uncovered during construction activities. Incorporation of mitigation would ensure proper handling and recordation of any paleontological resources encountered, and all cumulative projects with potential to encounter paleontological resources would be subject to similar requirements. Therefore, the project would not result in a cumulatively considerable impact to paleontological resources.

6.4.7 Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions and their contribution to climate change are widely recognized as a global problem, and California has acknowledged this phenomenon as a state concern. As such, the analysis of the proposed project's impacts to climate change is cumulative in nature. Therefore, the information and analysis

provided in Section 5.7, Greenhouse Gas Emissions, to determine project-level impacts, applies here and the project's contribution to global climate change would not be cumulatively considerable.

As discussed in Section 5.7, using the estimated operational plus amortized construction emissions of 7,860 MT CO_2e and service population (SP) of 2,321, the project would have a GHG efficiency metric of 3.39 MT CO_2e per SP. The project's efficiency metric would exceed the significance threshold efficiency metric of 1.37 MT CO_2e per SP. Therefore, impacts related to GHG emissions associated with the project would be potentially significant. **MM-GHG-1**, outlined in Section 5.7.5, would be implemented and would minimize GHG emissions associated with project operations. However, approximately 75% of the proposed project's annual GHG emissions are from mobile sources; therefore, to reduce GHG emissions to a less-than-significant level, the project would need to reduce its total GHG emissions by approximately 76% to reduce the project-generated GHG emissions below the City's efficiency threshold. Because the project's SP-based emissions would be more than the City's efficiency metric of 1.37 MT CO_2e per SP, potential GHG emissions impacts associated with exceedance of the City's efficiency metric would be considered significant and unavoidable**.** Therefore, because the proposed project's impacts to climate change is cumulative in nature, the proposed project would result in a **significant and unavoidable** cumulative impact to GHGs.

6.4.8 Hazards and Hazardous Materials

Cumulative impacts related to hazards and hazardous materials would result from projects that combine to increase exposure to hazards and hazardous materials. As discussed in Section 5.8, Hazards and Hazardous Materials, the proposed project would have less-than-significant impacts related to hazardous materials. Past, current, and reasonably foreseeable commercial projects in the region would result in the use and transport of incrementally more oils, greases, and petroleum products for operation purposes. Although these could be subject to accidental spillage, there is no quantifiable cumulative effect, since accidents are indiscriminate events, not related or contributory to one another. Provided that individual projects adhere to current laws governing storage, transportation, and handling of hazardous materials, no significant cumulative hazards or threats to human health and safety are anticipated. In addition, although soil vapor attributable to the adjoining Otay Class III landfill is present on site, methane was not detected in soils samples on-site indicating that the landfill gas control system (LFGCS), installed and operated by the landfill owner, is effectively controlling the migration of methane from the adjoining Class III landfill. Potential soil contamination associated with cumulative projects listed in Table 6-2 could create a hazard to public health during grading and excavation. However, cumulative projects listed in Table 6-2 would be required to analyze soils and mitigate any potentially significant hazards. Therefore, the proposed project's impact would not be cumulatively considerable.

In addition, as discussed in Section 5.8 and 5.17, the project could result in an impact related to exacerbating wildfire risk that exposes project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of a wildfire if it would increase the risk of a wildfire occurring and the climatic, topographic, vegetation, weather conditions, and other factors that aid in increasing the severity of such an occurrence. The project site is within a wildland urban interface (WUI) location that is in an area statutorily designated a Local Responsibility Area (LRA) Non-Fire Hazard Severity Zone (FHSZ) by the City and California Department of Forestry and Fire Protection (CAL FIRE). The project site is within a Supplemental Fire Hazard Zone as designated by the City. In addition, project site is designated as a High Hazard area (City of Chula Vista 2005). However, the proposed project would be required to comply with the CVMC, the California Fire Code, and the requirements of the Fire Protection Plan (FPP) prepared for the proposed project, including implementation of Fire Management Zones (FMZs) (Appendix H3). However, due to site constraints, it is not feasible to achieve a 100-foot FMZ width on the south side of the project site. Therefore, **MM-WF-1** would be incorporated, only to the walls of the structures that face the open space areas adjacent to the

project site, to ensure impacts would be less than significant. Cumulative projects would also be required to implement similar fire safety features and structure protection features to reduce impacts. Preparation of FPPs would further reduce cumulative project impacts. Therefore, through compliance with existing regulations associated with wildland fires, impacts associated with wildfire would not be cumulatively considerable.

6.4.9 Hydrology and Water Quality

Cumulative hydrology impacts also result from projects combining to alter the course of surface water flow or to increase flood hazards in a particular area, either through diverting floodways or constructing structures within the floodways. Cumulative water quality impacts result from projects that combine to either pollute or increase the turbidity of water. As stated in Section 5.9, Hydrology and Water Quality, during construction and operation, the proposed project has the potential to violate water quality standards. However, compliance with the Chula Vista Storm Water Management and Discharge Control Ordinance, the City of Chula Vista Subdivision Manual, Design and Construction Standards of the City of Chula Vista, as well as the preparation of site-specific Storm Water Stormwater Quality Management Plan (SWQMP) and Drainage Study (Appendices I1 and I2), impacts would remain below a level of significance. Furthermore, because all surrounding projects are regulated under the same City and Regional Water Quality Control Board standards, they too would be required to attenuate all drainage on site (to maintain pre development flow quantities) and to incorporate hydrology and water quality design features to prevent cumulative impacts to local drainage systems or water quality. Therefore, the proposed project would not contribute to a cumulatively considerable impact related to hydrology and water quality.

6.4.10 Land Use and Planning

Significant adverse cumulative land use impacts would result from projects that contribute to development that is inconsistent with applicable plans or incompatible with existing or planned uses or planned addition of incompatible uses.

As described in Section 5.10, Land Use and Planning, the proposed project would not physically divide an established community. In addition, with incorporation of mitigation measures **MM-GHG-1**, **MM-CUL-1**, **MM-GEO-1**, and **MM-WF-1**, the proposed project would be consistent with the City's General Plan. In addition, the proposed project would not conflict with the goals and objectives of the GDP. Further, upon approval, the proposed project would not conflict with the land use designations of the GDP and SPA Plan because these plans would be amended concurrently with approval of the proposed project, to allow for the proposed land uses. The proposed project would also be consistent with the Parkland Dedication Ordinance and Parks and Recreation Master Plan. With notification of the Federal Aviation Administration (FAA), the proposed project would comply with the Brown Field Airport Land Use Compatibility Plan (ALUCP). Lastly, as discussed in Section 5.3 and Section 5.10, the proposed project would not result in conflicts with the City's MSCP Subarea Plan through compliance with the MSCP BLA functional equivalency and future facility criteria.

The cumulative projects listed in Table 6-2 would all include similar project features, design standards, and balance of land uses. Additionally, all cumulative projects would be subject to similar criteria as the proposed project, which would ensure compliance with existing applicable land use plans with jurisdiction over the project site. Analysis of individual projects as they are submitted to the City will ensure compatibility with applicable plans and policies. Since all current and future projects would be analyzed for compatibility and compliance with land use regulations, the proposed project would not result in a cumulatively considerable impact.

6.4.11 Noise

Potential cumulative impacts on noise would result when projects combine to generate noise levels in excess of the City of Chula Vista Ordinance standards, either during construction or operation. As discussed in Section 5.11, typical construction noise during allowable daytime hours would not exceed the Federal Transit Administration (FTA) guidance-based standard. Thus, temporary construction-related noise impacts associated with the project would be less than significant. Similarly, project-specific noise impacts during operations would be less than significant.

Noise effects of the project would, for the most part, be confined to the project site and were evaluated on a project-specific basis. Long-term on-site activities associated with the project would not have a regional effect upon community noise levels (see Section 5.11), and therefore need not be considered in combination with approved or proposed projects in the region. The one exception is the project's contribution to traffic-related noise levels, which would extend beyond the site boundaries, and must be considered in the context of proposed projects in the region. However, as discussed in Section 5.11.3, the proposed project's impact to off-site traffic noise increases would be less than significant. Thus, the project's contribution to cumulatively significant noise impacts would not be cumulatively considerable.

6.4.12 Population and Housing

As discussed in Section 5.12, Population and Housing, the proposed project would introduce an estimated 2,314.83 persons to the project site (rounded to 2,315). The proposed residential development was originally identified to be developed as Industrial Park in the GDP and SPA Plan. As such, the change in land use from Industrial Park to Medium-High and High Residential would be considered unplanned population growth in excess of the original estimates in the GDP and SPA Plan. Although this population growth would be considered unplanned, the proposed project would only represent 5.9 percent of forecasted population growth and 6 percent of forecasted housing growth between 2020 and 2035, based on SANDAG's Series 13 forecast. Additionally, development of an Industrial Park would directly result in some amount of population growth within the City due to new employment in the area. Further, the proposed project would satisfy its affordable housing obligations via a Balanced Communities Affordable Housing Agreement between the project Applicant and the City. This Balanced Communities Affordable Housing Agreement will document satisfaction with affordable housing requirements which would help the City fulfill both deficits from past 5th Cycle allocations and projections for current 6th Cycle allocations for low income housing. While the proposed project would directly contribute to population growth in the area as compared to existing conditions, the population inducement resulting from the proposed project would not be considered substantial. Impacts would be **less than significant**.

Various cumulative projects listed in Table 6-2 would either directly or indirectly induce population growth. The majority of the cumulative projects listed in Table 6-2 involve residential and development projects that may increase population growth in the surrounding area. However, the introduction of a new population is not, in and of itself, a significant impact. Although projects included in Table 6-2 would contribute to population growth, many of these project sites have been previously slated for development, similar to the proposed project, and thus these increases in population have largely been accounted for in appropriate planning documents. In addition, these projects would be required to provide affordable housing units, which would help the City fulfill deficits of 5th and 6th cycle low income housing allocations. Therefore, cumulative impacts to population and housing would not be cumulatively significant.

6.4.13 Public Services

Cumulative impacts on public services, including fire and police protection, parks, schools, and libraries, would result when projects combine to increase demand on services such that additional services must be constructed or provided. This would usually result from the incremental addition of people occupying an area or the incremental construction of new or larger buildings requiring public services provision. As discussed in Section 5.13, with implementation of **MM-PS-1,** which requires payment of a Public Facilities Development Impact Fee (PFDIF) and implementation of existing Community Facilities Districts (CFDs), impacts to fire and police protection, schools, and libraries would be less than significant. In addition, **MM-PS-2**, which requires payment of Development Impact Fees (DIFs) pursuant to SB 50/Government Code Section 65995 and implementation of existing CFDs, would be required to further reduce impacts to the schools to less than significant. Lastly, **MM-PS-3**, which requires payment of the Park Benefit Fee, equal to the City's Park Acquisition and Development (PAD) Fee Update pursuant to CVMC Section 17.10, would be implemented to reduce potentially significant impacts to public parks. Cumulative projects included in Table 6-2 would be required to implement similar mitigation and payment of associated fees prior to the issuance of each building permit. Therefore, through compliance with appropriate mitigation, cumulative impacts related to public services would be less than significant.

6.4.14 Recreation

As discussed in Section 5.14, the proposed project would pay the appropriate development fees to offset potential impacts to recreational facilities and parkland. A Community Benefit Agreement between the City and the Applicant stipulates that the Applicant shall pay the City a Park Benefit Fee, equal to the Park Acquisition and Development (PAD) fee that would have been due pursuant to CVMC Section 17.10, of approximately $11.03 million based on 2019 PAD fees, which may be revised by the City from time to time (**MM-PS-3**). Payment of the Park Benefit Fee would fund parkland acquisition and construction, as determined by the City. Adverse physical effects resulting from the construction of recreational facilities as addressed throughout this EIR as part of the proposed project and with incorporation of proposed mitigation measures impacts would be less than significant. It is anticipated that all cumulative projects included in Table 6-2 would be required to implement similar mitigation and payment of associated fees prior to the issuance of each building permit. Therefore, through compliance with appropriate mitigation, cumulative impacts related to recreation would be **less than significant**.

6.4.15 Transportation

As discussed in Section 5.15, the project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. In addition, the proposed project would be required to implement **PDF-TRA-1** (see Section 4.4.8) in order to ensure consistency with CEQA Guidelines section 15064.3, subdivision (b). **PDF-TRA-1** would include various strategies to reduce automobile trips, such as ride share coordination services, on-site transit opportunities information, and bicycle use encouragement. With implementation of **PDF-TRA-1**, impacts would be less than significant. It is anticipated that all cumulative projects included in Table 6-2 would be required to implement similar mitigation or design features to reduce or avoid potential impacts.

In addition, as discussed in Section 5.15, the project would not substantially increase hazards due to a geometric design feature or incompatible use and would not result in inadequate emergency access. It is anticipated that cumulative projects included in Table 6-2 would implement access and circulation features that would ensure projects would not result in an increase in hazards or inadequate emergency access. Therefore, cumulative impacts related to transportation would be **less than significant**.

6.4.16 Utilities and Service Systems

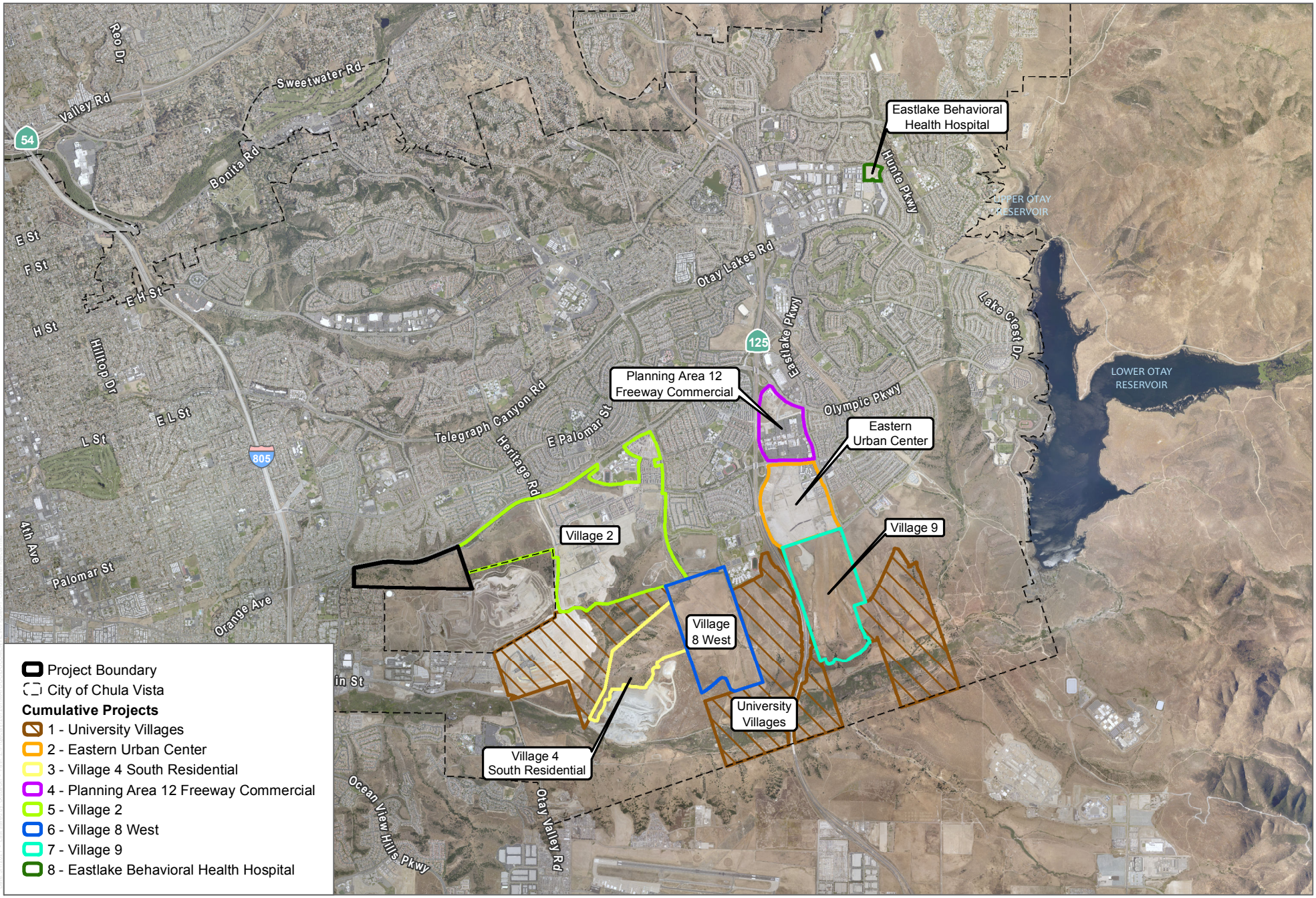
Cumulative impacts to utilities and services systems would result when projects combine to increase demand for utilities and service systems such that additional facilities must be provided or expanded. This would usually result from the incremental addition of people occupying an area or the incremental construction of new or larger buildings requiring public services provision. As discussed in Section 5.16, with implementation of utility infrastructure associated with the project, the proposed project would not result in relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities. Although water demand would increase with implementation of the proposed project, water supplies are available to provide a reliable local water source to the project during normal, dry, and multiple dry years. In addition, adequate wastewater treatment would be available to serve the proposed project. Lastly, solid waste generated under the proposed project would not exceed state or local standards, or capacity of local infrastructure. Cumulative projects would be required to perform similar analyses, in accordance with CEQA, to ensure projects would have sufficient utilities. The SPA Plans implemented in the City, including the proposed project, include development standards that would apply to future build-out of the planning area and specifically include development elements and/or policies and measures to ensure that adequate utilities and service systems such as water and wastewater are provided in conjunction with buildout of the proposed and cumulative projects. Specific to water, each SPA Plan is required to prepare a water conservation plan to minimize use of water.

Total permitted capacity at the Otay Landfill is approximately 62.4 million cubic yards, and the landfill has a remaining capacity of 53%, or 33.1 million cubic yards. The 2005 General Plan Update EIR (City of Chula Vista 2005) concluded that there is sufficient capacity within the Otay Landfill to accommodate project solid waste generated and anticipated under the General Plan Update. The Otay Landfill is scheduled to close in 2030; however, under the current franchise agreement between the City of Chula Vista and Republic Services, solid waste would be disposed of at the Sycamore Landfill once the Otay Landfill meets its permitted capacity and terminates solid waste services (City of Chula Vista 2012). As such, solid waste service would continue following closure of the Otay Landfill and permitted capacity would be available to accommodate the proposed project and cumulative projects. Waste collection for proposed and planned land uses would be provided by the City under its contract agreement with Republic Services. The waste collection procedures and programs for the proposed and cumulative projects would be required to comply with the municipal requirements for recycling and collection of solid waste, including provision for litter control for public events. The proposed and cumulative projects would be required to comply with all applicable statutes and regulations and therefore would not have cumulatively considerable impacts with respect to solid waste collection and management.

6.4.17 Wildfire

With regard to wildfire hazards, as discussed in Section 5.17, the project site is located within a wildland-urban interface (WUI) location that is in an area statutorily designated LRA FHSZ by the City and CAL FIRE (CAL FIRE 2009). While the project site is not designated as a FHSV by CALFIRE, the General Plan has identified fire hazard zones (FHZ) within the City to acknowledge areas that are potentially susceptible to wildfire. As such, the General Plan designates the project site as a High Hazard area which suggests the area may contain substantial fire risk and hazards (City of Chula Vista 2005). However, with implementation of **MM-WF-1**, impacts associated with wildfire risk would be less than significant. In addition, the project would be required to comply with CVMC requirements and the Fire Protection Plan (FPP) prepared for the project (Appendix H3). All cumulative projects within the WUI would be required to meet minimum fire fuel modification and/or clearing requirements in addition to meeting the standards of the various fire codes in effect at the time of building permit issuance. Cumulative projects would also be required to prepare FPPs, to evaluate and identify potential fire risks associated with the project. As such, through compliance with existing regulations and similar project design features, as applicable, cumulative impacts to wildfire would not be cumulatively considerable.

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SOURCE: SanGIS 2017; Open Street Map 2019

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FIGURE 6-1

Cumulative Projects

Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project EIR

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7 Growth Inducement

Section 15126.2(d) of the California Environmental Quality Act (CEQA) Guidelines mandates that the growth-inducing nature of a proposed project be discussed. This CEQA Guideline states that the growth inducing analysis is intended to address the potential for the project to "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Further, the CEQA Appendix G Checklist (Population and Housing) mandates that a CEQA document address a project's likelihood to induce substantial population growth in an area, either directly (for example, by proposing new homes or businesses) or indirectly (for example, through extension of roads or other infrastructure).

A project may be distinguished as either facilitating planned growth or inducing unplanned growth. Facilitating growth relates to the establishment of direct employment, population, or housing growth that would occur within a project site. Inducing growth is related to lowering or removing barriers to growth or by creating an amenity or facility that attracts new population/economic activity. For purposes of this EIR analysis, a significant growth-inducement impact would occur if the project, and all associated infrastructure improvements, directly or indirectly removes obstacles to growth such that the induced growth would significantly burden existing community services or the environment, or cause a demand for a General Plan Amendment.

This chapter contains a discussion of the growth-inducing factors related to the proposed Sunbow Sectional Planning Area Plan Amendment for the Sunbow II, Phase 3 Project (project) and as defined under CEQA Guidelines Section 15162.2(d). A project is defined as growth inducing when it directly or indirectly:

1. Fosters population growth;
2. Fosters economic growth;
3. Includes the construction of additional housing in the surrounding environment;
4. Removes obstacles to population growth;
5. Taxes existing community service facilities, requiring construction of new facilities that could cause significant environmental effects; and/or
6. Encourages or facilitates other activities that could significantly affect the environment, either individually or cumulatively.

It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

7.1 Growth Inducement Due to Population Growth

As discussed in Section 5.12, Population and Housing, the proposed project would directly contribute to population growth in the City of Chula Vista (City). The proposed project would develop 718 multi-family residential units composed of medium-high- and high-density units. The proposed project would directly contribute to population growth in the area through the development of these dwelling units. Based on SANDAG's Series 13 forecast, the interpolated persons per household ratio in 2028 is 3.224. Thus, the proposed project would result in 2,314.83 persons (rounded to 2,315) (Appendix F). Through existing Sunbow General Development Plan (GDP) planning efforts, the project area was originally identified to be developed as Industrial Park and Open Space. As such, the proposed project would result in unplanned population growth due to the change in land use from Industrial Park to Medium-High and High residential. However, development of an Industrial Park would directly

result in some amount of population growth within the City due to new employment in the area (i.e. relocation of employees to the area). Based on the SANDAG Series 13 growth forecast, employment density[1] in the City in 2035 is anticipated to be 17.5 jobs per developed employment acre (SANDAG 2013). At this rate, a project consistent with the existing Industrial Park land use would result in approximately 957 employees in 2035, some percentage of which would move to the area resulting in population growth. Although the proposed project would likely result in greater population inducement, development under the existing Industrial Park land use was already anticipated to generate population under the City's growth projections.

The San Diego Forward: Regional Plan (SANDAG 2015) combines the region's two most important existing planning documents: the Regional Comprehensive Plan (RCP) and the Regional Transportation Plan and its Sustainable Communities Strategy (RTP/SCS). The RCP, adopted in 2004, laid out key principles for managing the region's growth while preserving natural resources and limiting urban sprawl. The plan covers policy areas including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, our borders, and social equity (SANDAG 2004). These policy areas were addressed in the 2050 Regional Transportation Plan and its Sustainable Communities Strategy (2050 RTP/SCS) (SANDAG 2011) and are now fully integrated into San Diego Forward. As part of the regional planning effort for San Diego Forward, the San Diego Association of Governments (SANDAG) solicited input from the City for projects that were in the planning phases. Development on the project site under existing plans would be included in the growth forecasts associated with San Diego Forward.

Furthermore, the City of Chula Vista Growth Management Program, outlined in the Chula Vista Municipal Code Chapter 19.09, Growth Management, calls for directing growth in and around the City in an orderly fashion, to avoid "leapfrog" development, to protect and preserve the City's amenities, and to guide growth in a general west to east direction. The proposed project fosters a development pattern that promotes orderly growth and prevents urban sprawl by developing on a site surrounded by existing development and planned for development for several decades. Refer to Section 5.12 for additional information.

7.2 Growth Inducement Due to Economic Growth

An increase in population would foster economic growth by increasing demand for regional and local goods and services. It is expected that future residents would demand a variety of goods and services from the existing and future commercial uses within the surrounding area. The proposed project would not provide services on site and therefore would not generate direct employment opportunities for residents. The proposed project would relate closely to the Sunbow SPA and greater East Planning Area, relying on these areas' retail, employment opportunities, and other services. As the project proposes development of 718 residences, a community purpose facility, and designation of open space, the project is not expected to result in substantial growth inducement associated with economic growth.

7.3 Growth Inducement Due to Additional Housing

As discussed in Section 5.12, through previous GDP planning efforts, the project site was identified to be developed as Industrial Park with no residential units. The proposed project would result in the development of 718 residential units on the project site which were not previously planned in the GDP or SPA Plan. As a result, it is anticipated the proposed project would result in a population of 2,315 persons, based on SANDAG's Series

[1] Civilian jobs per developed employment acre (industrial, retail, office, schools, and half of mixed-use acres).

13 forecast (Appendix F). However, although this additional housing would be considered unplanned, the proposed project would only represent approximately 5.9% of forecasted population growth and 6% of forecasted housing growth between 2020 and 2035, based on SANDAG's Series 13 forecast. Furthermore, the project would include a variety of housing types. The project Applicant would be required to enter into a Balanced Community Affordable Housing Agreement, a policy adopted to support the City's Balanced Communities Policy in order to increase the diversity of housing prices and rent throughout the community and meet the City's Regional Housing Allocation requirements. As shown in Table 5.12-2 of Section 5.12, the City was 4,271 units under the RHNA allocation for the 5th Cycle (2013–2020) and specifically for Very Low to Moderate income levels. As shown in Table 5.12-3 of Section 5.12, the City also has a current RHNA allocation of 11,105 units for the 6th Cycle (2021–2029), including 6,438 units for Extremely Low to Moderate income levels. Therefore, as a small percentage of the City's forecasted housing growth between 2020 and 2035, the addition of 718 units between 2024 and 2028 would provide balanced and diverse housing to the City and would provide housing to accommodate the City's future growth projections.

7.4 Growth Inducement Due to Removal of Obstacles

Improvements to transportation, utilities, and public service infrastructure as part of the proposed project would accommodate the direct growth induced by the proposed project. These improvements would not open up new areas to development because they would connect to existing transportation and utility infrastructure (including water and sewer) adjacent to the project site on and within Olympic Parkway. Furthermore, these improvements would provide access and utility service solely to the proposed project. Areas of the project site outside of the development area would also remain open space and would be part of the City's MSCP Preserve. Therefore, the project site would not be capable of supporting future development due to these transportation and utility improvements.

The proposed project would also include a storm drain system which would be designed to address peak flows and to integrate water quality features needed to comply with the City's Standard Urban Stormwater Mitigation Plan requirements for water quality. The proposed storm drain system would be designed to prevent the co-mingling of treated flows with untreated runoff and would include two proposed detention and water quality basins within the northeast and northwest portions of the development area to treat stormwater runoff. The proposed storm drain system would accommodate the proposed project and would not be capable of supporting future growth or development.

Public services such as schools, and police and fire services would be provided by existing and planned surrounding facilities. As discussed above and in Section 5.13, Public Services, payment of Public Facilities Development Impact Fees would ensure the proposed project would not significantly impact public services and facilities. Additionally, as discussed in Section 5.14, Recreation, the proposed project would pay Park Benefit Fees, equal to the City's Park Acquisition and Development Fee Update, to fulfill parkland obligation requirements for population induced by the proposed project and ensure the proposed project would not significantly impact parks and recreational facilities.

Infrastructure would not provide surplus capacity that would allow for additional, unplanned development. Public Facilities Financing Plans (PFFPs) are included with each SPA Plan to ensure that public utilities provided for the project would be provided concurrently with development. The Supplemental PFFP prepared for the proposed project provides a complete description of all public facilities included within the boundaries of the SPA Plan area, including phasing and financing of infrastructure. The proposed project would not provide surplus infrastructure capacity that would induce growth in surrounding areas, but would, rather, help accommodate the continued population influx in eastern Chula Vista over the next several decades. Therefore, the proposed project would not result in growth inducement due to the removal of obstacles.

7.5 Taxation of Existing Public Facilities and Services

As described in Section 5.12, the proposed project would comply with the City of Chula Vista Growth Management Ordinance (GMO) and established "quality of life" threshold standards. The Growth Management Oversight Commission is charged with reviewing the GMO annually to ensure compliance and make recommendations, as necessary. The GMO requires PFFPs for every SPA Plan. A Supplemental PFFP is required in conjunction with the preparation of a SPA Plan Amendment to ensure that development of the proposed project is consistent with the overall goals and policies of the General Plan and would not degrade public services. The PFFP provides a complete description of all public facilities included within the boundaries of the SPA Plan area, including phasing and financing of infrastructure. The PFFPs ensure that development of the SPA Plan would not adversely impact the City's quality of life standards by requiring public facilities and services to be provided concurrent with demand. Therefore, compliance with the regulations listed above would ensure that development of the proposed project would not tax existing public facilities and services.

8 Significant Irreversible Environmental Changes

The California Environmental Quality Act (CEQA) Guidelines Section 15126.2(c) indicates the following:

> [U]ses of non-renewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or non-use thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Implementation of the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project) would involve consumption of limited, slowly renewable, and non-renewable resources. This consumption would occur during the construction phase of the project and would continue throughout its operational lifetime. The project would require a commitment of resources that would include (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people to and from the project site.

Construction of the project would require the consumption of resources that are not renewable or that may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel, and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; water; and fossil fuels such as gasoline and oil.

The resources that would be committed during operation of the project would include water for drinking and bathing, and fossil fuels for electricity, natural gas, and transportation. Section 5.7.5 outlines a mitigation measure which would include greenhouse gas emission reduction measures that would reduce consumption of fossil fuels such as gasoline and oil during construction and operational activities. Additionally, Section 4.4.8 includes a transportation project design feature that provides strategies to reduce the number of automobile trips generated by residents of the project. However, while implementation of the mitigation measure and project design feature would reduce the use of non-renewable resources, fossil fuels would represent the primary energy source associated with construction and ongoing operation of the project, and the existing, finite supplies of these natural resources would be incrementally reduced. Additionally, the project includes a Water Conservation Plan (Appendix L3) that includes mandatory water reduction measures.

Additionally, the project would involve an unquantifiable, but limited, use of potentially hazardous materials typical of residential uses, including cleaning solvents, and fertilizers and pesticides for landscaping. These materials would be contained, stored, and used on site in accordance with manufacturers' instructions, and applicable standards and regulations. Compliance with regulations would serve to protect against a significant and irreversible environmental change that could result from the accidental release of hazardous materials.

Furthermore, the project would result in the permanent commitment of land to the proposed project. The project would result in direct permanent impacts to sensitive vegetation communities/habitats consisting of native grassland, Diegan coastal sage scrub, and non-native grassland habitats. Permanent project impacts consist of

vegetation clearing, grading, and residential development including houses, a private recreation facility, fuel modification zone activities, detention basins, and roadways. Permanent impacts to these sensitive upland habitats, as well as sensitive plant species and habitats, would be considered potentially significant under CEQA and require implementation of mitigation measures outlined in Section 5.3.5. These mitigation measures would be consistent with the City of Chula Vista Multiple Species Conservation Program Subarea Plan and the Habitat Loss and Incidental Take Ordinance and would reduce impacts to a level below significance.

9 Effects Found Not to Be Significant

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires that an environmental impact report (EIR) briefly describe potential environmental effects that were determined not to be significant and therefore were not discussed in detail in the EIR. The environmental issues discussed below are not considered significant for the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project), and the reasons for the conclusion of non-significance are discussed below.

9.1 Agriculture and Forestry Resources

Under existing conditions, the project site is vacant, undeveloped land containing a variety of grasses, shrubs, and trees. According to the Department of Conservation's California Important Farmland Finder, the project site is designated as Farmland of Local Importance on the northern boundary and eastern portion, Grazing Land within the western portion and slightly within the southeastern corner, and Urban and Built-Up Land within small sections in the northwestern and southeastern corners (DOC 2016). In total, the project site contains 72.97-acres of Farmland of Local Importance, 62.61-acres of Grazing Land and 0.14-acres of Urban and Built-Up Land. Farmland of Local Importance is considered land important to the local agricultural economy. Grazing land consists of existing vegetation that is suited to the grazing of livestock. And lastly, Urban and Built-Up Land is defined as vacant and nonagricultural land which is surrounded on all sides by development and is less than 40-acres in size. While the project site is predominantly designated as Farmland of Local Importance and Grazing Land, the project site is currently zoned under the Sunbow Sectional Planning Area (SPA) Plan as open space preserve, open space, and limited industrial. Further, the SPA Plan does not identify current agricultural use within the project site. Furthermore, as discussed in the Phase I Environmental Site Assessment (ESA) prepared for the project (Appendix G1), aerial images of the project site show that the project site remained undeveloped from as early as 1943. While the aerial images of the area surrounding the project site identified former agriculture use south of the project site, the aerials did not reveal any previous agricultural use on the project site itself. However, despite the lack of agriculture use shown in aerials in the Phase I ESA (Appendix G1), due to proximity to the agricultural use shown in the aerial images of the surrounding area, the project site may have potentially been used as grazing land for animals.

The proposed project is primarily a residential project with associated infrastructure and open space areas. Development would be centered within the southeastern portion of the site. The approximately 67.5-acre development area would be composed of 44.2 acres of residential uses, a 0.9-acre Community Purpose Facility (CPF), 5.9 acres of public streets, and 16.5 acres of manufactured slopes and basins. The project also includes 63.6 acres of MSCP Preserve area, 4.3 acres of Poggi Creek Conservation Easements and a 0.3-acre wetland avoidance area. As part of proposed discretionary actions, the project would include rezoning and General Plan and SPA Plan amendments. Thus, upon approval of these amendments and rezone, the proposed project would be consistent with the land use designation and zoning of the project site. Additionally, the project site has been slated for development since the adoption of the Sunbow General Development Plan on December 5, 1989 and is not planned to be utilized for agriculture use. Furthermore, approximately 63.6 acres designated Multiple Species Conservation Program (MSCP) Preserve located within the project site would be permanently preserved. As such, because the project site is not currently used for agriculture, has been planned for development since 1989, and would propose to preserve 63.6 acres as MSCP Preserve, impacts to agriculture and forestry resources would be less than significant.

9.2 Mineral Resources

The Surface Mining and Reclamation Act of 1975 (SMARA) includes requirements and programs to ensure the long-term availability of mineral resources and that the significant adverse environmental impacts of surface mining are adequately mitigated. As mandated by the Surface Mining and Reclamation Act of 1975, aggregate mineral resources within the state are classified by the State Mining and Geology Board through application of the Mineral Resource Zone (MRZ) system. The MRZ system is used to map all mineral commodities within identified jurisdictional boundaries, with priority given to areas where future mineral resource extraction may be prevented or restricted by land use compatibility issues, or where mineral resources may be mined during the 50-year period following their classification. The MRZ system classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials). The state geologist classifies MRZs within a region based on the following factors:

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data.

MRZ-4: Areas where geologic information does not rule out either the presence or absence of mineral resources.

According to a map obtained through the San Diego Association of Governments (SANDAG), the project site is located within an MRZ-3 zone, meaning that mineral resources cannot be determined from available data (SANDAG n.d.).

As discussed in the General Plan, Environmental Element, portions of the Otay River Valley are identified as an MRZ-2 area (City of Chula Vista 2005). Additionally, two other MRZ-2 areas are located on and just outside the General Plan area: one in the Sweetwater River Valley east of the Sweetwater Reservoir; and the other along the Jamul/Dulzura Creek east of Lower Otay Lake (City of Chula Vista 2005). However, the project site is located outside of the "Regionally Significant" MRZ-2 Aggregate Resource Areas (SANDAG n.d.). Additionally, the project would not be designated for extractive uses, but rather for residential and open space. More specifically, approximately 63.6 acres of the project site would be designated for MSCP Preserve and remain undeveloped. Thus, the City would not permit or plan for mining operations as future use in these areas. Therefore, no impacts to mineral resources would occur.

10 Alternatives

10.1 Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, environmental impact reports (EIRs) are required to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (14 CCR 15126.6(a)). This EIR "must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation" (14 CCR 15126.6(a)). The alternatives discussion is required even if these alternatives "would impede to some degree the attainment of the project objectives, or would be more costly" (14 CCR 15126.6(b)).

The inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact "feasible." The final decision regarding the feasibility of alternatives lies with the decision maker for a given project who must make the necessary findings addressing the potential feasibility of reducing the severity of significant environmental effects (California Public Resources Code, Section 21081; see also 14 CCR 15091).

10.2 Project Objectives

Following are the objectives of the proposed Sunbow Sectional Planning Area (SPA) Plan Amendment for the Sunbow II, Phase 3 Project (project or proposed project):

1. Develop a pedestrian-oriented community on an under-utilized site with a range of residential uses, open space and MSCP Preserve areas, and recreational opportunities, which are compatible with the adjacent established residential communities.
2. Contribute to the growing housing needs of the City and region by providing for multi-family housing units with a range of housing types to accommodate a spectrum of demographics.
3. Preserve portions of the project site as permanent open space and increase the MSCP Preserve Areas.
4. Provide pedestrian and bicycle facilities, including a pedestrian connection to the Chula Vista Regional Trail and connections to bike lanes within Olympic Parkway and nearby transit.
5. Implement the goals, objectives, and policies of the Chula Vista General Plan; the MSCP Subarea Plan; the Sunbow GDP; and the Sunbow SPA Plan.
6. Implement the City of Chula Vista's Growth Management Ordinance to ensure that public and community facilities, such as transportation, water, flood control, sewage disposal, schools and parks, are provided in a timely manner and financed by the parties creating the demand for, and benefiting from, the improvements.
7. Ensure new uses are compatible with the existing community by establishing setbacks, design regulations and guidelines, best practices, and performance standards that enhance quality of life for neighboring properties.
8. Create a land use plan that can realistically be developed within a foreseeable time frame and under projected economic conditions.

10.3 Alternatives Considered but Rejected

State CEQA Guidelines Section 15126.6(c) provides guidance in selecting a range of reasonable alternatives for the project. The EIR should also identify any alternatives that were considered by the lead agency, but were rejected during the planning or scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. State CEQA Guidelines Section 15126.6(c) provides the following guidance in selecting a range of reasonable alternatives for the project. There are many factors that may be taken into account when addressing the feasibility of range of potential alternatives for the project, such as site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). The alternatives discussion shall include those that could feasibly accomplish most of the basic objectives of the project, and could avoid or substantially lessen one or more of the significant effects.

The EIR need not discuss every alternative to the project. A range of alternatives that are "reasonable" for analysis have been evaluated and are discussed below in Section 4.4, Alternatives Under Consideration. The following describes other alternatives considered by the City but dismissed from further evaluation in this EIR, and a brief description of the reasons for their rejection.

Alternative Location

Pursuant to Section 15126.6(f)(2) of the CEQA Guidelines, the City considered the potential for alternative locations to the project. There are sites within the City of an approximately equivalent size to the project site that could be redeveloped with a residential project; however, the project applicant does not control another site within the City of comparable land area that is available for development of the proposed project. One of the factors for feasibility of an alternative is "whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." Because the City is highly urbanized and is largely built out, obtaining another site of a similar size in a similar location is not considered feasible. It should also be noted that the project site is surrounded on all sides by development. As such, an alternative location was ultimately rejected from further analysis in the EIR.

10.4 Alternatives under Consideration

Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines states that the Environmental Impact Report (EIR) shall "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

The range of alternatives evaluated in an EIR is governed by the "rule of reason" that requires the EIR set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative [Section 15126.6(a) of the CEQA Guidelines].

In developing the alternatives to be addressed in this EIR, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the project, while reducing or avoiding the environmental impacts of the project identified in Section 5.0, Environmental Analysis, of the EIR.

In determining what alternatives should be considered in the EIR, it is important to acknowledge the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, the Chula Vista City Council (see PRC Section 21081[a] [3].)

This chapter discusses alternatives to the proposed project, including the No Project/No Build Alternative. The No Project/No Build Alternative is a required element of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines that examines the environmental effects that would occur if the project were not to proceed. The alternatives addressed in this chapter are listed below, followed by a more detailed discussion of each:

1. No Project/No Build Alternative
2. Existing Land Use Designations Alternative
3. Reduced Development Alternative

10.5 Alternatives Impact Summary

10.5.1 No Project/No Build Alternative

CEQA Guidelines Section 15126.6 requires the inclusion of a No Project/No Build Alternative to be analyzed. Under the No Project/No Build Alternative, no development would occur on the project site. Accordingly, the site characteristics of this alternate would be equivalent to the existing conditions for each category analyzed in Chapter 5, Environmental Impact Analysis, of this EIR. Although no development would occur, surrounding land uses in the region would continue to be built out.

Comparison to Proposed Project

Aesthetics

The No Project/No Build Alternative would not result in any changes to the existing visual character, views, or lighting and glare. The site would remain as vacant and undeveloped land. Although the proposed project would result in less than significant impacts associated with aesthetics, no impacts would occur under the No Project/No Build Alternative because no development would occur on the project site. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Air Quality

There would be no direct construction or operational air quality impacts associated with the No Project/No Build Alternative since the site would remain in its current state and no construction would occur. Although the proposed project would result in less than significant impacts associated with air quality, no impacts would occur under the No Project/No Build Alternative because no development would occur on the project site. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Biological Resources

The No Project/No Build Alternative would not result in any changes to the currently vacant and undeveloped project site. The project site would remain designated as Open Space Preserve, Open Space, and Industrial Park. Although the No Project/No Build Alternative would not require a Boundary Line Adjustment to the MSCP Preserve on the project site, this alternative would result in less acreage of MSCP Preserve lands on the project site. Additionally, the No Project/No Build Alternative would not result in any direct impacts to biological resources as would occur with development of the proposed project since there would be no construction involved. Therefore, impacts to biological resources would be reduced under the No Project/No Build Alternative.

Cultural and Tribal Cultural Resources

The No Project/No Build Alternative would not result in excavation of soils that may contain significant cultural or tribal cultural resources; therefore, impacts to cultural and tribal cultural resources would be reduced under the No Project/No Build Alternative.

Energy

The No Project/No Build Alternative would not result in the use of energy as no changes to the currently vacant and undeveloped project site would occur. Although the proposed project would result in less than significant impacts associated with energy, including the wasteful, inefficient, or unnecessary consumption of energy resources, no impacts would occur under the No Project/No Build Alterative because no energy consumption would occur. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Geology and Soils

The No Project/No Build Alternative would not result in any changes to the currently vacant and undeveloped project site. Although the proposed project would result in less than significant impacts associated with geologic hazards, the No Project/No Build Alternative would not place people or structures on the project site so no impacts would occur. Additionally, as compared to the proposed project, the No Project/No Build Alternative would not result in excavation of soils that may contain significant paleontological resources. Therefore, impacts to geology and soils, and specifically paleontological resources, would be reduced under the No Project/No Build Alternative.

Greenhouse Gas Emissions

There would be no direct construction or operational greenhouse gas emission impacts associated with the No Project/No Build Alternative since the site would remain in its current state and no development would occur. Significant and unavoidable impacts associated with greenhouse gas emissions would be avoided. Impacts would be reduced under the No Project/No Build Alternative.

Hazards and Hazardous Materials

As no construction would occur, the No Project/No Build Alternative would not result in any potential impacts associated with hazards or hazardous materials. Compared to the proposed project, the No Project/No Build Alternative would not introduce future residents to potential hazards or hazardous materials during operation, including wildfires, because no development would occur. Therefore, impacts to hazards, and specifically wildfire hazards, would be reduced under the No Project/No Build Alternative.

Hydrology and Water Quality

The No Project/No Build Alternative would not result in any direct impacts related to hydrology and water quality since no construction would occur and there would be no increase in runoff from the site. No construction or development activities would take place that could generate potential pollutants. Although the proposed project would result in less than significant impacts associated with hydrology and water quality, no impacts would occur under the No Project/No Build Alternative. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Land Use and Planning

No changes to the existing zoning or land use designations would occur under the No Project/No Build Alternative as the project site would remain vacant and undeveloped. Although the proposed project would result in less than significant impacts associated with land use and planning, no impacts would occur under the No Project/No Build Alternative. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Noise

The No Project/No Build Alternative would not result in any construction-related noise since no construction would occur. The No Project/No Build Alternative would not contribute to an increase in ambient noise levels either as no development would be introduced on the project site. Although the proposed project would result in less than significant noise impacts, no impacts would occur under the No Project/No Build Alternative. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Population and Housing

No impacts related to population growth would occur under this alternative because no residential or economic growth would occur and no infrastructure would be developed on the project site. Although the proposed project would result in less than significant impacts associated with population and housing, no impacts would occur under the No Project/No Build Alternative. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Public Services

Under the No Project/No Build Alternative there would be no increase in demand for public services, as would occur under the proposed project. Therefore, impacts to public services would be reduced under the No Project/No Build Alternative.

Recreation

Under the No Project/No Build Alternative there would be no increase in demand for parks and recreation facilities or the development of new or expanded parks and recreation facilities. Impacts associated with recreation would be reduced under the No Project/No Build Alternative.

Transportation

The No Project/No Build Alternative would not generate any new traffic that would affect the local roadway network or result in an increase in vehicle miles traveled (VMT). Although transportation impacts would be less than significant under the proposed project, no transportation impacts would occur under the No Project/No Build Alternative. Therefore, impacts would be reduced under the No Project/No Build Alternative.

Utilities and Service Systems

Under the No Project/No Build Alternative, there would be no increase in demand for public utilities and service systems. Therefore, impacts to public utilities and service systems would be reduced under the No Project/No Build Alternative.

Wildfire

As no construction would occur, the No Project/No Build Alternative would not result in any potential impacts associated with wildfire hazards. Compared to the proposed project, the No Project/No Build Alternative would not introduce future residents to potential wildfires hazards, because no development would occur. However, under this alternative, the project site would remain in a natural state and more susceptible to potential wildfire compared to the proposed project. Therefore, impacts associated with wildfire hazards would be similar under the No Project/No Build Alternative.

Relation to Project Objectives

The No Project/No Build Alternative would not meet any of the project objectives.

10.5.2 Existing Land Use Designations Alternative

The Existing Land Use Designations Alternative would include the development consistent with the City's General Plan, Sunbow General Development Plan (GDP) and Sectional Planning Area (SPA) Plan. The City's General Plan designates the development area within the southeastern portion of the site as Research & Limited Industrial (see Figure 3-1, Existing General Plan Land Use). The Sunbow GDP designated the 54.7 acres as Industrial Park to include research/development and light industrial uses (see Figure 3-3, Existing General Development Plan Land Use Designation), with approximately 700,000 square feet of leasable area generating approximately 2,800 employment opportunities; however, actual leasable area may be less than this approximation when accounting for required infrastructure and amenities. Note, that the development areas under the existing land use designations and the proposed project are different between the MSCP hardline, established after the approval of the Sunbow GDP and SPA Plan. The rest of the project site would be preserved as Open Space and MSCP Preserve, similar to the proposed project. It is anticipated that access would be provided via Olympic Parkway and internal circulation on the project site would be similar to the proposed project. However, features such as pedestrian and bicycle circulation, the Community Purpose Facility (CPF), and active and passive recreational open space areas, proposed to be developed throughout the residential uses under the proposed project, would not be developed under the Existing Land Use Designations Alternative.

Comparison to Proposed Project

Aesthetics

The Existing Land Use Designations Alternative would result in development of an industrial park within a similar footprint as the proposed project. As discussed above, the industrial park footprint would be approximately 12.8 acres smaller than the proposed project's development area. However, development of an industrial park would introduce substantial bulk and scale associated with the 700,000 square feet of leasable area. The industrial park in this alternative would be located in the same portion of the project site as the development footprint of the proposed project, which would be set back approximately 500 feet from Olympic Parkway. Additionally, this alternative would be required to comply with applicable rules and regulations concerning lighting, glare, setbacks,

landscaping, and others related to scenic quality. Similar to the proposed project, the Existing Land Use Designations Alternative would introduce new sources of lighting and glare to a currently vacant and undeveloped project site. Additionally, due to the same location of the project site, this alternative would not impact a scenic vista or state scenic highway, same as with the proposed project. Therefore, the Existing Land Use Designations Alternative would result in similar impacts as the proposed project with regard to aesthetics.

Air Quality

The Existing Land Use Designations Alternative would result in similar ground disturbing activities as the proposed project due to the relatively similar development footprint. Although air quality emissions from electricity and natural gas usage associated with residential uses are typically higher per dwelling unit than industrial uses, air quality emissions would most likely increase due to mobile source emissions generated from an industrial land use. For instance, under this alternative, a higher percentage of trips would be associated with the use of higher duty trucks, which would result in higher emissions than passenger vehicles associated with residential development. In addition, it is anticipated that heavy duty truck distances would usually be higher (up to 40 miles). Therefore, air quality impacts associated with the Existing Land Use Designations Alternative would be increased compared to the proposed project.

Biological Resources

The Existing Land Use Designations Alternative would disturb less land than the proposed project due to the slightly reduced development footprint. Additionally, the Existing Land Use Designations Alternative would not overlap with the existing MSCP Preserve lands on the project site and thus would not require a Boundary Line Adjustment. It should be noted that the project's proposed MSCP Boundary Line Adjustment would result in an increase in MSCP Preserve Area and would be required to result in equal or higher biological value as compared to the existing MSCP Preserve. While the development footprint would be slightly reduced under this alternative, the Existing Land Use Designations Alternative would result in similar direct/indirect impacts to biological resources as the proposed project and would require similar mitigation because development would occur on the same portion of the project site. Therefore, the Existing Land Use Designations Alternative would result in similar impacts to biological resources.

Cultural and Tribal Cultural Resources

Although the Existing Land Use Designations Alternative would disturb less land than the proposed project, the Existing Land Use Designations Alternative still has the potential to impact archaeological resources or human remains, and would require the same mitigation as the proposed project. Therefore, compared to the proposed project, the Existing Land Use Designations Alternative would result in similar impacts as the proposed project regarding cultural resources.

Energy

The Existing Land Use Designations Alternative would result in the consumption of energy during both construction and operation. As discussed under Air Quality, above, compared to the proposed project, natural gas and electricity usage are typically higher per dwelling unit than industrial uses. However, under an industrial land use, a higher percentage of trips would be associated with the use of higher duty trucks, creating an increase in petroleum usage, compared to the proposed project. Nonetheless, similar to the proposed project, the Existing Land Use Designations Alternative would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, or a conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts would be similar to the proposed project and remain less than significant.

Geology and Soils

The Existing Land Use Designations Alternative would also introduce people and structures to the project site. The project site would remain the same under this alternative as under the proposed project and therefore, similar potential for geologic hazards would occur. The proposed project would result in less than significant impacts to geology and soils, aside from paleontological resources. As such, the Existing Land Use Designations Alternative would result in similar impacts as the proposed project to geology and soils due to the same project location.

Although the Existing Land Use Designations Alternative would disturb less land than the proposed project due to the reduced development footprint, this alternative still has the potential to impact paleontological resources, and would require the same mitigation as the proposed project. Therefore, compared to the proposed project, the Existing Land Use Designations Alternative would result in similar impacts as the proposed project regarding geology and soils.

Greenhouse Gas Emissions

As identified in Section 5.7, Greenhouse Gas Emissions, the proposed project would have significant and unavoidable impacts associated with the project's efficiency metric and the state's ability to meet future GHG emission reductions. Even with incorporation of mitigation, impacts would remain significant and unavoidable. As discussed under Air Quality and Energy, above, the Existing Land Use Designations Alternative would result in an increase of heavy duty trucks, which would result in higher emissions than passenger vehicles associated with residential development. In addition, although residents would not be introduced on-site under this alternative, the alternative would introduce 2,800 employees, which are still anticipated to result in an increase in the efficiency threshold. While this alternative would place employment in proximity to existing and planned residential uses, in the context of the City's GHG efficiency threshold, impacts would be similar to the proposed project and remain significant and unavoidable.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts associated with hazards and hazardous materials, with the exception of wildfire hazards. Under the Existing Land Use Designations Alternative, the potential for hazards and hazardous materials related impacts on the project site from construction activities would be similar to the proposed project as location would remain the same. During operations of the industrial park, it is possible that the Existing Land Use Designations Alternative could result in increased transport, use or disposal of hazardous materials and the reasonably foreseeable upset and accident conditions involving the release of hazardous materials. However, hazardous materials are highly regulated in California, including the methods by which they are transported, used, and stored. Therefore, it is likely that if any hazardous materials are used for operation of a potential industrial use under this alternative, potential impacts would be less than significant upon compliance with applicable regulations.

Similar to the proposed project, the Existing Land Use Designations Alternative would also introduce people and structures to potential wildfire hazards due to the same location. Therefore, the Existing Land Use Designations Alternative would result in similar impacts as the proposed project regarding hazards and hazardous materials.

Hydrology and Water Quality

As identified in Section 5.9, Hydrology and Water Quality, the proposed project would have less than significant impacts regarding hydrology and water quality on the project site. Under the Existing Land Use Designations

Alternative, the potential for hydrology and water quality related impacts on the project site would be slightly reduced because less land would be altered from the existing and undeveloped condition with the reduced development footprint. When compared to the proposed project, the Existing Land Use Designations Alternative would result in similar impacts to water quality and hydrology.

Land Use and Planning

Under the Existing Land Use Designations Alternative, there would be no General Plan amendment, Sunbow General Development Plan (GDP) amendment, Sunbow Sectional Area Plan (SPA Plan) amendment, Rezone, or MSCP Boundary Line Adjustment. The development of an industrial park would be consistent with existing zoning and land use designations. However, as discussed in Section 5.10, Land Use and Planning, the proposed project would not result in any environmental impacts due to conflicts with relevant plans, policies, or regulation, including these discretionary actions. Additionally, as a part of the proposed MSCP Boundary Line Adjustment, the proposed project is required to set aside a potentially suitable area currently located outside of the MSCP Preserve to incorporate into the MSCP Preserve at a 1:1 acreage ratio. The proposed MSCP Boundary Line Adjustment would be required to result in equal or higher biological value as compared to the existing MSCP Preserve. Although the Existing Land Use Designations Alternative would not require these discretionary actions and would conform with the existing site designations, the inclusion of these discretionary actions under the proposed project would not result in any land use and planning impacts. Therefore, the Existing Land Use Designations Alternative would result in similar as the proposed project regarding land use and planning.

Noise

Construction of this alternative would require more heavy duty traffic, which tends to result in greater mobile source noise emissions. However, the Existing Land Use Designations Alternative would result in greater project generated traffic trips associated with the 2,800 employment opportunities generated by development of an industrial park as compared to the 2,315 residents generated by the proposed project. As such, mobile source noise emissions would be increased under this alternative. Additionally, operational noise levels would be greater, as an industrial park use would emit greater noise levels than a residential use. Therefore, impacts would be increased under the Existing Land Use Designations Alternative.

Population and Housing

The Existing Land Use Designations Alternative would result in 2,800 employment opportunities and no residential units, as compared to the proposed project's 718 residential units. As such, population would not be induced in the area due to new unplanned residential uses. The new employment opportunities at the industrial park under this alternative would contribute to growth in the area, as it is reasonably anticipated that some employees of the industrial park would move to the area. It is also reasonably anticipated that some employees of the industrial park would already be living within the project area. However, the industrial park land use is already assumed in planning documents including the City's General Plan, GDP, and SPA Plan. As such, the potential growth induced by an industrial park land use would not be considered unplanned. Although the proposed project would result in less than significant impacts to population and housing, including due to unplanned growth, the Existing Land Use Designations Alternative would not result in any unplanned growth. As such, impacts would be reduced under the Existing Land Use Designations Alternative.

Public Services

As identified in Section 5.13, Public Services, prior to mitigation, the proposed project would have potentially significant impacts on public services due to the increase in demand for services. Mitigation in the form of payment of fees would reduce impacts to public services to a less than significant level. Under the Existing Land Use Designations Alternative, the potential for public services related impacts would still occur and mitigation in the form of payment of fees would still be required. Therefore, the Existing Land Use Designations Alternative would result in similar impacts as the proposed project with regard to public services.

Recreation

As identified in Section 5.14, Recreation, prior to mitigation, the proposed project would have potentially significant impacts on parks and recreation facilities due to the increase in demand for service. Mitigation in the form of payment of the Public Benefit Fee would reduce impacts to parks and recreation facilities to a less than significant level. Under the Existing Land Use Designations Alternative, less demand for parks and recreation facilities would occur from development of an industrial park. However, some demand on parks and recreation facilities may occur if employees of the industrial park move to the City and area surrounding the project site. However, development of an industrial park would not require payment of fees and impacts would be less than significant. Finally, the Existing Land Use Alternative would not include any recreational facilities, contrary to the CPF and recreational facilities included under the proposed project, and therefore would result in no impacts from the construction or expansion of recreational facilities. As such, impacts would be reduced under the Existing Land Use Designations Alternative.

Transportation

The Existing Land Use Designations Alternative would result in greater project generated traffic trips associated with the 2,800 employment opportunities generated by development of an industrial park as compared to the 2,315 residents generated by the proposed project. Accordingly, this alternative would have a greater impact on the local street network and roadway capacity. Additionally, more heavy vehicles would be used under the Existing Land Use Designations Alternative. However, it is likely that vehicle miles travelled (VMT) would be reduced due to placement of employment opportunities in proximity to existing and planned residential uses. Therefore, impacts to transportation would be similar under the Existing Land Use Designations Alternative.

Utilities and Service Systems

The Existing Land Use Designations Alternative would increase demand for utilities and service systems on the project site, similar to the proposed project. As discussed in Section 5.16, the proposed project would result in a total water demand of 122,060 gallons per day (GPD) or 44,551,900 gallons per year. In addition, per Section 5.16, the proposed project would result in a generation of 331.2 tons of solid waste per year. California Emissions Estimator Model (CalEEMod) User's Guide Version 2016.3.2 was used to estimate utility and service system usage associated with this alternative (CAPCOA 2017). Per the CalEEMod User's Guide, development of an approximately 700,000 square feet light industrial building would result in solid waste generation of 161,875,000 gallons per year of water use. Per the CalEEMod User's Guide, development of the Existing Land Use Designations Alternative would result in a solid waste generation of 686 tons per year (CAPCOA 2017). Therefore, impacts to utilities and service systems would be increased under the Existing Land Use Designations Alternative.

Wildfire

As discussed in Section 5.17, Wildfire, prior to mitigation, the proposed project would result in potentially significant impacts associated with the project facilitating wildfire spread or exacerbating wildfire risk. Similar to the proposed project, the Existing Land Use Designations Alternative would introduce people and structures to the project site. As such, under the Existing Land Use Designations Alternative, the potential for wildfire hazards on the project site would be similar to the proposed project as the location would remain the same. Mitigation would still be required under the Existing Land Use Designations Alternative to minimize risk on industrial park employees. Therefore, the Existing Land Use Designations Alternative would result in similar impacts as the proposed project regarding wildfire hazards.

Relation to Project Objectives

The Existing Land Use Designations Alternative would meet project Objective 5, because this alternative would implement the goals, objectives, and policies of the Chula Vista General Plan, the MSCP Subarea Plan, the Sunbow GDP, and the Sunbow SPA Plan; Objective 6, because public services and facilities would be provided under this alternative in accordance with the City's Growth Management Ordinance; and Objective 7, because the industrial park would be compatible with surrounding development and would establish setbacks and implement design standards in accordance with City regulations.

The Existing Land Use Designations Alternative would not meet Objectives 1, 2, 3, 4, or 8. Objectives 1, 2, and 4 pertain to residential development and associated pedestrian and bicycle facilities which would not be included under this alternative. While this alternative would preserve portions of the site, it would not result in an increase in MSCP Preserve Areas (Objective 3). This alternative would not meet Objective 9 given that the site has been designated for industrial uses for approximately 30 years yet has remained undeveloped.

10.5.3 Reduced Development Alternative

The Reduced Development Alternative would include the development of 360 residential units, within a similar development footprint as the proposed project. This number of units, which is 358 fewer units than the proposed project was chosen in order to provide low to medium density residential. This alternative would still include associated infrastructure, a reduced size Community Purpose Facility, and Open Space/MSCP Preserve areas as proposed under the project. Due to the decreased number of units within a similar development footprint, the Reduced Development Alternative is assumed to be developed with low to medium density residential rather than medium-high and high density residential as proposed under the project. As discussed in Section 5.3, the proposed project would require a Boundary Line Adjustment between the currently proposed development boundaries and the mapped Multiple Species Conservation Program (MSCP) preserve on-site. Due to the reduced development of this alternative, this Boundary Line Adjustment would be avoided under this alternative. However, it should be noted that the Boundary Line Adjustment proposed under the project would result in an increase MSCP Preserve Areas.

Comparison to Proposed Project

Aesthetics

The Reduced Development Alternative would result in a reduced number of residential units developed within a similar development footprint and the housing density would be reduced to low and medium density residential. As such, the bulk and scale of the Reduced Development Alternative would be slightly reduced in conjunction with the reduced density, including a potential reduction in the amount of retaining walls, manufactured slopes, and off-site

buttressing. However, the Reduced Density Alternative would still alter the visual character of the project site as development would still occur. Additionally, the Reduced Development Alternative would introduce new sources of lighting and glare to the currently vacant and undeveloped project site, similar to the proposed project. Although the Reduced Development Alternative would reduce the housing density, the project site would still change from vacant and undeveloped land to residential with open space, same as with the proposed project. In addition, the proposed project would result in less than significant impacts associated with aesthetics. Therefore, the Reduced Development Alternative would result in similar impacts as the proposed project with regard to aesthetics.

Air Quality

The Reduced Development Alternative would require a shorter construction schedule because there would be fewer residential units developed. As such, construction emissions would be reduced as compared to the proposed project. Further, operational emissions would also be reduced under the Reduced Development Alternative due to the reduction in project generated traffic trips associated with less population induced on the project site. Although the proposed project would result in less than significant air quality impacts, the Reduced Development Alternative would result in reduced construction and operational emissions. As such, impacts would be reduced under the Reduced Development Alternative, but remain less than significant.

Biological Resources

The Reduced Development Alternative would disturb approximately the same area of land as the proposed project. Additionally, the Reduced Development Alternative would not overlap with the existing MSCP Preserve lands on the project site and thus would not require a Boundary Line Adjustment. It should be noted that the project's proposed MSCP Boundary Line Adjustment would result in an increase in MSCP Preserve Area and would be required to result in equal or higher biological value as compared to the existing MSCP Preserve. The Reduced Development Alternative would result in similar direct/indirect impacts to biological resources as the proposed project and would require similar mitigation because development would generally occur on the same portion of the project site but would not require a Boundary Line Adjustment. Therefore, the Reduced Development Alternative would result in similar impacts to biological resources but would not increase Preserve Lands.

Cultural and Tribal Cultural Resources

The Reduced Development Alternative would disturb approximately the same area of land than the proposed project. As such, the Reduced Development Alternative would have the potential to impact archaeological resources or human remains, and would require the same mitigation as the proposed project. Therefore, compared to the proposed project, the Reduced Development Alternative would result in similar impacts as the proposed project regarding cultural resources.

Energy

The Reduced Development Alternative would result in a lower energy consumption during construction as compared to the proposed project due to the reduction in residential units developed and shortened construction period. Furthermore, with less population induced on the project site, operational energy use would also be reduced under the Reduced Development Alternative. Although the proposed project would result in less than significant impacts associated with energy, including the wasteful, inefficient, or unnecessary consumption of energy resources, the Reduced Development Alternative would result in slightly reduced construction and operational energy consumption. Therefore, impacts would be reduced under the Reduced Development Alternative.

Geology and Soils

The Reduced Development Alternative would introduce people and structures to the project site. However, the proposed project would result in less than significant impacts to geology and soils, aside from paleontological resources. Like the proposed project, the Reduced Development Alternative would also result in less than significant impacts associated with geologic hazards because the project site would remain the same. The Reduced Development Alternative still has the potential to impact paleontological resources, and would require the same mitigation as the proposed project. Therefore, compared to the proposed project, the Reduced Development Alternative would result in similar impacts as the proposed project regarding geology and soils.

Greenhouse Gas Emissions

As identified in Section 5.7, Greenhouse Gas Emissions, the proposed project would have significant and unavoidable impacts associated with the project's efficiency metric and the state's ability to meet future GHG emission reductions. Even with incorporation of mitigation, impacts would remain significant and unavoidable under the proposed project. The Reduced Development Alternative would reduce the construction and operational GHG emissions as compared to the proposed project. Approximately 64% of the proposed project's annual GHG emissions are from mobile sources; thus, reducing the development to 360 residential units would not only reduce the mobile emissions but also reduce construction emissions (i.e., building construction and architectural coating phases) and operational area, energy use, solid waste disposal, and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment emissions as compared to the proposed project. However, because the City's GHG efficiency metric threshold is based on service population (residents and/or employees), the Reduced Development Alternative service population (residents) would also be reduced due to the reduction in number of residential units, resulting in similar impacts as the proposed project in the context of the City's GHG efficiency metric threshold. Therefore, impacts to GHGs would remain significant and unavoidable under this alternative.

Hazards and Hazardous Materials

The proposed project would result in less than significant impacts associated with hazards and hazardous materials, with the exception of wildfire hazards. Under the Reduced Development Alternative, the potential for hazards and hazardous materials related impacts on the project site would be similar to the proposed project as the land use and location would remain the same. Moreover, compared to the proposed project, the Reduced Development Alternative would also introduce future residents to potential wildfire hazards due to the same project location. Therefore, the Reduced Development Alternative would result in similar impacts as the proposed project regarding hazards and hazardous materials.

Hydrology and Water Quality

As identified in Section 5.9, Hydrology and Water Quality, the proposed project would have less than significant impacts regarding hydrology and water quality on the project site. Under the Reduced Development Alternative, the potential for hydrology and water quality related impacts on the project site would be the same as the proposed project. However, this alternative would still require the same permits as the proposed project, preparation of a SWPPP, and incorporation of BMPs, due to the introduction of new development to a vacant and undeveloped site. When compared to the proposed project, the Reduced Development Alternative would result in similar impacts to water quality and hydrology.

Land Use and Planning

With the exception of the MSCP BLA, the Reduced Development Alternative would require all the same discretionary actions listed in Section 4.5 of Chapter 4, Project Description, because the project site is not currently zoned or designated for residential development. This would include the General Plan amendment, GDP amendment, SPA Plan amendment, and Rezone. However, as discussed in Section 5.10, Land Use and Planning, the proposed project would not result in any environmental impacts due to conflicts with relevant plans, policies, or regulation, including due to the MSCP BLA. As a part of the proposed MSCP BLA, the proposed project is required to propose a potentially suitable area currently located outside of the MSCP Preserve to incorporate into the MSCP Preserve at a 1:1 acreage ratio. The proposed MSCP BLA would be required to result in equal or higher biological value as compared to the existing MSCP Preserve. Although the Reduced Development Alternative would not require a BLA, the BLA under the proposed project would not result in any land use and planning impacts. Therefore, the Reduced Development Alternative would result in similar as the proposed project regarding land use and planning.

Noise

Construction of this alternative would require a shorter schedule resulting in overall fewer noise generating construction equipment and less groundwork. Additionally, the Reduced Development Alternative would result in less project generated traffic trips thereby reducing mobile source noise emissions. Operational noise levels would also be reduced due to the reduction in residential units. Although the proposed project would result in less than significant noise impacts, the Reduced Development Alternative would result in slightly reduced noise levels during both construction and operation. Therefore, impacts would be reduced under the Reduced Development Alternative but remain less than significant.

Population and Housing

The Reduced Development Alternative would result in 360 residential units, which is 358 fewer units than the proposed project, thereby resulting in less induced growth in the area as compared to the proposed project. Although the Reduced Development Alternative would induce less growth in the area, both this alternative and the proposed project would result in unplanned population growth on the project site, as the site is not currently zoned for residential development. Nonetheless, for the reasons discussed in Section 5.12, Population and Housing, this growth would not be considered substantial and impacts would be less than significant. With less growth induced under this alternative, impacts would also be less than significant. Therefore, impacts under the Reduced Development Footprint Alternative would be similar to the proposed project.

Public Services

As identified in Section 5.13, Public Services, prior to mitigation, the proposed project would have potentially significant impacts on public services due to the increase in demand for service. Mitigation in the form of payment of fees would reduce impacts to public services to a less than significant level. Under the Reduced Development Alternative, the potential for public services related impacts would still occur and mitigation in the form of payment of fees would still be required. However, the induced population would be smaller than the proposed project due to the reduction in residential units developed. Thus, the increase in demand for public services would be less under this alternative. When compared to the proposed project, the Reduced Development Alternative would result in reduced impacts associated with public services.

Recreation

As identified in Section 5.14, Recreation, prior to mitigation, the proposed project would have potentially significant impacts on parks and recreation facilities due to the increase in demand for service. Mitigation in the form of payment of fees would reduce impacts to parks and recreation facilities to a less than significant level. Under the Reduced Development Alternative, the potential for parks and recreation facilities related impacts would still occur and mitigation in the form of payment of fees would still be required. However, because the induced population would be smaller than the proposed project, the increase in demand would be reduced under this alternative. When compared to the proposed project, the Reduced Development Alternative would result in reduced impacts associated with parks and recreation facilities.

Transportation

The Reduced Development Alternative would result in less traffic trips associated with both construction and operation due to the reduction in residential units and reduced population inducement on the project site. The Reduced Development Alternative would not result in a change in traffic patterns, substantially increase hazards due to a design feature, or result in inadequate emergency access, similar to the proposed project. Additionally, VMT would be similar under the Reduced Development Alternative as it is calculated on a per capita basis and the land use type and project location would remain the same as the proposed project. Although the proposed project would result in less than significant transportation impacts, the Reduced Development Alternative would result in less traffic. Therefore, impacts would be reduced under the Reduced Development Alternative.

Utilities and Service Systems

The Reduced Development Alternative would increase demand for utilities and service systems on the project site, similar to the proposed project. However, due to the reduction in residential units and reduced population inducement on the project site, the demand for public utilities and service systems would be less than under the proposed project. Therefore, impacts would be reduced under the Reduced Development Alternative.

Wildfire

As discussed in Section 5.17, Wildfire, prior to mitigation, the proposed project would result in potentially significant impacts associated with the project facilitating wildfire spread or wildfire risk. Similar to the proposed project, the Reduced Development Alternative would introduce future residents to the project site. As such, under the Reduced Development Alternative, the potential for wildfire hazards on the project site would be similar to the proposed project as the land use and location would remain the same. Mitigation would still be required under the Reduced Development Alternative. Therefore, the Reduced Development Alternative would result in similar impacts as the proposed project regarding wildfire hazards.

Relation to Project Objectives

The Reduced Development Alternative would meet most of the project objectives, with the exception of Objectives 1, 2, and 3. This alternative because the reduction in housing density to low and medium would not allow for multi-family housing units with a range of housing types or residential uses. This alternative would not contribute to the growing housing needs of the City and the region to the same extent as the proposed project. While this alternative would preserve portions of the project site, it would not result in an increase to MSCP Preserve Areas that would occur under the project.

10.6 Environmentally Superior Alternative

The No Project Alternative would result in the least environmental impacts and would be the environmentally superior alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. In this case, the environmentally superior alternative is the Reduced Development Alternative. The Reduced Development Alternative would meet most of the project objectives, but to a lesser degree than the proposed project while reducing impact resulting from greater population growth of the proposed project. The project's impacts are compared to each alternative's impacts in Table 10-1.

Table 10-1. Alternatives Impact Summary

Environmental Issue	Proposed Project Impacts Prior to Mitigation	Proposed Project Impacts with Mitigation	No Project/ No Build Alternative	Existing Land Use Designation Alternative	Reduced Development Alternative
Aesthetics	LTS	LTS	▼	–	–
Air Quality	LTS	LTS	▼	▲	▼
Biological Resources	PS	LTS	▼	–	–
Cultural and Tribal Cultural Resources	PS	LTS	▼	–	–
Energy	LTS	LTS	▼	–	▼
Geology and Soils	PS	LTS	▼	–	–
Greenhouse Gas Emissions	PS	SU	▼	–/SU impact remains	▼/SU impact remains
Hazards and Hazardous Materials	PS	LTS	▼	–	–
Hydrology and Water Quality	LTS	LTS	▼	–	–
Land Use and Planning	LTS	LTS	▼	–	–
Noise	LTS	LTS	▼	▲	▼
Population and Housing	LTS	LTS	▼	▼	–
Public Services	PS	LTS	▼	–	▼
Recreation	LTS	LTS	▼	▼	▼
Transportation	LTS	LTS	▼	–	▼
Utilities and Service Systems	LTS	LTS	▼	▲	▼
Wildfire	PS	LTS	–	–	–
Meets Most Project Objectives	*Yes*	*Yes*	*No*	*No*	*Yes*

▲ Alternative is likely to result in greater impacts to issue when compared to proposed project.
– Alternative is likely to result in similar impacts to issue when compared to proposed project.
▼ Alternative is likely to result in reduced impacts to issue when compared to proposed project.

LTS = Less than significant impact.
PS = Potentially significant impact.
SU = Significant and unavoidable impact.

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12 List of Preparers

City of Chula Vista

Steve Power, AICP, Principal Planner
Stacey Kurz, Senior Project Coordinator
Oscar Romero, Associate Planner
Michael Shirey, Deputy City Attorney III
Maggie Greene, Fire Inspector
Mary Radley, Landscape Architect
Paul Oberbauer, Senior Civil Engineer, Traffic
Scott Barker, Senior Transportation Engineer
Cheryl Goddard, Senior Planner

RH Consulting Group LLC

Ranie Hunter, Principal

Dudek

Brian Grover, AICP, Principal
Andrew Talbert, AICP, Environmental Planner
Iulia Roman, Environmental Planner
Joe Harrison, Environmental Analyst
Carolyn Somvilay, Environmental Analyst
Lilli Renier, Environmental Analyst
Samantha Wang, Air Quality Specialist
Jessica Colston, BA, Archaeologist
Angela Pham, MA, RPA, Archaeologist
Micah Hale, PhD, RPA, Cultural Senior Project Manager
Loukas Barton, PhD, RPA, Archaeologist
Michael Williams, PhD, Archaeologist
Michael Huff, Fire Protection Project Manager
Mike Scott, Senior Fire Protection Planner
Noam Stamm, Fire Protection Planner
Mark Storm, INCE Bd. Cert., Senior Technical Specialist
Connor Burke, Technical Analyst
Carrie Kubacki, Mapping/Surveying Analyst
Laurel Porter, ELS, Senior Technical Editor
Daniela Yurovsky, Publications Specialist

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