

Appendix 2-1 NOP/NOP Comments

Appendices

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Joseph Morabito, Mayor, Dist. 3
 Bridgette Moore, Mayor Pro Tem, Dist. 4
 Ashlee DePhillippo, Council Member, Dist. 5
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NOTICE OF PREPARATION (NOP) FOR AN ENVIRONMENTAL IMPACT REPORT

To: Responsible and Trustee Agencies, Interested Organizations, and Individuals
From: Matthew C. Bassi, Community Development Director, City of Wildomar
Subject: **City of Wildomar Proposed General Plan Draft Environmental Impact Report (DEIR)**

Purpose:

In accordance with Section 15021 of the California Environmental Quality Act (CEQA) Guidelines, the City of Wildomar, as lead agency, will prepare an Environmental Impact Report (EIR) for an update to the City of Wildomar General Plan (proposed General Plan). Pursuant to Section 15082(a) of the CEQA Guidelines, the City of Wildomar (City) has issued this Notice of Preparation (NOP) to provide responsible agencies, trustee agencies, and other interested parties with information describing the proposed General Plan and its potential environmental effects.

Project Location:

The City of Wildomar is in western Riverside County, California, and is bordered by the City of Lake Elsinore to the north and northwest, unincorporated Riverside County to the west, City of Murrieta to the south, and City of Menifee to the east. Interstate and regional access to the City is provided by Interstate 15 (I-15), which runs in a general north-south direction through the City. Figure 1, *Regional Location*, and Figure 2, *Citywide Aerial*, show the City in its regional and local contexts [USGS 2018 Wildomar, CA Quadrangle Map, Latitude 33° 35' 39.8034", Longitude -117° 14' 28.104"].

Project Summary:

The City of Wildomar’s proposed General Plan will provide the long-term planning framework for the improvements needed to accommodate the City’s growing population over the 20-year planning horizon. The City could potentially result in a growth of 8,992 dwelling units, 27,999 residents, 2,965,538 non-residential square feet, and 6,724 jobs by 2040 (buildout year), as shown in Table 1, *Proposed General Plan Buildout*.

Table 1 – Proposed General Plan Buildout

	Dwelling Units	Population	Non-Residential Square Footage	Employment
Existing	11,988	37,326	2,992,377	5,841
General Plan Update	20,980	65,325	5,957,915	12,115
Net Change	8,992	27,999	2,965,538	6,274

In addition to the land use map, the proposed General Plan will identify long-term goals; provide a basis for decision-making; provide citizens with a forum for input on their community's direction; and inform citizens, developers, decision-makers, and other cities of the ground rules for development.

The proposed General Plan will advance the City's vision for a safe and active community with high-quality development, urban centers, and corridors while keeping a hometown feel. The proposed General Plan includes comprehensive updates to the required elements under the State Planning and Zoning Law, as well as other optional elements that the City has elected to include in its proposed General Plan: (1) Land Use and Design, (2) Circulation and Mobility, (3) Recreation and Community Services, (4) Open Space and Conservation, (5) Noise, and (6) Economic Development.

The City adopted its 2021-2029 Housing and Safety Elements on October 13, 2021, and therefore, these elements will not be updated as part of the proposed General Plan, other than a possible format change. In addition, Environmental Justice policies will be embedded throughout the proposed General Plan elements. Each proposed General Plan element includes goals and policies that are based, in part, on the City's vision, State and local law, and other considerations.

The Zoning Ordinance and map will also be updated to reflect the changes in the proposed General Plan. Additionally, a Climate Action Memorandum, which will include an analysis of feasible mitigation measures that could be applied to future development projects, will be prepared.

Additional information regarding the General Plan update can be found on the City's website: <https://envisionwildomar2040.com/>

Project Description:

The City's vision is: *"The City of Wildomar will be a safe and active community with responsible growth and quality infrastructure while keeping a hometown feel."*

Development consistent with the vision must also be in line with the core values of the community which provide emphasis on community character; growth, land use, and development; environment; economic health; mobility; and infrastructure and services. The core values are used to develop policies guiding future development.

The projected growth over the next twenty years is guided into areas of the City that have been designated for growth in the existing General Plan, that have the infrastructure to accommodate it, or where the infrastructure can be improved. This means that much of the community is expected to continue the incremental growth allowed by the existing general plan land use map, while allowing for improvements such as enhanced connectivity.

To accommodate the anticipated growth, some of the existing land use designations are proposed to be adjusted so that development uses land more efficiently with more units and population. This will reduce the land area needed to accommodate projected growth. Key corridors in the City will be improved, such as Clinton Keith, which will benefit from planning that capitalizes on the economic potential but also meet the design ideal for the City, and Wildomar Trail west of I-15, which has the potential to evolve in its role as the historical heart of the City.

NOP Public Comment Period:

This NOP is being circulated for a 30-day public review/comment period beginning on **Thursday September 7, 2023, and concluding on Friday, October 6, 2023.** Comments on this NOP should be submitted to the City of Wildomar, Community Development Department at the earliest possible date, but no later than the **October 6, 2023** deadline. Comments must be submitted in writing, or via email, to:

Mr. Matthew Bassi, Community Development Director
City of Wildomar, Community Development Department
23873 Clinton Keith Road, Suite 110, Wildomar, CA 92595
(951) 677-7751, Ext. 213
mbassi@cityofwildomar.org

Public Scoping Meeting:

A public scoping meeting will be conducted to provide the public with the opportunity to learn more about the proposed General Plan and to provide an opportunity for a full discussion of the environmental issues that are important to the community. The scoping meeting will include a presentation of the extent of the proposed General Plan and a summary of the environmental issues to be analyzed in the EIR. Following the presentation, interested agencies, organizations, and members of the public will be encouraged to present views concerning the environmental issues that should be included in the EIR. The oral and written comments provided during the meeting will assist the City in scoping the potential environmental effects of the project to be addressed by the EIR. The scoping meeting will be held via Zoom on **Monday, September 25, 2023, at 5:00 PM:**

Join from a PC, Mac, iPad, iPhone, or Android device:

Please click this URL to join:

<https://us06web.zoom.us/j/84353777805>

Meeting ID: 84353777805#

Or iPhone one-tap:

+1-669-444-9171

Environmental Impacts:

The City has determined that the implementation of the proposed General Plan may have a significant effect on the environment. The EIR will evaluate the potential for the proposed General Plan to cause direct and indirect growth-inducing impacts, as well as cumulative impacts. Mitigation will be proposed for those impacts that are determined to be significant, and a mitigation monitoring and reporting program will be developed as required by the CEQA Guidelines (Section 15150). The EIR will evaluate the following topics:

- **Aesthetics:** The City anticipates that the implementation of the proposed General Plan would have impacts on aesthetics in the following areas: scenic highways and light and glare impacts. Although, the overall effect of the proposed General Plan would be to improve the aesthetic quality of the City as new development is required to comply with adopted design standards.
- **Agricultural and Forestry Resources:** The City anticipates that the implementation of the proposed General Plan would have less than significant impacts on agricultural resources in the following areas: agricultural zoning, forest land conversion, and conversion of agricultural land under a Williamson Act contract.

- **Air Quality:** Construction and operation of land uses accommodated under the proposed General Plan would result in air pollutant emissions. Ground disturbance during site development activities will generate dust, and construction equipment will create short-term pollutant emissions. Development accommodated under the proposed General Plan could result in additional vehicular traffic that would generate air pollution, exacerbated by the City's proximity to high-traffic corridors. The proposed General Plan will incorporate policies addressing sources of air pollution.
- **Biological Resources:** The City implements the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and the Stephen's Kangaroo Rat Habitat Conservation Plan. The proposed General Plan will include policies and action items needed to ensure continued compliance with these habitat conservation plans. Development accommodated under the proposed General Plan may have an adverse effect on rare, threatened, or endangered species and/or the habitat that supports them, which could impact potential development outcomes. In addition, such development could potentially affect existing wildlife corridors including riparian habitat and/or wetlands.
- **Cultural and Tribal Cultural Resources:** Development accommodated under the proposed General Plan may have an adverse effect on historic, archaeological, and/or tribal cultural resources. There is the potential for construction-related effects on historical and archaeological resources.
- **Energy:** The construction and operation of development accommodated under the proposed General Plan would require the use of energy in various forms which could impact energy sources.
- **Geology and Soils:** Development accommodated under the proposed General Plan may result in soil erosion or the loss of topsoil and/or allow development in areas with geologic or soils constraints. There could be potential effects associated with geologic or soil limitations, including the discovery of paleontological resources. There could be impacts associated with grading, such as increased wind and water erosion potential. Impacts may involve disruptions of the soil, changes in topography, erosion from wind or water, and other impacts.
- **Greenhouse Gas Emissions:** While a goal of the proposed General Plan is to help further the reduction in greenhouse gas production from existing operations and future development, it is likely that future development may contribute to cumulative increases in greenhouse gases. The analysis will assume a buildout figure for the existing land use pattern and use traffic data to determine the potential GHG emissions. The EIR will include mitigation measures for reducing greenhouse gases, which would be included in the Climate Action Memorandum. Additionally, the proposed General Plan will include associated action items, such as strategies to increase the intensity and mix of land uses, which could encourage people to walk or bike for short trips, thereby reducing greenhouse gas emissions in the City.
- **Hazards and Hazardous Materials:** Development accommodated under the proposed General Plan could have public and environmental health effects related to hazardous material exposure either during construction or during long-term occupation. Portions of the City are also located in areas exposed to fire hazards, which are exacerbated due to ongoing drought conditions.
- **Hydrology and Water Quality:** Development accommodated under the proposed General Plan may affect groundwater supplies, could change drainage patterns, and/or could have the potential to contribute polluted stormwater runoff. There could be impacts related to urban runoff and flooding

potential, as well as to water quality. There is also the threat of ongoing drought conditions leading to a decrease in annual rainfall in the coming years. The limited supply of water in the City could negatively affect future development.

- **Land Use and Planning:** The proposed General Plan affords the City an opportunity to increase the density and mix of land uses for purposes of providing mobility options and to encourage job growth in the City reducing the need to commute.
- **Mineral Resources:** The City is designated as MRZ-3 which includes areas where the available geologic information indicates that while mineral deposits are likely to exist, the significance of the deposit is undetermined. There are no areas within the City that are designated for mineral resource extraction.
- **Noise:** Increases in traffic because of future development accommodated under the proposed General Plan may result in an increase in ambient and transportation noise, although efforts would be made to incorporate higher-density mixed-use development into the proposed General Plan to minimize any increases in transportation noise.
- **Population and Housing:** The proposed project would directly and indirectly induce population growth as a result of development accommodated under the proposed General Plan.
- **Public Services and Utilities and Service Systems:** Additional growth generated by the development accommodated under the proposed General Plan will increase demand for the City's services and utilities. The EIR will evaluate the availability and capacity of the systems to provide for the increase in growth. The City will coordinate with service providers such as the Lake Elsinore Unified School District, Riverside County Flood Control and Water Conservation District, and Elsinore Valley Municipal Water District to ensure that service demand can be addressed by these independent agencies.
- **Recreation:** The City's provision of public park space is below the established park standard of 3.0 acres for every 1,000 persons. Potential options for increasing recreational space in the City include working to increase access to alternative recreation spaces, amending established goals and standards in the proposed General Plan, or the construction of additional public recreational space.
- **Transportation:** Future development may result in impacts on area roadways, including roadways outside of the City's jurisdiction. The City will use traffic information and provide a summary of the buildout analysis based on the proposed General Plan land use designations. The proposed General Plan will also include strategies to increase employment opportunities within the City to minimize vehicle trips to other areas by commuters, as well as increase active transportation opportunities.
- **Wildfire:** Portions of the City are subject to an increase in fire hazards due to ongoing drought conditions. The EIR will include a discussion of potential environmental impacts, and the proposed policy or implementation strategy that would address the impact. Also, included will be a discussion of alternatives that could reduce or eliminate an identified impact. If the environmental analysis identifies appropriate mitigation measures, they will be included as policies in the proposed General Plan, or as action items in the implementation strategy.

Type of EIR:

The City will prepare a program EIR pursuant to Section 15168 of the CEQA Guidelines. Use of a program EIR allows analysis consistent with the high-level nature of the General Plan. The proposed General Plan EIR will serve as a cumulative impact analysis for implementation of the proposed General Update.

Use of the Proposed General Plan EIR:

Projects implemented after adoption of the proposed General Plan will be examined considering the General Plan EIR to determine whether an additional environmental document must be prepared. In addition, the CEQA Guidelines currently provide for streamlining through Section 15183 (Projects Consistent with a Community Plan or Zoning), Section 15183.3 (Streamlining for Infill Projects), and 15183.5 (Tiering and Streamlining the Analysis of Greenhouse Gas Emissions). The City intends to promote streamlining for future development through certification of the General Plan Update EIR. Later development may have to conduct site-specific environmental analysis; however, the cumulative analysis will be addressed in the General Plan EIR and proposed General Plan policies and implementation strategy.

This transmittal constitutes the official NOP for the EIR and serves as a request for environmental information that you or your organization believe should be included or addressed in the proposed General Plan EIR document. Please be sure to address the scope and content of environmental information or issues that may relate to your agency’s statutory responsibilities in connection to the proposed project.

If you have any questions or require additional information regarding this NOP, please contact Matthew C. Bassi, Community Development Director, at (951) 677-7751, Extension 213, or via email at mbassi@cityofwildomar.org.

Sincerely,

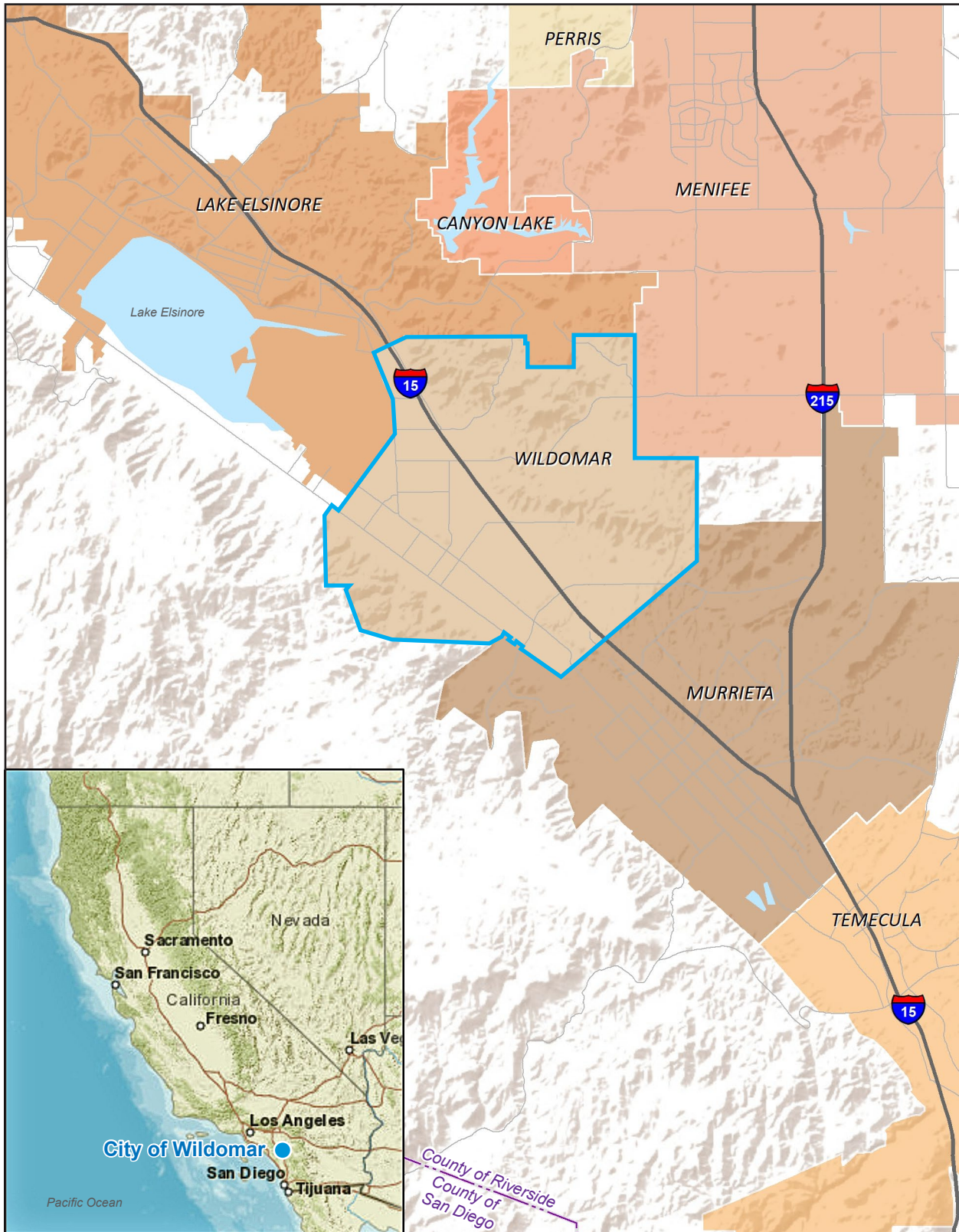


Matthew Bassi,
Community Development Director

Attachments:

- Figure 1 Regional Location
- Figure 2 Citywide Aerial

Figure 1 - Regional Location



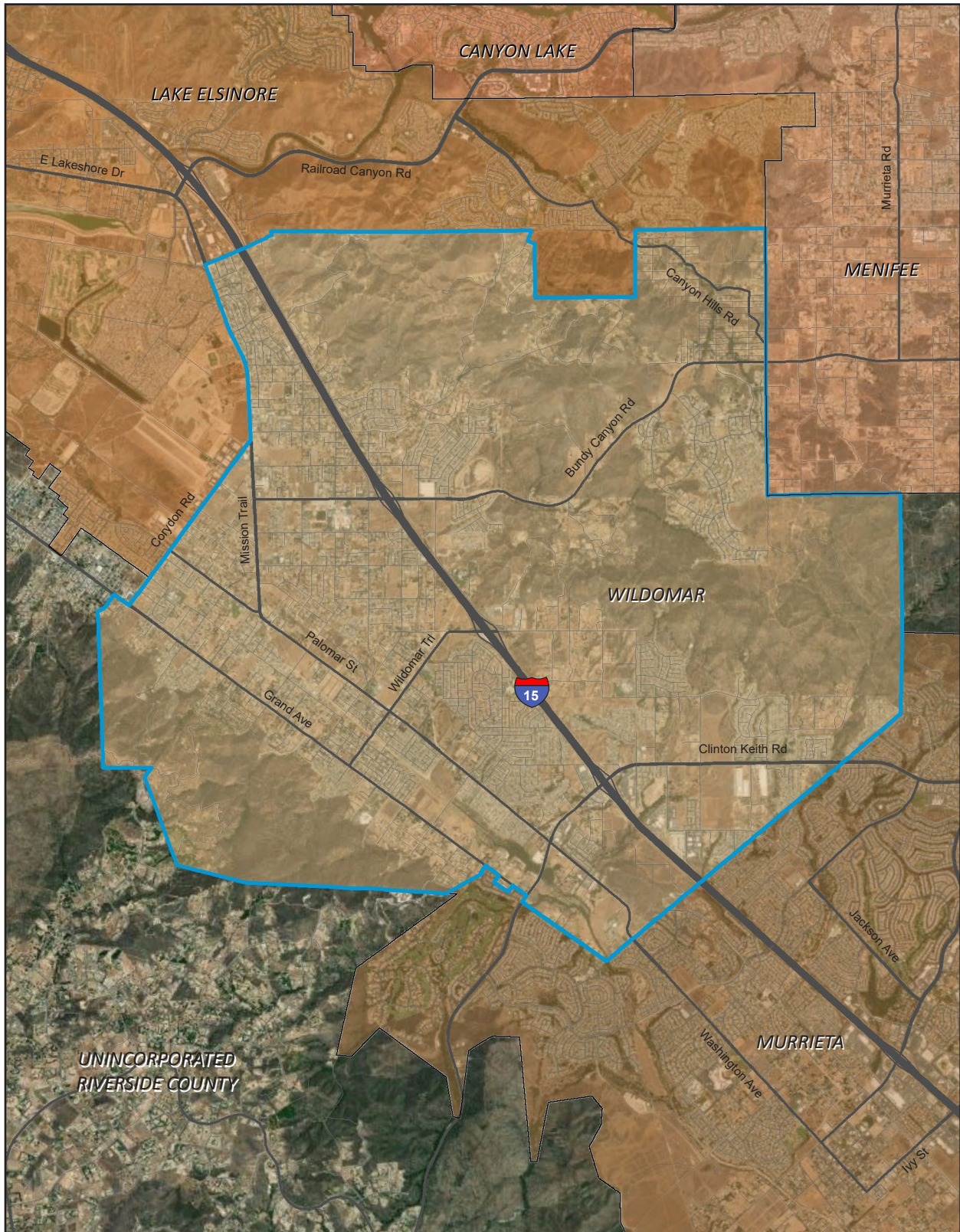
City of Wildomar Boundary

Note: Unincorporated county areas are shown in white.
Source: Generated using ArcMap 2023.

0 3
Scale (Miles)



Figure 2 - Citywide Aerial



— City of Wildomar Boundary



Scale (Miles)



Source: Generated using ArcMap 2023.

NATIVE AMERICAN HERITAGE COMMISSION

Governor's Office of Planning & Research

September 9, 2023

September 11 2023

STATE CLEARINGHOUSE

Matthew C. Bassi
City of Wildomar
23873 Clinton Keith Road, Suite 110
Wildomar, CA 92595

Re: 2023090064, City of Wildomar Proposed General Plan DEIR Project, Riverside County

Dear Mr. Bassi:

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

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

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

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

[AB 52](#)



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

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:

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

- a. A brief description of the project.
- b. The lead agency contact information.
- c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

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

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

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

- a. Alternatives to the project.
- b. Recommended mitigation measures.
- c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

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

- a. Type of environmental review necessary.
- b. Significance of the tribal cultural resources.
- c. Significance of the project's impacts on tribal cultural resources.
- d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

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

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

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

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a.** Avoidance and preservation of the resources in place, including, but not limited to:
 - i.** Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i.** Protecting the cultural character and integrity of the resource.
 - ii.** Protecting the traditional use of the resource.
 - iii.** Protecting the confidentiality of the resource.
 - c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

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

SB 18

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

Some of SB 18's provisions include:

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

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

NAHC Recommendations for Cultural Resources Assessments

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

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
 - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
 - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:
Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

From: McKinney, Elsa <EMcKinne@rivco.org>
Sent: Monday, September 18, 2023 3:19 PM
To: Matthew Bassi <mbassi@cityofwildomar.org>
Cc: McNeill, Amy <ammcneil@RIVCO.ORG>; Cornelius, William <wmcornel@RIVCO.ORG>;
Cunningham, Kevin <kcunning@RIVCO.ORG>
Subject: FW: City of Wildomar Proposed General Plan Draft EIR (DEIR)

[The e-mail below is from an external source. Please do not open attachments or click links from an unknown or suspicious origin.]

Hello Mathew,

Just to follow up, we do not have comments for the project since it does not involve construction at this time, however just letting you know that I did send the notice to our Environmental Regulatory Team since the changes may impact future District facilities.

Respectfully,

~Elsa

From: McKinney, Elsa

Sent: Monday, September 18, 2023 3:01 PM

To: Matthew Bassi <mbassi@cityofwildomar.org>

Cc: McNeill, Amy <ammcneil@RIVCO.ORG>; Cornelius, William <wmcornel@RIVCO.ORG>


Subject: City of Wildomar Proposed General Plan Draft EIR (DEIR)

Good afternoon Mathew,

Since The District's storm drain facilities will not be impacted, there is no need for permanent drainage, and there are no Area Drainage Plan fees to be paid, Riverside County Flood Control and Water Conservation District does not have any comments for this project.

****Please include myself, Elsa McKinney (emckinne@rivco.org), Amy McNeill (ammcneil@rivco.org), and William (Michael) Cornelius (wmcornel@RIVCO.ORG) to your City's distribution list for Flood Control****

Best Regards,

	Elsa McKinney, Engineering Aide Development Review RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT 1995 Market Street, Riverside, CA 92501 951.955.2878 emckinne@rivco.org
---	---

*Off Fridays

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[County of Riverside California](#)

TRIBAL HISTORIC PRESERVATION OFFICE

VIA ELECTRONIC MAIL

Mmbassi@cityofwildomar.org

Mathew Bassi
Community Development Director
City of Wildomar
23873 Clinton Keith Road Suite 110
Wildomar, CA 92595

**MORONGO
BAND OF
MISSION
INDIANS**



A SOVEREIGN NATION

September 21, 2023

RE: Notice of Intent to Prepare EIR for the General Plan Project in the City of Wildomar, Riverside County, California

The Morongo Band of Mission Indians (Tribe/MBMI) Tribal Historic Preservation Office received the City of Wildomar (City) letter regarding the above referenced project on September 11, 2023. The proposed General Plan Project (Project) is located within the ancestral territory and traditional use area of the Cahuilla and Serrano people of the Morongo Band of Mission Indians.

Tribal cultural resources are non-renewable resources and therefore of high importance to the Morongo Tribe, therefore, tribal participation (a.k.a. tribal monitors) is recommended during all ground disturbing activities. We look forward to working with the City to protect these irreplaceable resources out of respect for ancestors of the Morongo people who left them there, and for the people of today and for generations to come.

Projects within this area are potentially sensitive for cultural resources regardless of the presence or absence of remaining surface artifacts and features. At this time, our office requests to initiate government-to-government consultation under Assembly Bill (AB) 52 (California Public Resources Code § 21080.3.1) and Senate Bill (SB) 18 (California Government Code §65352) and requests the following from the City to ensure meaningful consultation:

- Currently proposed Project design and Mass Grading Maps
- A records search conducted at the appropriate California Historical Resources Information System (CHRIS) center with at least a 1.0-mile search radius from the project boundary. If this work has already been done, please furnish copies of the cultural resource documentation (ArcMap Shapefiles, reports and site records) generated through this search so that we can compare and review with our records to begin productive consultation.
- Tribal participation (a.k.a. tribal monitors) during the pedestrian survey and testing, if this fieldwork has not already taken place. In the event that archaeological crews have completed this work, our office requests a copy of the current Phase I study or other cultural assessments (including the cultural resources inventory).
- Shapefiles of the Projects area of effect (APE)
- Geotechnical Report

TRIBAL HISTORIC PRESERVATION OFFICE

This letter does not conclude consultation. Upon receipt of the requested documents the MBMI THPO may further provide recommendations and/or mitigation measures.

The lead contact for this Project is Bernadette Ann Brierty, Tribal Historic Preservation Officer (THPO). MBMI Cultural Resource Specialist Laura Chatterton, will be assisting the Tribe in the review of this project. Please do not hesitate to contact us at ABrierty@morongo-nsn.gov, THPO@morongo-nsn.gov, lchatterton@morongo-nsn.gov or (951) 663-2842, should you have any questions. The Tribe looks forward to meaningful government-to-government consultation with the City.

Respectfully,



Bernadette Ann Brierty
Tribal Historic Preservation Officer
Morong Band of Mission Indians

CC: Morongo THPO

From: "Baer, Nathan@CHP" <NBaer@chp.ca.gov>
Date: September 28, 2023 at 4:04:09 PM PDT
To: state.clearinghouse@opr.ca.gov, CHP-EIR <EIR@chp.ca.gov>, Matthew Bassi <mbassi@cityofwildomar.org>
Cc: "Penner, Jason@CHP" <JPenner@chp.ca.gov>, "Antillon, Alex@CHP" <AAntillon@chp.ca.gov>
Subject: ENVIRONMENTAL DOCUMENT REVIEW AND RESPONSE

[The e-mail below is from an external source. Please do not open attachments or click links from an unknown or suspicious origin.]

The California Highway Patrol, Temecula Area's response to the Notice of Preparation (NOP) for the City of Wildomar's proposed general plan, State Clearinghouse (SCH) #2023090064, Temecula Area is expressing concerns that the proposed development. The addition of 8,992 dwellings and an estimated population increase of 27,999, would significantly increase traffic volume, and it would therefore present an adverse impact on the Temecula Area's ability to provide adequate service in the area.

The general plan does not address the impact on roadways outside of the city, other than a generic statement under *Transportation*. The general plan does not address the significant increase of traffic on Interstate 15 or the county roads leading in and out of the city.

Sincerely,

Sergeant N. W. Baer
California Highway Patrol – Temecula Area 27685 Commerce Center Drive Temecula,
CA 92590
(951) 506-2000
FAX (951) 506-2002
nbaer@chp.ca.gov

From: Theresa Rettinghouse <trettinghouse@biologicaldiversity.org>
Date: October 5, 2023 at 3:30:42 PM PDT
To: Matthew Bassi <mbassi@cityofwildomar.org>
Cc: Aruna Prabhala <APrabhala@biologicaldiversity.org>
Subject: City of Wildomar Proposed General Plan, aka SCH2023090064

[The e-mail below is from an external source. Please do not open attachments or click links from an unknown or suspicious origin.]

Good afternoon Mr. Bassi,

Please add me and Aruna (copied here) to the notice list for the City of Wildomar Proposed General Plan (aka SCH2023090064) and keep us apprised of all future project developments.

Please confirm receipt of this email.

Best regards,
Theresa

Theresa Rettinghouse
(she/her/hers)
Urban Wildlands Paralegal
Center for Biological Diversity
trettinghouse@biologicaldiversity.org
Ph: 510-844-7100 ext 320
1212 Broadway St., Suite 800
Oakland, CA 94612

October 11, 2023

Matthew C. Bassi
Community Development Director
City of Wildomar, Planning Department
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595

RE: Notice of Preparation of an Environmental Impact Report for the City of Wildomar's General Plan Update

Dear Mr. Bassi,

Thank you for the opportunity to review the Notice of Preparation (NOP) for an Environmental Impact Report (EIR) for Wildomar's General Plan Update. The City of Menifee has reviewed the NOP and offers the following comments.

- 1) Upon review of the Wildomar City Council's preferred Land Use Plan, we notice that the plan does not reflect any specific plan areas, yet Menifee has received recent prior environmental notification concerning a proposed amendment to the existing Wildomar Meadows Specific Plan located near/adjacent to the southwest portion of Menifee. Additionally, the preferred General Plan Land Use Plan would amend the land uses for the same area as the Specific Plan south of Keller Rd at the Menifee/Wildomar boundary line from Low Density Residential (LDR), Estate Density Residential (EDC-RC), to Estate Density Residential (EDR) allowing single family detached residences on large parcels of 2 to 5 acres. Menifee is looking for clarification as to why the General Plan update would include land use changes for this area that appear to be in conflict with pending Wildomar Meadows Specific Plan Amendment Project. The Wildomar Specific Plan project description included substantially different General Plan land use amendments that would 1) remove the existing Estate Density Residential (EDR-RC), Very Low Density Residential (VLDR) and Low Density Residential (LDR) land use designations, and 2) add the Medium High Density Residential (MHDR), High Density Residential (HDR), Commercial Retail (CR) land use designations.

- 2) The City of Menifee requests the opportunity to review and provide comments on the Circulation and Mobility Element of Wildomar's General Plan Update as soon as it is available.
- 3) The proposed project will have a cumulative adverse impact on the City of Menifee Fire Department's ability to provide an acceptable level of service. These impacts include an increased number of emergency and public service calls due to the increased presence of structures, traffic, and population. The project proponents/developers will be expected to provide proportional mitigations to these impacts via capital improvements and/or impact fees. Upon additional impact analysis, the applicants/developers may be required to enter into an agreement with the City of Menifee to offset costs and impacts.
- 4) Finally, we request the City of Wildomar please provide all subsequent notices and environmental documents on this project to the City of Menifee Community Development Department.

We appreciate your consideration of these comments and thank you again for the opportunity to provide comments. We respectfully look forward to discussing these items further prior to the approval of this project. If you have questions, please contact me at 951-723-3744 or by e-mail at ddarnell@cityofmenifee.us

Sincerely,

Doug Darnell

Doug Darnell, AICP
Principal Planner

Cc: Cheryl Kitzerow, AICP Community Development Director, City of Menifee
Nick Fidler, Public Works Director, City of Menifee
Orlando Hernandez, Deputy Community Development Director, City of Menifee

Appendix 3-1 Draft General Plan Document

Appendices

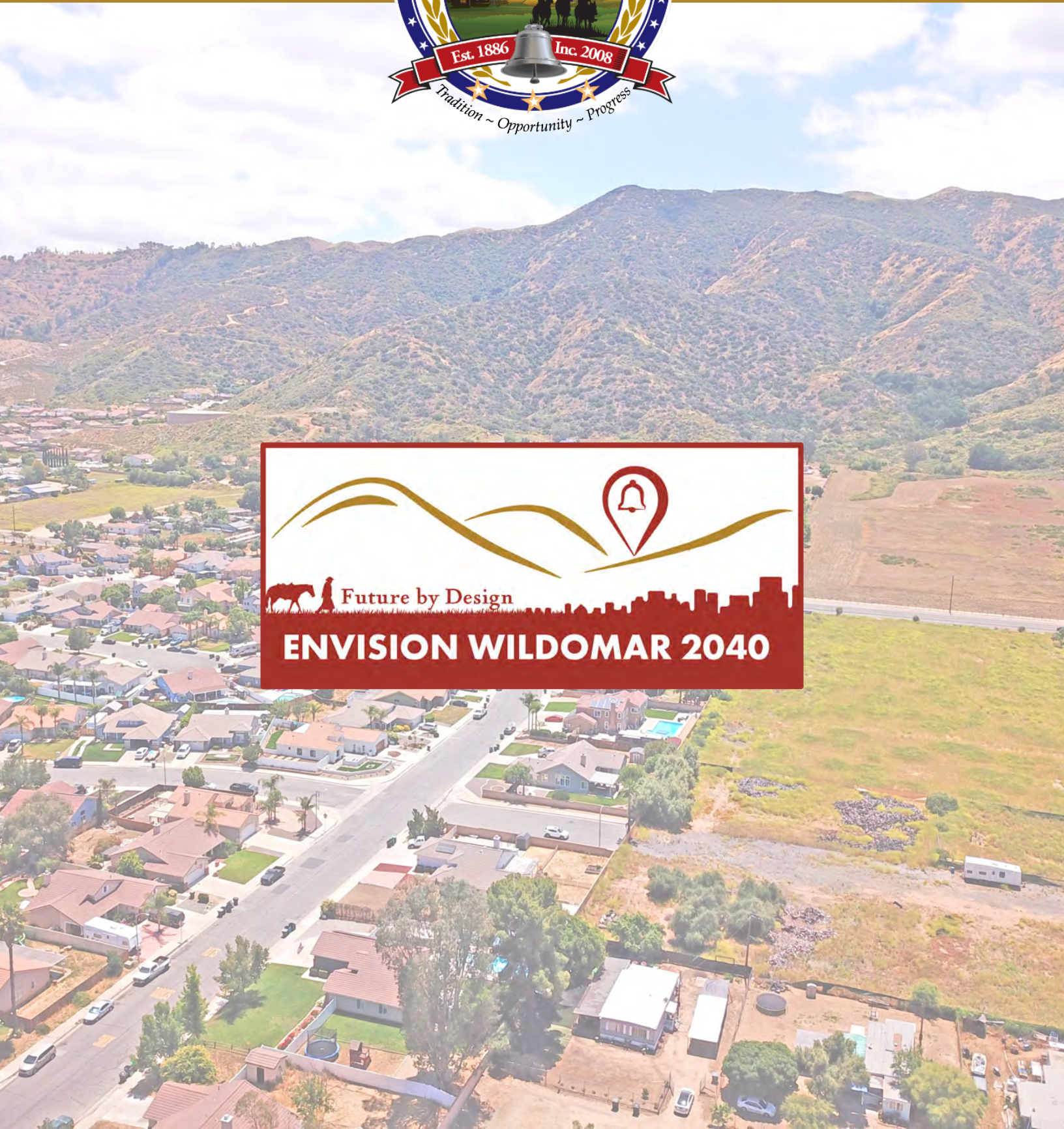
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Wildomar 2040 General Plan

Public Review Draft | May 2024





A graphic overlay with a white background and a dark red border. It features a stylized bell icon inside a red location pin shape, with two gold wavy lines extending from it. Below the icon is the text "Future by Design" in a serif font, with a silhouette of a person on horseback to the left. At the bottom, the text "ENVISION WILDOMAR 2040" is written in a bold, white, sans-serif font against a dark red background.



City of
WILDOMAR
CALIFORNIA



Wildomar 2040 General Plan

Public Review Draft | May 2024



Prepared by: PlaceWorks

700 South Flower Street, Suite 600
Los Angeles, California 90017
t 213.623.1443

ORANGE COUNTY • BAY AREA • SACRAMENTO • CENTRAL COAST • **LOS ANGELES** • INLAND EMPIRE

PLACEWORKS.COM



Acknowledgements

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Mayor Pro Tem, Ashlee DePhillippo
Carlos Marquez
Joseph Morabito
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CR Associates
ECORP

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Table of Contents

1. Introduction.....	1-1	5. Open Space and Conservation Element	5-1
1.1 Vision Statement	1-2	5.1 Vision	5-1
1.2 Outreach	1-2	5.2 Purpose	5-1
1.3 Community Themes	1-2	5.3 Planning Context and Approach.....	5-2
1.4 Wildomar Today	1-3	5.4 Goals and Policies	5-14
1.5 Wildomar’s History.....	1-4	6. Recreation and Community Services	
1.6 Purpose.....	1-7	Element.....	6-1
1.7 Organization.....	1-8	6.1 Vision	6-1
1.8 Administration.....	1-10	6.2 Purpose	6-1
1.9 Environmental Impact Report.....	1-10	6.3 Planning Context and Approach.....	6-2
2. Land Use Element.....	2-1	6.4 Goals and Policies	6-7
2.1 Vision	2-1	7. Noise Element	7-1
2.2 Purpose.....	2-1	7.1 Vision	7-1
2.3 Planning Context and Approach	2-1	7.2 Purpose	7-1
2.4 Land Use Diagram	2-6	7.3 Noise.....	7-1
2.5 Land Use Designations	2-11	7.4 Terminology	7-1
2.6 Development Capacity	2-15	7.5 Noise Environments & Measurements.....	7-2
2.7 Goals and Policies	2-17	7.6 Planning Context	7-2
3. Circulation Element.....	3-1	7.7 Noise Standards	7-6
3.1 Vision	3-1	7.8 Noise Contours	7-6
3.2 Purpose.....	3-1	7.9 Stationary Noise	7-13
3.3 Planning Context and Approach	3-2	7.10 Construction Noise	7-13
3.4 Goals and Policies	3-26	7.11 Vibration.....	7-14
4. Economic Development Element	4-1	7.12 Goals and Policies	7-15
4.1 Vision	4-1	8. Housing Element.....	8-1
4.2 Purpose.....	4-1	9. Safety Element	9-1
4.3 Planning Context and Approach	4-1	10. Implementation.....	10-1
4.4 Economic Development Strategic Planning	4-3		
4.5 Economic Development Partners	4-4		
4.6 Goals and Policies	4-5		

Appendices

- Appendix A: Policies Addressing Environmental Justice Topics
- Appendix B: Wildomar General Plan Update Goods Movement Memorandum

Figures

Figure 1-1: Regional Context 1-5

Figure 1-2: Local Context 1-6

Figure 2-1: Existing Land Use 2-4

Figure 2-2: Land Use Plan..... 2-7

Figure 2-3: Focus Areas 2-8

Figure 3-1: Planned Pedestrian Route Types 3-3

Figure 3-2: Planned Bicycle Network 3-6

Figure 3-3: Public Transit Network..... 3-9

Figure 3-4: Planned Roadway Network Classifications..... 3-10

Figure 3-5-1: Typical Cross-Sections of Designated 6-Lane Primary Arterial Roadways, Part 1 3-11

Figure 3-5-2: Typical Cross-Sections of Designated 6-Lane Primary Arterial Roadways, Part 2 3-12

Figure 3-6-1: Typical Cross-Sections of Designated 4-Lane Major Arterial Roadways, Part 1 3-13

Figure 3-6-2: Typical Cross-Sections of Designated 4-Lane Major Arterial Roadways, Part 2 3-14

Figure 3-6-3: Typical Cross-Sections of Designated 4-Lane Major Arterial Roadways, Part 3 3-15

Figure 3-7-1: Typical Cross-Sections of Designated 4-Lane Minor Arterial Roadways, Part 1 3-16

Figure 3-8-1: Typical Cross-Sections of

Designated 2-Lane Collector Roadways, Part 1 3-17

Figure 3-8-2: Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 2 3-18

Figure 3-8-3: Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 3 3-19

Figure 3-8-4: Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 4 3-20

Figure 3-8-5: Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 5 3-21

Figure 3-8-6: Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 6 3-22

Figure 3-8-7: Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 7 3-23

Figure 3-8-8: Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 8 3-24

Figure 3-9: Goods Movement Routes 3-25

Figure 5-1: Conserved Lands..... 5-4

Figure 5-2a: Vegetation Communities..... 5-5

Figure 5-2b: Vegetation Communities..... 5-6

Figure 5-2c: Vegetation Communities..... 5-7

Figure 5-2d: Vegetation Communities..... 5-8

Figure 5-3: Critical Habitat..... 5-9

Figure 5-4: Potential Aquatic Features 5-10

Figure 5-5: Areas of Mineral Significance 5-11

Figure 6-1: Planned Parks Network 6-3

Figure 6-2: Planned Multi-Use Trails 6-4

Figure 6-3: Community Services 6-6

Figure 7-1: Short- and Long-Term Noise Measurement Locations 7-4

Figure 7-2: Future Noise Contours 7-7

Tables

Table 1-1: State Mandated Elements1-8

Table 2-1: Existing Land Use2-3

Table 2-2: Focus Area Description2-9

Table 2-3: Land Use Designations2-12

Table 2-4: Development Assumption
by 20452-16

Table 5-1: Previously Evaluated Built
Environment Resources in
the City5-13

Table 7-1: Long-Term Measurement
Summary7-3

Table 7-2: Short-Term Noise Measurements
Summary in A-weighted Sound
Levels7-5

Table 7-3: Noise Compatibility Standards for
Land Uses7-8

Table 7-4: Noise Contours from Centerline for
Roadways7-9

Table 7-5: Human Response to Different
Levels of Ground Noise and
Vibration.....7-15

Table 10-1: How to Read Implementation
Actions.....10-2

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1. Introduction





1. Introduction

Welcome to Wildomar’s 2040 General Plan! As the first comprehensive General Plan to address Wildomar’s unique attributes and aspirations, the Plan is a significant milestone. It establishes a foundation for protecting the City’s valued qualities and characteristics, while providing a roadmap for how the City should develop. Overall, the Plan outlines a shared vision for the future of Wildomar while staying true to the City’s roots. The General Plan is the result of a multiyear planning process. More importantly, the Plan reflects the investment of imagination, dedication, and thoughtfulness by the many members of the community. The policies articulated in this Plan are intended to speak to future leaders and generations to come about the unique challenges and

opportunities of this time while establishing an enduring vision that will provide guidance for many decades.

Vision and Guiding Principles

The Vision Statement and Guiding Principles embody the collective aspirations and outcomes for the future of Wildomar and form the basis for the policies of the General Plan. The Vision Statement was adopted by the City Council in 2017 and the Guiding Principles were developed by community members during the general plan update process through meetings, surveys, pop-up events, and workshops. Together, they encapsulate the expectations of what type of place Wildomar will be in 2040.

1.1 Vision Statement

The City of Wildomar will be a safe and active community with responsible growth and quality infrastructure while keeping a hometown feel.

Guiding Principles

Wildomar is a city that:

- Provides a welcoming, safe, and family-friendly environment with opportunities for healthy, self-sustaining lifestyles for all residents.
- Balances responsible growth with preservation of rural character, open spaces, and historical resources.
- Protects the visual and ecological value of its natural resources.
- Nurtures small businesses, attracts high-quality jobs, provides quality educational opportunities, and supports commercial services that capture local spending and generate revenues to support Wildomar’s vision for the future.
- Maintains safe roadways and high-quality pedestrian, bicycle, multipurpose trail, and transit networks.
- Provides for social, physical, and mental health through arts and programs, entertainment, recreational opportunities, quality infrastructure, and gathering places for residents of all ages and abilities.

1.2 Outreach

The General Plan update included a robust public outreach program that sought to engage all sectors of the City’s population with the goal of identifying the community’s values and translating those values into a community vision. The program of public outreach comprised a diversity of platforms and techniques. An iterative process of public engagement included six (6) public meetings of the eight-member General Plan Advisory Group (GPAG), four (4) community pop-up events, five (5) citywide community workshops, two (2) online surveys, and fifteen (15) stakeholder interviews/meetings. Regular updates and

information on key milestones and public comments were posted to the project website and the City’s social media platforms. In addition, City staff provided monthly updates to the City Council throughout the General Plan update process.

1.3 Community Themes

Through the extensive feedback received during public engagement, the following key themes emerged:

1. **Housing Choices.** Large-lot residences and opportunities for a degree of self-sufficiency on such properties are valued, including the ability to maintain gardens and farm animals. A diversity of housing types that meet the needs of different income levels and life stages, from starter homes for families to retirement residences, are also desired.
2. **A Heart of the Community.** The Old Town area, centered on the intersection of Wildomar Trail and Palomar Street, is perceived to be the historical “heart” of the community, and support for evolving the area into a walkable “community focal point” was expressed, as envisioned in previous planning efforts.
3. **Improved Infrastructure and More Services.** In various forums, a strong desire was expressed to improve and expand the City’s infrastructure, services, and amenities—from better maintenance of streets to the provision of more parks and community gathering places and a larger library.
4. **Keep Our Natural Treasures.** Wildomar’s natural environment and scenic setting are treasured and should be protected for enjoyment by future generations.
5. **Transportation Choices.** Safe and efficient networks of pedestrian, bicycle, multiuse trail, and transit routes for recreational and everyday use are important, providing healthy and environmentally friendly alternatives to driving personal vehicles.

ENVISION WILDOMAR 2040

Future by Design

5 Public Workshops

75+ participants submitted comments, suggestions, and ideas



461 submissions

in response to 2 surveys covering community values, concerns, aspirations, and land use preferences



3,800 Unique Website Visitors



15 Stakeholder Interviews



4 Study sessions with Planning Commission and City Council

4 Community "Pop-ups"

300+ comments collected at:

Coffee with the City - June 14, 2022 and August 16, 2023

Wildomar's 14th Birthday Celebration - July 19, 2022

Mariachi Night - September 17, 2022



8 community members in the General Plan Advisory Group (GPAG) held 6 meetings to provide input, feedback, and recommendations



Pop-up at Wildomar's 14th Birthday Celebration, July 19, 2022.



Citywide Workshop #1 on May 14, 2022.

6. **More Amenities.** There is a need for more goods and services, such as stores, restaurants, and entertainment venues that increase local spending and decrease the need to travel to other communities to meet daily needs, celebrate special events, and enjoy a night out.
7. **Balanced Growth.** The city should evolve with more homes, amenities, and infrastructure, but

those improvements should be sensitive to the city's rural history and small-town feel.

1.4 Wildomar Today

Location

The City of Wildomar is in southwestern Riverside County, California, and is bordered by the City of Lake Elsinore to the north and northwest,

unincorporated Riverside County to the west, the City of Murrieta to the south and east, and the City of Menifee to the east. Interstate and regional access to Wildomar is provided by Interstate 15 freeway (I-15), which runs northwest-southeast through the middle of the city. Figure 1-1, Regional Context, and Figure 1-2, Local Context, show the city in its regional and local contexts.

1.5 Wildomar's History

Wildomar falls within the territory of both the Luiseño and Juaneño indigenous peoples. The Luiseño occupied most of the area drained by the San Luis Rey and Santa Margarita Rivers. The Luiseño lived in sedentary and autonomous village groups. Permanent villages were typically located in valley bottoms, along streams, or along coastal strands near mountain ranges where water was available and village defense was possible.

Ethnographic descriptions of the Juaneño are often given in terms of their neighbors to the south, the Luiseño, but also point to a separate ethnic identity. Juaneño settlement and subsistence systems may extend back to the beginning of the Angeles IV Phase about 1,250 years ago when Takic speakers moved south beyond Aliso Creek. The Juaneño were semi-sedentary hunters and gatherers. They lived in villages of up to 250 people located near permanent water and a variety of food sources. Each village was typically at the center of an established territory from which resources for the group were gathered.

Mission San Luis Rey

After the San Luis Rey Mission was established in 1798 on the lower San Luis Rey River, most Luiseño were converted and taken to the mission. Poor living conditions at the missions and introduced European diseases led to a rapid decline of the Luiseño population. Following closure of the missions by the Mexican government, Luiseño dispersed throughout Southern California. Some worked on the Mexican ranchos, others moved to newly founded towns established for them, some

sought refuge among inland groups, and a few managed to acquire land grants. Later, many moved or were forced onto reservations established by the U.S. Government.

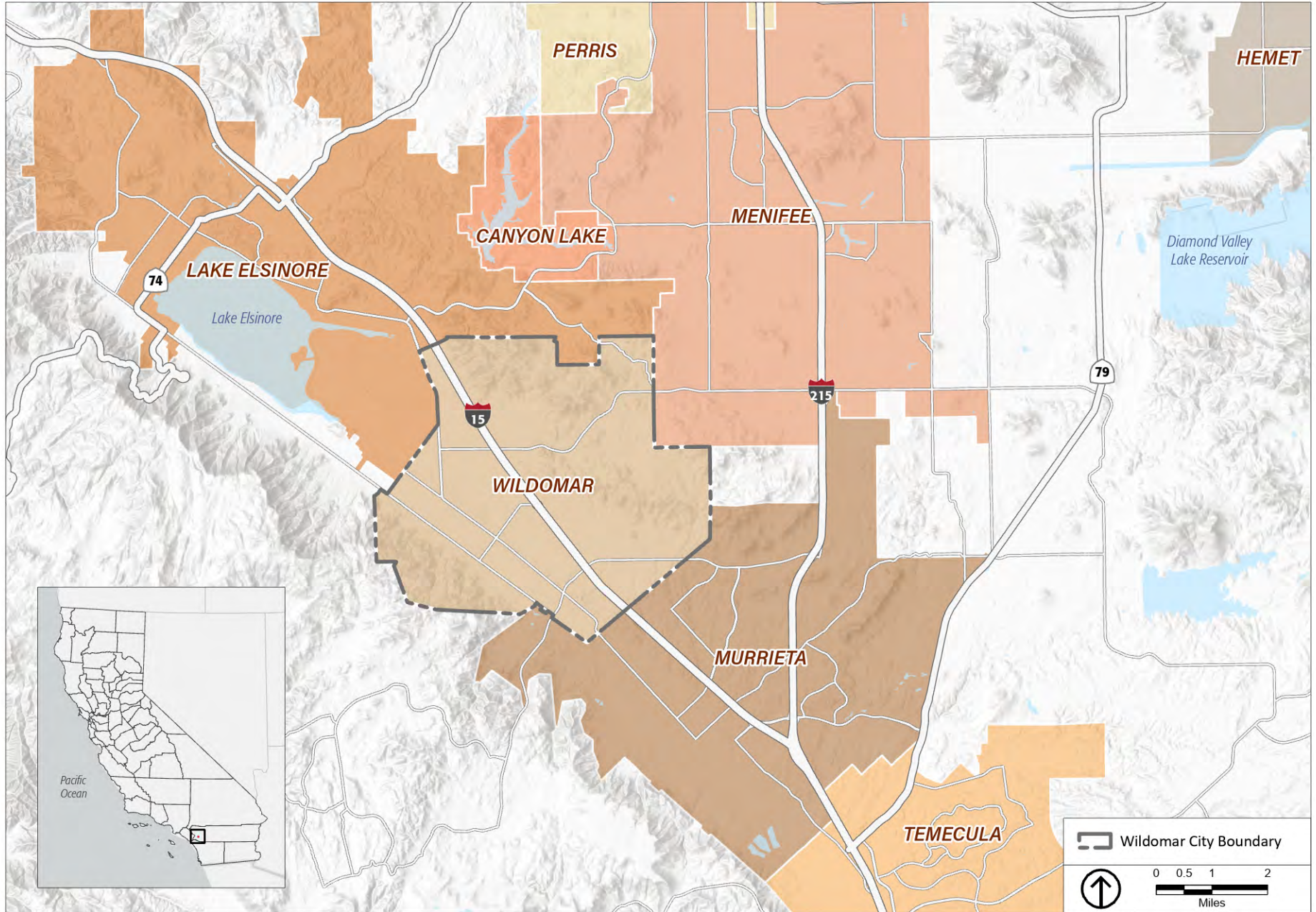
City of Wildomar

Rancho La Laguna was a grant of 3 square leagues made by Mexican governor Manuel Micheltorena to Julian Manriquez in 1844. Rancho La Laguna included Lake Elsinore and what is now the City of Wildomar. The land grant did not include the surrounding hills.

After Julian Manriquez died, Rancho La Laguna was sold to Abel Stearns in 1852. Stearns sold the rancho to Agustín Machado in 1858. When confirmed by the United States in 1872, the grant had an area of 13,339 acres. Machado's widow and 11 of the 12 children sold most of the rancho to an Englishman, Charles A. Sumner, in 1873. Sumner mortgaged his property in 1875 and lost the property through foreclosure and a sheriff's sale in 1877. The new owner sold the property to Frederick M. Sumner, the brother of Charles A. Sumner. In 1881, ownership was transferred to a San Francisco bank, and in 1883 it was purchased by Franklin Heald, William Collier, and Donald Graham. The partners subdivided part of the property and began selling lots in what would become the Town of Elsinore. These partners divided the La Laguna Ranch property in 1885, with Collier and Graham taking the area southeast of Corydon Road, which became the City of Wildomar.

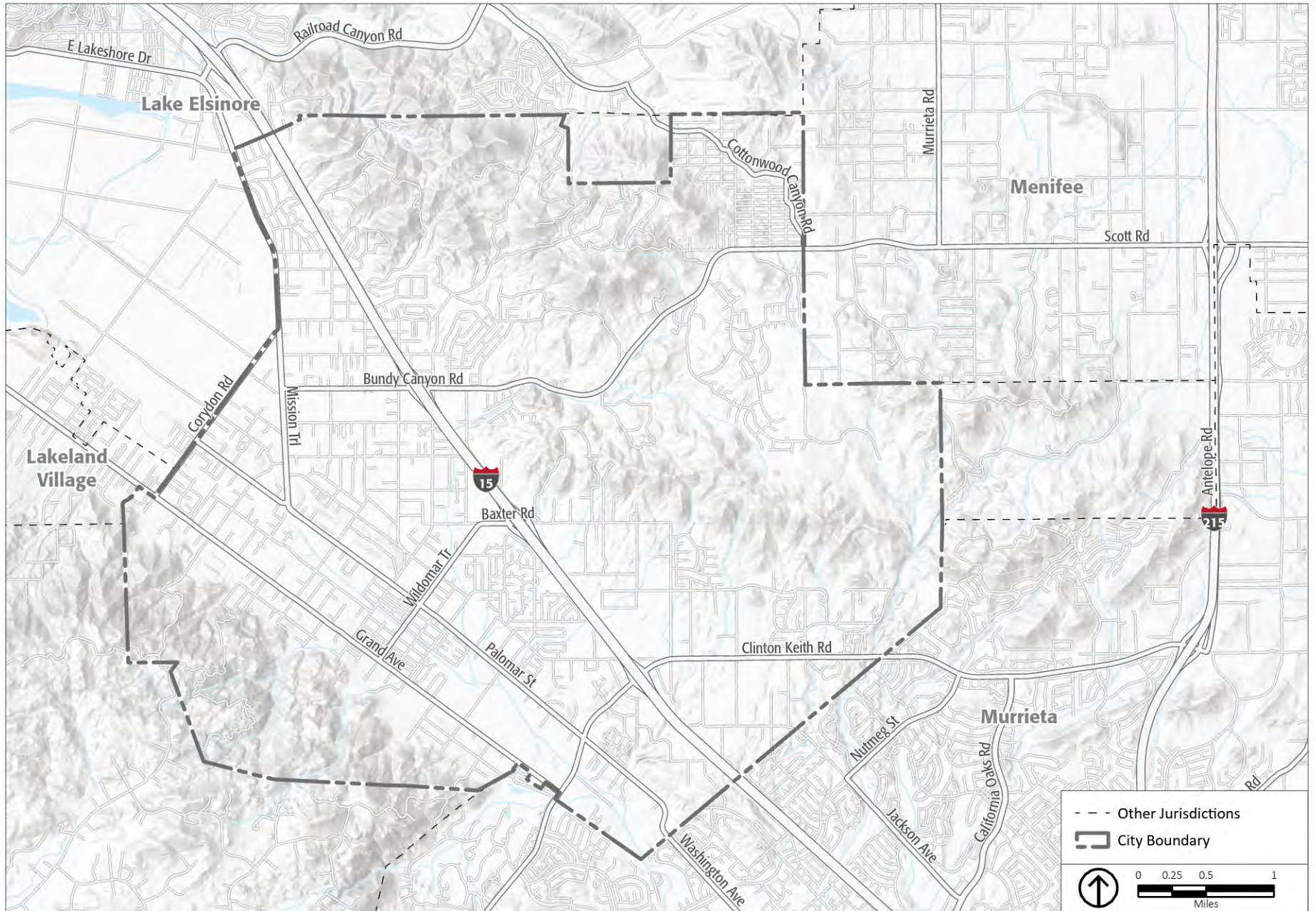
Wildomar began as the Car B station, established in 1884 by the California Southern Railroad Company (CSRR) six miles south of the Elsinore Junction station. The station began as a railroad car on a siding. The name was changed to Wildon and lots were surveyed and platted in 1885. Wildon was based on the names of William Collier and Donald Graham. A new plat was recorded in 1886 with the name changed to Wildomar. The name Wildomar was formed using Wildon plus part of the first name of Margaret Collier, wife of William Collier and sister of Donald Graham.

FIG 1-1: REGIONAL CONTEXT



Source: ESRI, 2024; PlaceWorks, 2024

FIG 1-2: LOCAL CONTEXT



Source: ESRI, 2024; PlaceWorks, 2024



The original townsite was between Palomar Street and Grand Avenue and between Gruwell Street and Pasadena Avenue, according to the 1901 edition of the U.S. Geological Survey Elsinore Quadrangle. The Wildomar post office and the elementary school were established in 1886. With the arrival of many Quaker families from West Branch, Iowa, Wildomar became a Quaker colony. Wildomar was one of the election precincts and school districts when Riverside County was formed in 1893.

Wildomar's growth slowed when the CSRR's tracks in Temecula Canyon were washed out for the final time in 1892, which severed the connection with San Diego; the tracks were not rebuilt. In 1927, the track in Railroad Canyon washed out, and the Atchison,

Topeka, & Santa Fe railroad track from Perris to Temecula was abandoned, after which Wildomar no longer had rail service. Wildomar remained a rural farming and horse ranching community for most of the 20th century. Wildomar was incorporated as a city on July 1, 2008, with a population of 28,000.

1.6 Purpose

The General Plan is a State-required legal document that provides guidance to decision-makers regarding the allocation of resources and the future physical form and character of development in the City. It is the official statement of the City regarding the extent and types of development needed to achieve the community's physical, economic, social, and

environmental goals. Although the General Plan is composed of individual sections, or “elements,” that individually address a specific area of concern, the General Plan embodies a comprehensive and integrated planning approach for Wildomar.

1.7 Organization

Wildomar’s Envision Wildomar 2040 General Plan is presented in 10 chapters. These cover all the elements required by State law—land use, circulation, conservation, open space, safety, noise, housing, and environmental justice—as well as one additional topic of local importance to the community—economic development. While an environmental justice element is not required for Wildomar due to the absence of State-defined disadvantaged communities, the diversity and needs of its residents justify the inclusion of policies addressing the issues described under State Guidelines that have been integrated throughout relevant elements of the General Plan. Appendix A outlines which policies address the Environmental Justice topics identified in Government Code Section 65302. Though a number of other important topics are not developed as separate elements, policies for them are integrated throughout the Plan, including environmental sustainability and health.

No single element or subject supersedes any other, and all elements must be internally consistent. Additionally, all policies and actions must complement one another across topic areas without conflicting with one another. Once adopted, each element, regardless of statutory requirement, assumes the same legal standing.

Table 1-1, State Mandated Elements shows the State-mandated elements and their counterparts in the Envision Wildomar 2040 General Plan.

Table 1-1: State Mandated Elements

State-Mandated Element	Wildomar General Plan Element
Land Use	Land Use Element
Circulation	Circulation Element
Housing	Housing Element
Open Space	Open Space and Conservation Element, Recreation and Community Services Element
Conservation	Open Space and Conservation Element
Noise	Noise Element
Safety	Safety Element
Optional Elements	
N/A	Economic Development Element

Each element contains goals, policies, and implementation programs designed to address issues and opportunities identified during the planning process and achieve the community’s vision.

Goal. A statement that describes a desired future condition, or “end” state. Goals are oriented to change and outcome, achievable over time, though not driven by funding. Goals are numbered and begin with a chapter abbreviation (e.g., Goal LU 1).

Policy. A specific statement that guides a specific course of action for decision-makers to achieve a desired goal. Some policies include guidelines or standards as the basis by which decisions can be evaluated and commit the City to a particular course of action. Each policy in the Plan is labeled with a chapter abbreviation, the number of the goal it’s associated with, and its own unique number (e.g., LU-1.1).

Implementation Program. An implementation program is an action, procedure, program, or technique that carries out goals and policies. Implementation measures are comprehensive in nature, encompassing amendments of existing and preparation of new plans, ordinances, and development standards; administration of City procedures and development review and approval processes; and interagency coordination. Completion of a recommended implementation program will depend on a number of factors,

such as citizen priorities, finances, and staff availability.

Policies and actions together establish who will do the work and how and when the goals will be carried out. Collectively, goals, policies, and actions provide a roadmap with tangible steps to make the vision in the General Plan a reality in the Wildomar of 2040.

Readers Guide

Goal Numbering
Each goal number starts with the element acronym and is followed by the number of the goal (e.g. LU 1).

Goals & Policies
Each goal has one or more policies associated with the goal.

Policy Numbering
Continuing from the goal numbering, the policy number is shown as the last number, supporting the goal is follows (e.g., Policy LU 1.1 - first policy under Goal LU 1).

Policy Title
Each policy contains a leading title in bold for a quick reference to the policy text.

Page Number
Shows the chapter and page number (e.g., Page 2-20 is Chapter 2, page 20).

Wildomar 2040 General Plan

2.7 Goals and Policies

Guided by the Vision and Guiding Principles, the following goals and policies provide for strategic growth and change while protecting the important assets and characteristics that contribute to Wildomar's identity and quality of life.

GOAL LU 1
ADMINISTRATION. The General Plan is utilized as the guiding planning document for the City and as the basis for regional collaboration.

Policy LU 1.1
Regional Planning Efforts. Wildomar shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management with Riverside County, neighboring cities, local and regional agencies, stakeholders, and tribal governments.

Policy LU 1.2
Specific, Master, and Corridor Plans. Specific, Master, and Corridor Plans may be utilized to facilitate more detailed land use and planning for targeted sites or areas of the city, insofar as they are consistent with the goals and policies of the General Plan.

Policy LU 1.3
Development Clustering and Density Transfers. Allow development clustering and/or density transfers to preserve open space, natural resources, and cultural and/or biologically sensitive resources.

Policy LU 1.4
Internal Consistency. All General Plan elements must be internally consistent and hold equal status. Updates to individual elements or the General Plan in its entirety shall ensure that internal consistency is maintained between all elements.

Policy LU 1.5
Lot Mergers. Where lot sizes impede redevelopment opportunities, encourage merging of adjacent lots to provide sites of adequate size and dimension for redevelopment.

GOAL LU 2
DEVELOPMENT CAPACITY. Responsible growth through well-planned development provides for the needs of Wildomar's residents and businesses, makes efficient use of land and infrastructure, protects important environmental resources, promotes the health of the community, and maintains the unique character distinguishing the city as a special place in the region.

Policy LU 2.1
Adequate Service Provision for New Development. Coordinate with local agencies, service providers, and utilities to ensure adequate service provision for new development.

Policy LU 2.2
Population Density Standard. Pursuant to State law, each land use designation that provides for residential development is assigned a population density standard for the purposes of projection and infrastructure planning. These population density standards are relevant only for general planning purposes and shall not be interpreted as constituting legal limitations on the number of persons who may reside at any particular location or parcel.

GOAL LU 3
FOCUS AREAS. Unique areas of the city are enhanced to meet residents' needs.

Administrative Draft
February 2024

Page 2-20

1.8 Administration

Following its adoption, the General Plan will be implemented through a variety of ordinances, programs, and activities. These specific implementation actions are described in Chapter 10 and are referenced by applicable policies for each Element.

The General Plan is intended to be a dynamic document and must be periodically updated to respond to changing community needs. An annual review of the Plan is required to ensure that it remains relevant. The mandated elements of the General Plan can be amended up to four (4) times annually; the optional elements can be amended as needed.

Requests for amendments can be submitted by individuals or initiated by the City itself. Most amendments propose a change in the land use designation for a particular property. Requests by private entities to initiate an amendment to the General Plan's land uses must adhere to established procedures, including but not limited to the City's General Plan Initiation Process (GPIP) and completion of the "GPA-CZ-SP-SPA-ZOA" application. Policy and text amendments may also occur.

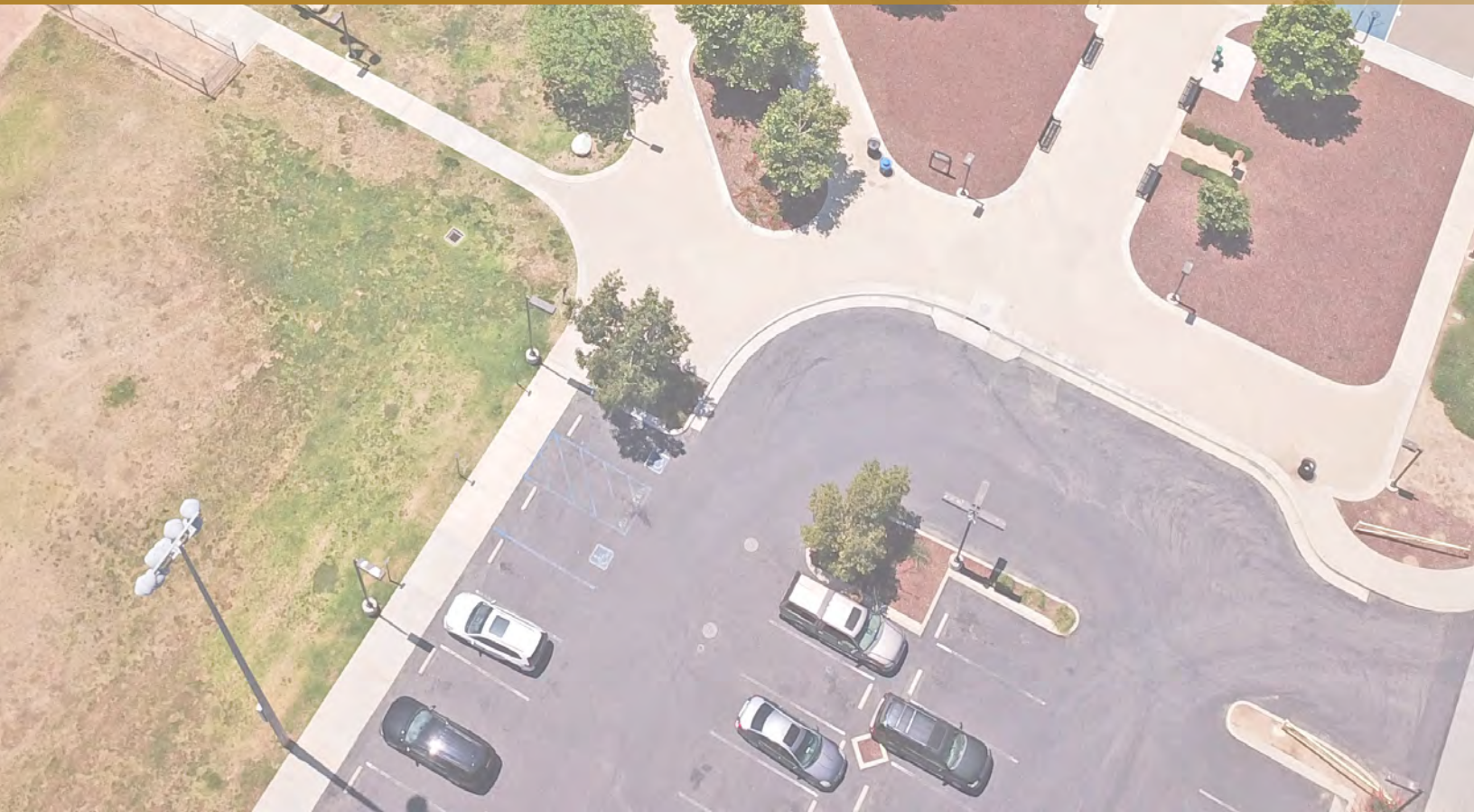
Any proposed amendment will be reviewed to ensure that the change is in the public interest and would not be detrimental to public health, safety, and welfare. Environmental review is required for all General Plan amendments.

1.9 Environmental Impact Report

As required by the California Environmental Quality Act (CEQA), an environmental impact report (EIR) has been prepared for the General Plan (State Clearinghouse Number: 2023090064). The EIR describes environmental conditions in the City and planning area, assesses the possible effects on the environment of implementation of the General Plan, identifies actions that will be undertaken to reduce these impacts, and evaluates the comparative impacts of alternatives to the General Plan.



2. Land Use





2. Land Use Element

2.1 Vision

Residents are drawn to Wildomar for its unique environment and quality of life. They value the natural environment, rural traditions, urban amenities of modern life, and lifestyle opportunities only found in a few remaining areas of Southern California. As Wildomar grows, this Plan envisions a safe and active community with responsible growth and quality infrastructure while keeping a hometown feel.

This Plan envisions a safe and active community with responsible growth and quality infrastructure while keeping a hometown feel.

Increased housing choices provide more opportunities for those who wish to join the community and for those who wish to remain in the community as they transition through their lives. New commercial development will provide more goods and services and increase employment opportunities. This will decrease the need to travel to adjoining communities to meet daily needs and attract more local spending, increase prosperity, and improve the City's ability to provide services to its residents.

To maintain the aspects of Wildomar that people value, new developments will be designed to integrate into the existing character of the City. They will be concentrated and directed to key focus areas to minimize impacts to established neighborhoods, enhance economic activity, promote walking and biking, and minimize demands on infrastructure. Designed and located appropriately, new development will enhance the City's safety, identity, and unique character without

harming the special qualities most treasured by residents.

2.2 Purpose

The most fundamental decisions in planning begin with land use: what to put where. Land use planning envisions the future of a city and interacts with all other elements of planning. At its best, the land use element reflects Wildomar's vision; promotes thoughtful, equitable, and accessible distribution of different land uses, including residential, commercial, industrial, and open space; and is consistent with other general plan elements. The land use element is also a tool to improve public health, reduce infrastructure costs, enhance local economies, and address long-term environmental issues such as climate change and water resources.

Government Code § 65302(a) requires each city to adopt a land use element that designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, greenways, and other categories of public and private uses of land.

2.3 Planning Context and Approach

Wildomar is in southwestern Riverside County, nestled in a valley between the Santa Ana Mountains to the west and rolling hills to the east. The surrounding mountains and hillsides feature large undeveloped areas of natural topography and habitat and are treasured for their scenic and ecological value.



Aerial view of Wildomar looking north; Inland Valley Medical Center in the foreground..

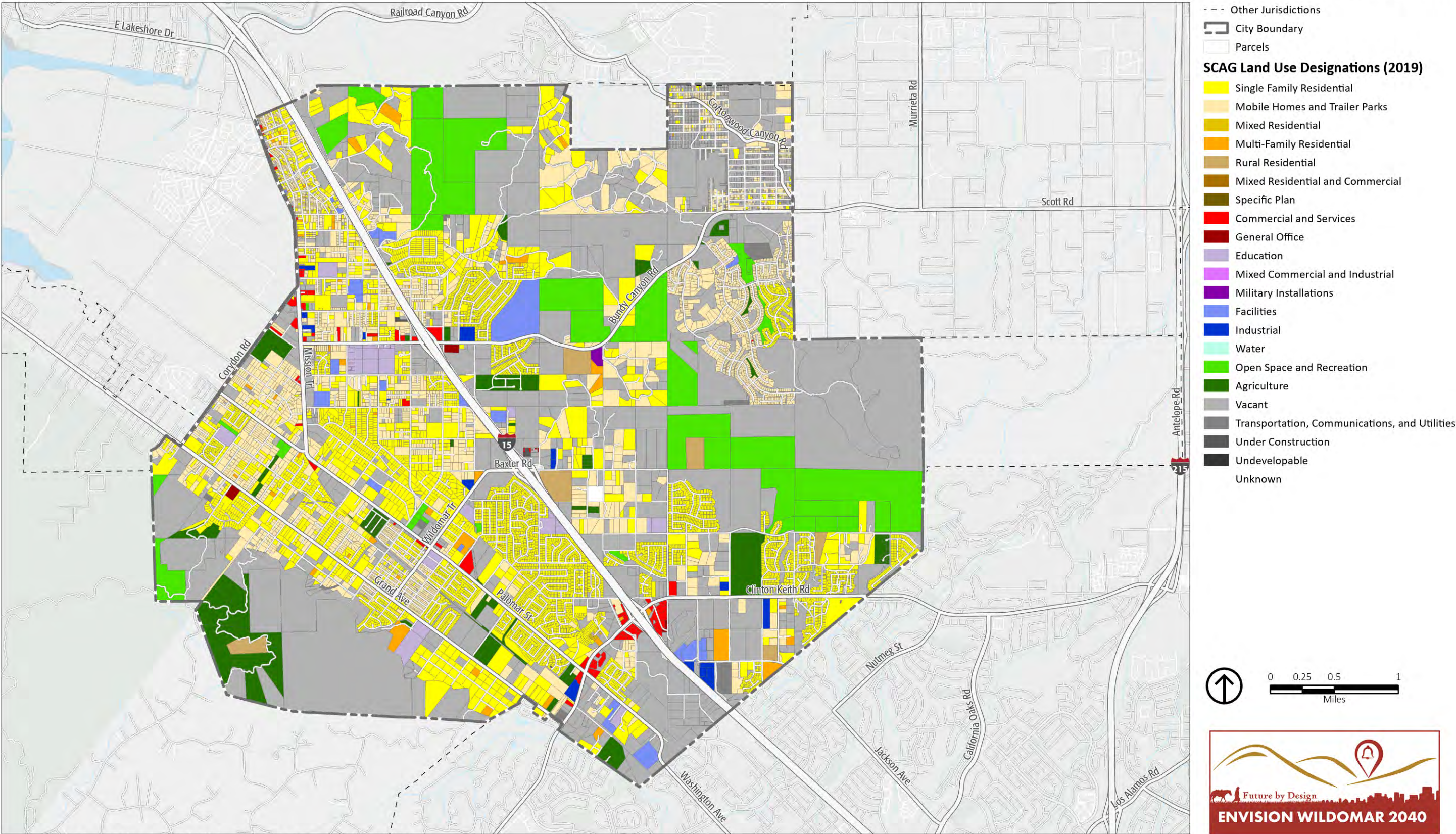
The flatlands of Wildomar are relatively developed, though portions of the City are vacant and undeveloped, allowing for natural forms of vegetation and wetlands. The built environment is primarily residential, with a mix of large-lot ranch homes reflecting the area's rural heritage, suburban/traditional housing tracts, and townhomes and multifamily homes clustered along major thoroughfares and in proximity to the Clinton Keith Road corridor. Centers of commercial activity extend east and west along Clinton Keith

Road from I-15 and are dispersed as stand-alone buildings or in small strip centers along major thoroughfares such as Corydon Road, Mission Trail, Palomar Street, and Bundy Canyon Road. Clusters of light industrial uses can be found in the northwestern portion of the City, adjacent to the City of Lake Elsinore, and along the eastern portion of the Clinton Keith corridor. Figure 2-1 depicts the City's existing uses, and Table 2-1 quantifies the amount of land associated with each use type.

Table 2-1: Existing Land Use

Existing Land Use Category	Acres	Percentage
Commercial		
Commercial and Services	88	1%
General Office	3	0%
Industrial		
Industrial	61	0%
Residential		
Rural Residential	64	0%
Single Family Residential	4,794	35%
Multi-Family Residential	93	1%
Mixed Residential	10	0%
Mixed Residential and Commercial	12	0%
Mobile Homes and Trailer Parks	2,319	17%
Other		
Education	147	1%
Transportation, Communications, and Utilities	40	0%
Facilities	93	1%
Military Installations	7	0%
Open Space and Recreation	930	7%
Agriculture	1,328	10%
Under Construction	10	0%
None	13	0%
Unknown	10	0%
Vacant	3,657	27%
Grand Total	13,677	100%

FIG 2-1: EXISTING LAND USE



Source: ESRI, 2024; City of Wildomar, 2020; PlaceWorks, 2024

Major themes that have driven the development of the Land Use diagram and Land Use goals and policies are described below.

1. **Managed Change.** New development is targeted to limited areas, balanced with the protection of open space and conserved lands and supported by the appropriate provision of services and infrastructure.
2. **Housing for All Residents.** To meet the variety of housing needs of Wildomar’s residents now and in the future:
 - We recognize the importance of the existing ranches and the role they play in Wildomar’s character.
 - The plan takes steps to protect these areas and provides meaningful policy and design to help transition the edges of these areas to more intensive housing/commercial development.
 - It is important to provide housing for residents in all stages of their lives, from young families just starting out to seniors who want to remain in the community even as they downsize.
 - Different housing types do not mean that one is prioritized over another, only that there are more choices, which benefits everyone.
3. **Thriving Commercial Areas.** The fiscal health of the City is directly linked to the success of the businesses in it. Thriving businesses, services, and shops provide revenue to the City and improve the quality of life for residents. To help existing businesses expand and attract new businesses in a changing retail landscape, opportunities are provided for both traditional commercial environments and mixed-use areas that combine retail, dining, entertainment, events, and places for socialization, with residents living within walking distance.
4. **Accommodate Mixed-Use Development.** Because land uses benefit from proximity to complementary uses, the Plan establishes two types of mixed-use designations:
 - Mixed-Use Low (MUL) is intended to provide a gradual transition between existing low-density neighborhoods to more intensive land uses located along major thoroughfares. A mix of residential and commercial uses can be accommodated side-by-side, or horizontally, within a single site or across adjacent parcels. This type of land use pattern is found today along Mission Trail.
- **Mixed-Use High (MUH)** recognizes that some areas have the potential for more intensive development while being flexible with land use types. This land use type allows for residences to be built above ground floor commercial uses (vertically) or side-by-side (horizontally) on larger sites. This category of land use will accommodate the development of walkable, experience-oriented commercial and residential districts, as well as light industrial and business park uses, as described further in this element and in the Economic Development Element.
5. **Support Employers and Increase Jobs.** The Plan supports the health of business districts by allowing for a mix of complementary uses and amenities that make them attractive for employees and employers alike and keep them active throughout the day.
6. **Expanding Parks and Open Spaces.** By expanding the amount of land dedicated to parks and conserved for native habitats, the Plan ensures that even as development is accommodated in Wildomar’s urbanized areas, its prized natural resources are protected in perpetuity and its residents are afforded more opportunities to recreate, relax, and congregate with their neighbors.
7. **Wildomar By Design.** Well-designed buildings and districts are important to the people of Wildomar. Since incorporation, the City has been proactive in establishing standards and guidelines for a variety of development types to ensure that Wildomar evolves in a way that enhances its unique character. The policies and actions of this element seek to enshrine that approach as a fundamental commitment for the City and ensure that the future is shaped, by design. Growth opportunities are directed to focus areas that both protect older

neighborhoods and encourage new growth in areas best suited for it. New mixed-use designations are designed to ensure elegant transitions between use types, protecting existing neighborhoods and enhancing the City's built environment.

8. **An Equitable Plan.** Development patterns that evolved prior to incorporation have resulted in an uneven distribution of infrastructure and services. This Plan tries to address that by outlining a path for the City to work in coordination with partners to provide equitable access to infrastructure and services in underserved areas of the City.
9. **A Healthier Wildomar.** Development patterns and circulation networks that support physical activity and design approaches that ensure compatibility among land uses are some of the ways that Land Use works in concert with the Plan's other elements to support the health and well-being of Wildomar's residents.
10. **Enhance Environmental Stewardship.** Being an environmental steward requires more than just protecting open spaces; it requires mitigating and diminishing the impact of human activities on the environment. In addition to protecting natural environments, the planning and distribution of land uses in more compact forms can help reduce contributors to climate change and air pollution by keeping trips for daily needs closer to home and making nonmotorized transportation choices possible.

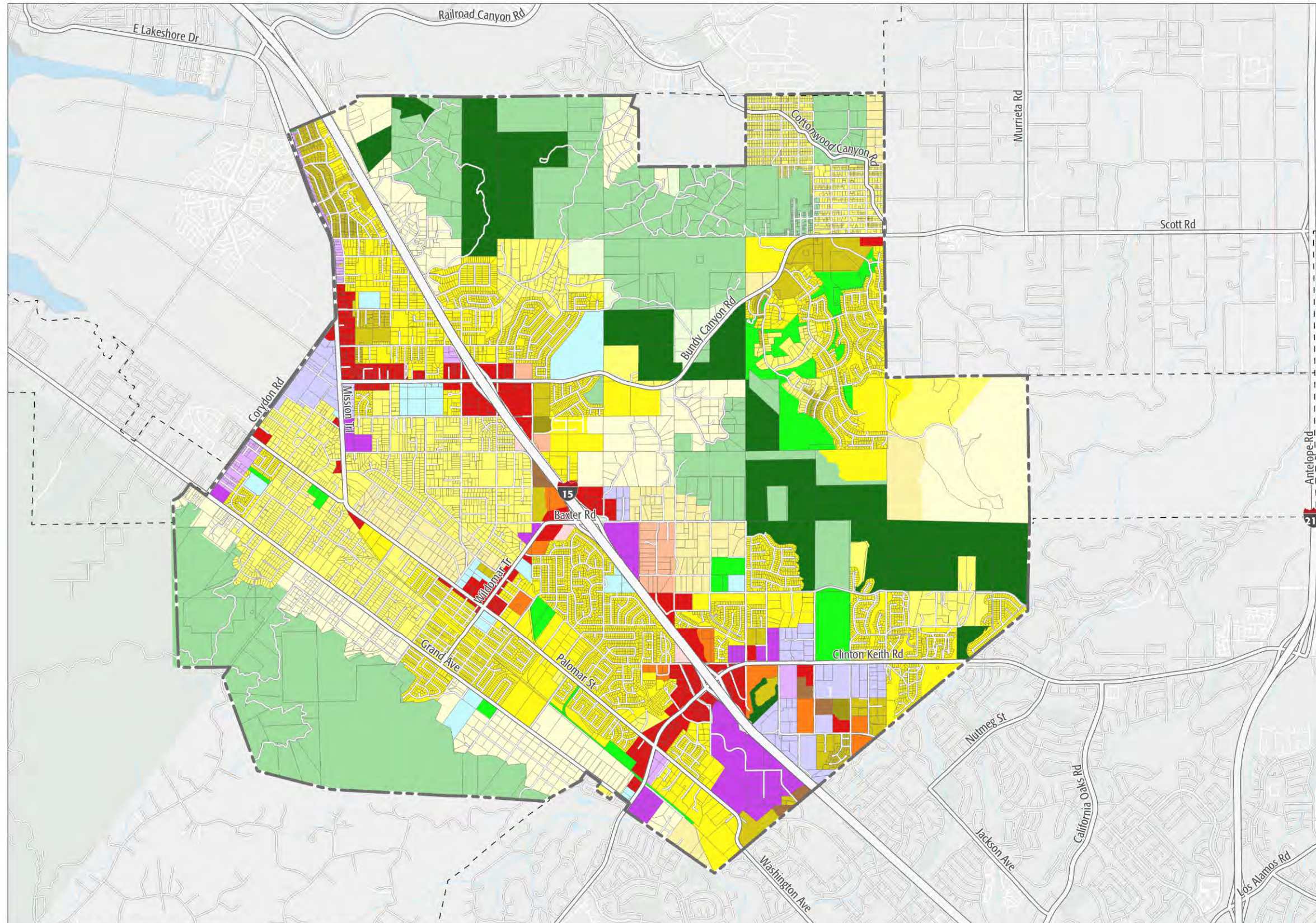
2.4 Land Use Diagram

Development in Wildomar will be guided by the Land Use diagram, which defines categories of use and standards of population density and building intensity for all lands within its jurisdictional boundaries, consistent with the requirements of the California Government Code (section 65302(a)). Figure 2-2 presents the Land Use diagram, and the text below describes the general uses and densities/intensities permitted for each land use category.

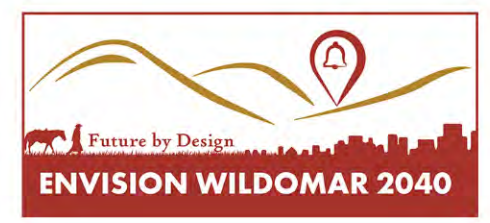
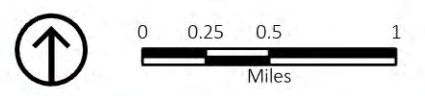
Focus Area Descriptions

The Land Use diagram provides for future growth in nine "Focus Areas" where the City endeavors to guide or encourage development, as shown in Figure 2-3 and described in Table 2-2.

FIG 2-2: LAND USE PLAN



- Other Jurisdictions
- City Boundary
- Parcels
- Residential**
- LLR: Large Lot Residential
- EDR: Estate Density Residential
- VLDR: Very Low Density Residential
- LDR: Low Density Residential
- MDR: Medium Density Residential
- MHDR: Medium High Density Residential
- HDR: High Density Residential
- VHDR: Very High Density Residential
- HHDR: Highest Density Residential
- Non-Residential**
- BP: Business Park
- CO: Commercial Office
- CR: Commercial Retail
- LI: Light Industrial
- MUL: Mixed-Use Low
- MUH: Mixed-Use High
- PF: Public Facilities
- Open Space / Rural**
- OS-CH: Conservation Habitat
- OS-R: Open Space Recreation
- RM: Rural Mountainous



Source: ESRI, 2024; City of Wildomar, 2020; PlaceWorks, 2024

Figure 2-3: Focus Areas

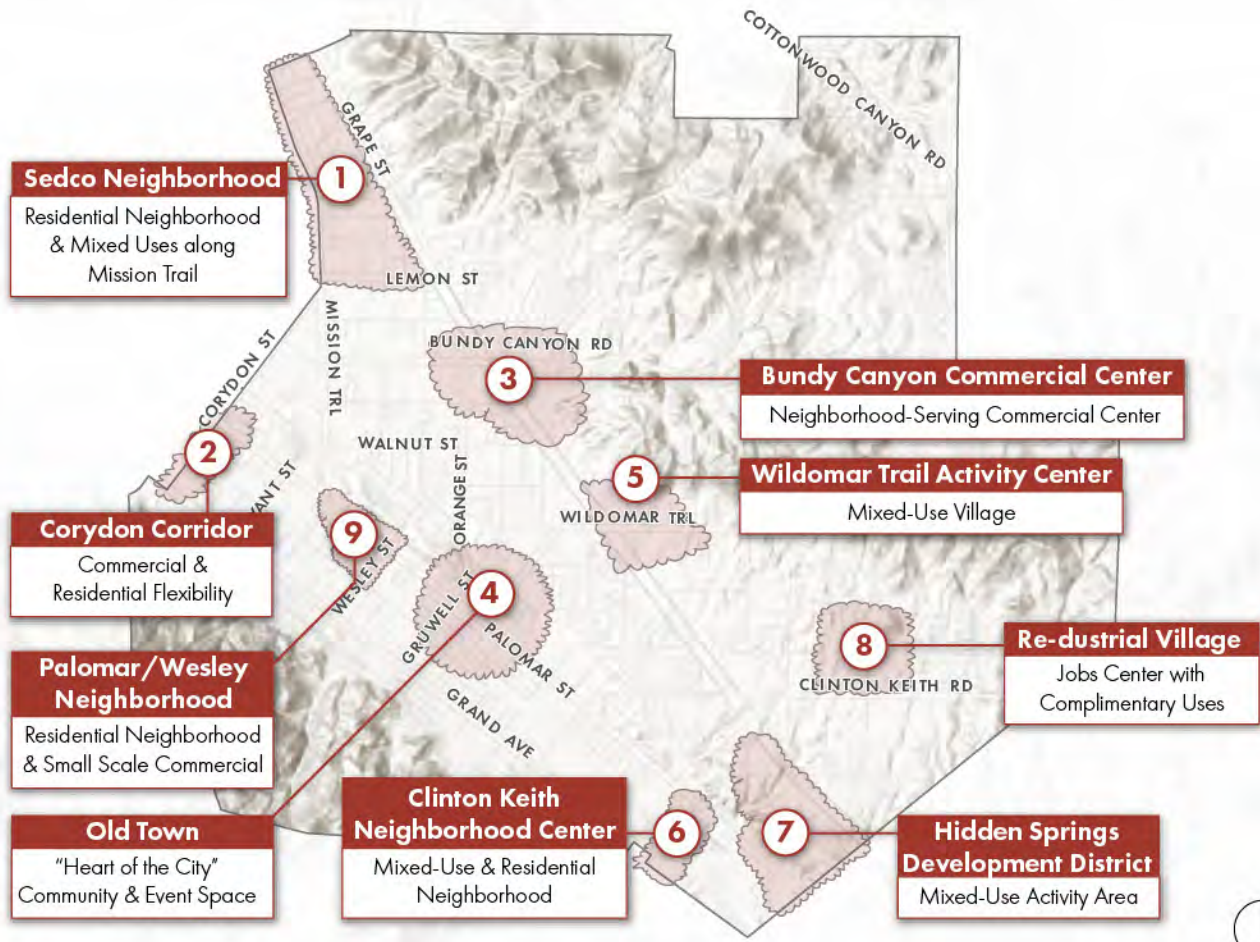


Table 2-2: Focus Area Description

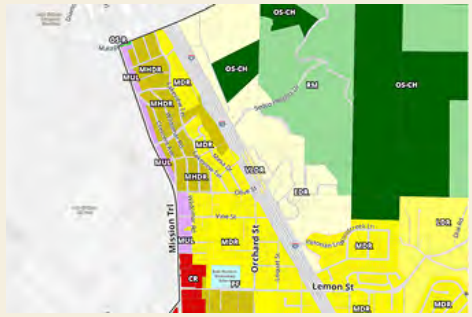
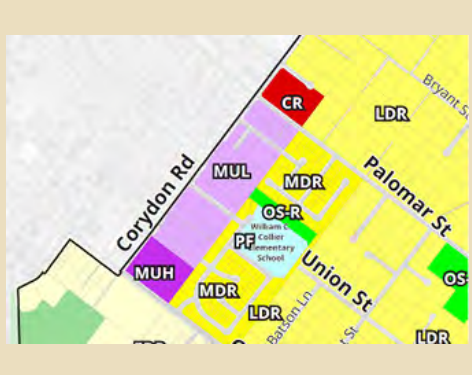
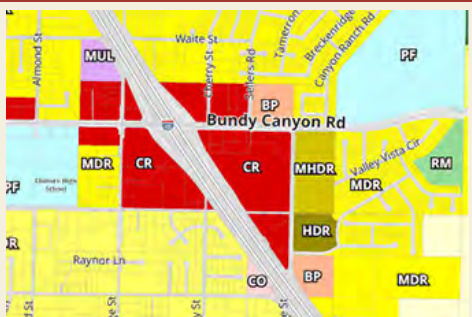
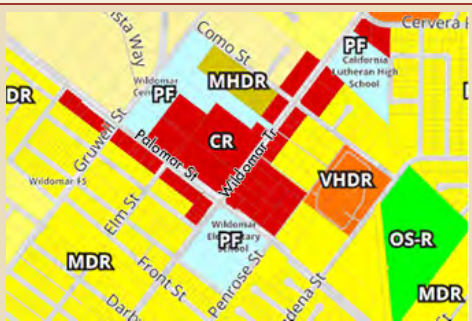

Area	Description
	<p>Focus Area 1: Sedco Neighborhood</p> <p>Maximum residential densities are reduced for hundreds of parcels to better align with current development patterns. The Mixed-Use Low (MUL) designation is applied to properties along Mission Trail to reflect the existing mixture of lower density residential and commercial uses, transition to the existing neighborhood, and allow for flexibility in future uses.</p>
	<p>Focus Area 2: Corydon Corridor</p> <p>At the south end of the corridor, the Mixed-Use High (MUH) designation allows for a catalytic project at the corner of Corydon Road and Grand Avenue, across from the existing commercial center. At the north end of the corridor, the Commercial Retail (CR) designation is applied to the parcel at the corner of Corydon Road and Palomar Street that is impacted by seismic hazards. The Mixed-Use Low (MUL) designation is applied to the rest of the area to provide flexibility in future uses at a scale that is sensitive to adjacent residential areas.</p>
	<p>Focus Area 3: Bundy Canyon Commercial Center</p> <p>Commercial Use is retained in this area to protect it as a future retail center. On the west side of the area, next to Elsinore High School and existing residential neighborhoods, low density residential and mixed-use designations are applied for more appropriate integration with adjacent uses.</p>
	<p>Focus Area 4: "Old Town"</p> <p>At the intersection of Palomar Street and Wildomar Trail, commercial use is envisioned at the southern end of a corridor of activity stretching from I-15. Community members would like to see event and community spaces in this area, with a unique character befitting what many consider to be the "heart" of the city.</p>

Table 2-2: Focus Area Description

Area	Description
	<p>Focus Area 5: Wildomar Trail Activity Center</p> <p>Across from the Baxter Village mixed-use project, the Mixed-Use High (MUH) designation maximizes the opportunity to create a center of commercial and residential activity oriented around prime freeway access and visibility.</p>
	<p>Focus Area 6: Clinton Keith Neighborhood Center</p> <p>At the western terminus of the primary commercial thoroughfare, a low density mix of uses is allowed along Clinton Keith Road to serve the surrounding neighborhood. To the south, residential designations are standardized at a density consistent with existing development to the east.</p>
	<p>Focus Area 7: Hidden Springs Development District</p> <p>Mixed-Use High (MUH) is applied to allow for maximum flexibility for this 160+/- acre vacant property adjacent to the City’s commercial heart, one of the City’s most prominent and opportune areas for growth. A future Specific Plan for this area around Hidden Springs Road and Wyman Road will allow for consideration of a more fine-grained distribution of uses.</p>
	<p>Focus Area 8: Re-dustrial Village</p> <p>The updated Light Industrial (LI) designation is applied to allow for small-scale manufacturing and complementary commercial services, like a micro-brewery or commercial kitchen facility, that could leverage the regenerative agricultural uses envisioned for the future college site and fulfill the area’s potential as an economic engine for the City.</p>

Table 2-2: Focus Area Description

Area	Description
	<p>Focus Area 9: Palomar/Wesley Neighborhood Existing commercial uses are preserved while allowing for medium density residential uses on vacant land.</p>

2.5 Land Use Designations

Development Standards Definitions

Residential Uses

Standards of building density for residential uses are described in allowable dwelling units per gross acre (du/ac). Standards of population density can be derived by multiplying the maximum number of dwelling units per net acre by the average number of persons per household, which the California Department of Finance E-5 data reports is 3.24 (January 2022).

Non-residential Uses

Standards for building intensity for non-residential uses such as commercial, industrial, and mixed-use development are described in floor-area ratios (FARs). FAR is the gross building area on a site, excluding structured parking, to the net developable area of the site. The net developable area is the total of a site excluding portions that cannot be developed (right-of-way, public parks, and so on). A site includes all contiguous parcels that will share parking or access. For example, on a lot with 25,000 square feet of land area, a FAR of 0.5 will allow 12,500 square feet of usable building floor area to be built regardless of the number of stories in the building (e.g., 6,250 square feet per floor on two stories, or 12,500 square feet on one floor). On the same 25,000 square foot lot, a FAR of 0.8 would allow 20,000 square feet of usable floor area

and a FAR of 1.5 would allow 37,500 square feet of usable floor area.

Land Use Categories

Table 2-3 describes the categories of uses and their associated maximum densities/ intensities permitted on properties throughout the City. If the designation permits a range of density/intensities, the minimum and maximum are shown.

Table 2-3: Land Use Designations

Designation	Description	Density/Intensity
Residential		
Rural Mountainous (RM)	Single-family detached residential.	1 du/10 acres
Large Lot Residential (LLR)	Single-family detached residences.	1 du/5 acres
Estate Density Residential (EDR)	Single-family detached residences.	1 du/2–5 acres
Very Low Density Residential (VLDR)	Single-family detached residences.	1 du/1–2 acres
Low Density Residential (LDR)	Single-family detached residences.	1–2 du/ac
Medium Density Residential (MDR)	Attached and detached single-family residences.	2–5 du/ac
Medium High Density Residential (MHDR)	Attached and detached single-family residences.	5–8 du/ac
High Density Residential (HDR)	Attached and detached single- and multi-family residences.	8–14 du/ac
Very High Density Residential (VHDR)	Attached and detached single- and multi-family residences.	14–20 du/ac
Highest Density Residential (HHDR)	Multi-family attached residences.	20–40 du/ac
Commercial		
Commercial Office (CO)	Variety of office related uses.	0.35–1.0 FAR
Commercial Retail (CR)	Local and regional serving commercial/retail and service uses.	0.20–0.35 FAR
Mixed-Use		
Mixed-Use Low (MUL)	This designation provides for neighborhood-serving goods and services and residential uses in a mixed-use format (vertical or horizontal).	5 du/acre to 30 du/acre for residential portion; 1.0 max FAR for non-residential
Mixed-Use High (MUH)	The intent of this designation is to require a mixture of land uses, including multi-family residential (30–50% of developed acres) and non-residential uses, in a vertical or horizontal format on larger sites.	30 du/acre to 40 du/acre for multi-family portion; 2.0 max FAR for non-residential

Table 2-3: Land Use Designations

Designation	Description	Density/Intensity
Industrial		
Business Park (BP)	Provides for employee intensive uses and supporting retail uses.	0.25–0.60 FAR
Light Industrial (LI)	Provides for light industrial, manufacturing and complimentary uses.	0.25–0.60 FAR
Other		
Open Space Recreation (OS-R)	Recreational uses, including but not limited to, public/private parks, trails, athletic fields, and golf courses.	N/A
Open Space Conservation Habitat (OS-CH)	Applies to public and private lands conserved and managed in accordance with adopted Multiple Species Habitat and other Conservation Plans.	N/A
Public Facilities (PF)	Civic uses such as City administrative buildings and schools.	0.60 FAR

Land Use Descriptions

Residential

Rural Mountainous (RM). The Rural Mountainous land use designation allows single family detached residential uses within mountainous areas of the City, with a maximum residential density of 1 dwelling unit per 10 acres. Agriculture and animal keeping is allowed. Clustering of residential uses on smaller lots is allowed to minimize grading and alteration of natural landforms, including visually significant ridgelines, but the total number of units cannot exceed the 1 unit per 10-acre ratio. Clustering is also encouraged to avoid impacts to sensitive natural habitat areas and hazardous conditions such as landslides.

Large Lot Residential (LLR). The Rural Residential land use designation allows 1 single family detached residence per 5 acres, as well as animal-keeping and agricultural activities. Limited recreational uses, compatible resource development and associated uses (not including the commercial extraction of mineral resources), and governmental uses are also allowed within this designation.

Estate Density Residential (EDR). The Estate Density Residential land use designation provides for the development of detached single family residential dwelling units and ancillary structures on large parcels. Agriculture and animal keeping are allowed. The density range is from 1 dwelling unit per 2 acres to 1 dwelling unit per 5 acres.

Very Low Density Residential (VLDR). The Very Low Density Residential land use designation provides for the development of detached single family residential dwelling units and ancillary structures on large parcels. Agriculture and animal keeping are allowed. The density range is from 1 dwelling unit per acre to 1 dwelling unit per 2 acres.

Low Density Residential (LDR). The Low Density Residential land use designation provides for the development of detached single family residential dwelling units and ancillary structures on large parcels. Agriculture and animal keeping are allowed. The density range is from 1 to 2 dwelling units per acre.

Medium Density Residential (MDR). The Medium Density Residential land use designation provides for

the development of single family detached and attached residences. The density range is 2 to 5 dwelling units per acre.

Medium High Density Residential (MHDR). The Medium High Density Residential land use designation provides for the development of smaller lot, single family detached residences and attached residences. Typical allowable uses in this category include detached, small-lot single family homes, patio homes, and townhouses. The potential for clustered development is provided for in this category. The density range is 5 to 8 dwelling units per acre.

High Density Residential (HDR). The High Density Residential land use designation allows single-family attached and detached residences, including townhouses, stacked flats, courtyard homes, patio homes, townhouses, and zero lot line homes. The potential for clustered development is provided for in this land use category. The density range is 8 to 14 dwelling units per acre.

Very High Density Residential (VHDR). The Very High Density Residential land use designation allows for the development of single-family and multi-family attached and detached residences, including townhouses, stacked flats, courtyard homes, patio homes, triplexes, and zero lot line homes with a density range of 14 to 20 dwelling units per acre.

Highest Density Residential (HHDR). The Highest Density Residential land use designation allows for the development of multi-family attached residences, including stacked flats, with a density range of 20 to 40 dwelling units per acre.

Commercial

Commercial Office (CO). The Commercial Office land use designation allows for a variety of office uses, including financial institutions, legal services, insurance services, and other office and support services. FARs range from 0.35 to 1.0.

Commercial Retail (CR). The Commercial Retail land use designation allows for the development of

commercial retail uses at a neighborhood, community and regional level, as well as for professional office and tourist-oriented commercial uses. FARs range from 0.2 to 0.35.

Mixed-Use

Mixed-Use Low (MUL). This designation provides for neighborhood-serving goods and services and residential uses in a mixed-use format. A mix of residential and commercial uses can be accommodated side by side (horizontally) within a single site or across adjacent parcels. This designation allows for 100 percent residential or 100 percent non-residential uses on any individual parcel. Vertical mixed use with residences above ground-floor commercial uses are allowed but unlikely. A density range of 5 du/acre to 30 du/acre is allowed for residential uses and a maximum FAR of 1.0 is allowed for non-residential uses.

Mixed-Use High (MUH). The intent of this designation is to require a mixture of land uses, including multi-family residential and commercial/office/entertainment/educational/business park and/or recreational uses in a mixed-use format (i.e., master planned). This land use type allows for residences to be built above ground-floor commercial uses (vertically) or side by side with commercial uses (horizontally) on larger sites. On any single site, residential uses are required to occupy 30 to 50 percent of the developed acreage. A density range of 30 du/acre to 40 du/acre is allowed for residential uses, and a maximum FAR of 2.0 is allowed for non-residential uses.

Industrial

Business Park (BP). The Business Park land use designation allows for employee-intensive uses, including research and development, technology centers, corporate and support office uses, “clean” industry (i.e., does not emit smoke, noise, offensive odors, or harmful industrial wastes) and supporting retail uses. Building intensity ranges from 0.25 to 0.6 FAR.

Light Industrial (LI). The Light Industrial land use designation allows for a wide variety of industrial and related uses, including assembly and light

manufacturing, repair and other service facilities, warehousing/distribution, and supporting retail uses. This designation also provides a suitable location for start-up businesses and “maker” spaces for breweries, arts and crafts, clothing, food, and similar small-scale industries. Building intensity ranges from 0.25 to 0.6 FAR.

Other

Open Space Recreation (OS-R). The Open Space-Recreation land use designation allows for active and passive recreational uses such as parks, trails, campgrounds, athletic fields, golf courses, and off-road vehicle parks. Ancillary structures may be permitted for recreational opportunities. Actual building or structure size, siting, and design will be determined by the zoning code.

Open Space Conservation Habitat (OS-CH). The Open Space-Conservation Habitat land use designation applies to public and private lands conserved and managed in accordance with adopted multispecies habitat conservation plans or other conservation plans. Ancillary structures or uses may be permitted for the purpose of preserving or enjoying open space. Actual building or structure size, siting, and design will be determined by the zoning code.

Public Facilities (PF). The Public Facilities area plan land use designation provides for the development of various public, quasi-public, and private uses with similar characteristics, such as governmental facilities; utility facilities including public and private electric-generating stations and corridors; landfills; airports; educational facilities; and maintenance yards. Privately held uses with public facility characteristics are not required to be designated as Public Facilities but are eligible to be so designated based on site-specific reviews of the use in question. A maximum FAR of 0.60 applies to privately held uses.

2.6 Development Capacity

Table 2-4 represents the acreage and maximum number of housing units and building square feet that are assumed to occur by 2045. It is not a projection or mandate but represents what could occur under normal market conditions should lands be developed for the uses and densities/intensities defined by the Plan. Table 2-4 also does not represent full buildout of the entirety of the General Plan as this is not expected to occur by 2045.

Table 2-4: Development Assumption by 2045

Land Use Category	Acres	Dwelling Units	Non-residential Square Footage
Residential			
Rural Mountainous (RM)	3,906	107	11,999
Large Lot Residential (LLR)	213	10	-
Estate Density Residential (EDR)	1,629	1,453	-
Very Low Density Residential (VLDR)	564	699	-
Low Density Residential (LDR)	1,884	2,149	15,122
Medium Density Residential (MDR)	2,725	8,782	245,736
Medium High Density Residential (MHDR)	410	2,208	-
High Density Residential (HDR)	19	138	-
Very High Density Residential (VHDR)	90	1,303	231,963
Highest Density Residential (HHDR)	30	823	-
SUBTOTAL	11,470	17,697¹	504,820
Commercial			
Commercial Retail (CR)	465	96	1,596,373
Commercial Office (CO)	11	3	-
SUBTOTAL	476	99	1,596,373
Mixed-Use			
Mixed-Use Low (MUL)	90	379	64,155
Mixed-Use High (MUH)	331	2,602	1,395,944
SUBTOTAL	421	2,981	1,460,098
Industrial			
Business Park (BP)	87	14	11,368
Light Industrial (LI)	322	7	2,001,528
SUBTOTAL	409	21	2,012,896
Other			
Open Space Recreation (OS-R)	427	133	5,451
Open Space Conservation Habitat (OS-CH)	235	5	-
Public Facilities (PF)	235	44	378,277
Freeway (FWY)	4	-	-
SUBTOTAL	902	182	383,728
Grand Total	13,677	20,980	5,957,915

¹ Includes twenty-five (25) Accessory Dwelling Units (ADUs), which can be developed in any residential designation.

2.7 Goals and Policies

Guided by the Vision and Guiding Principles, the following goals and policies provide for strategic growth and change while protecting the important assets and characteristics that contribute to Wildomar's identity and quality of life.

GOAL LU 1

Administration. The General Plan is utilized as the guiding planning document for the City and as the basis for regional collaboration.

Policy LU 1.1

Regional Planning Efforts. Wildomar shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management with Riverside County, neighboring cities, local and regional agencies, stakeholders, and tribal governments.

Policy LU 1.2

Specific, Master, and Corridor Plans. Specific, Master, and Corridor Plans may be utilized to facilitate more detailed land use and planning for targeted sites or areas of the City, insofar as they are consistent with the goals and policies of the General Plan.

Policy LU 1.3

Development Clustering and Density Transfers. Allow development clustering and/or density transfers to preserve open space, natural resources, and cultural and/or biologically sensitive resources.

Policy LU 1.4

Internal Consistency. All General Plan elements must be internally consistent and hold equal status. Updates to individual elements or the General Plan in its entirety shall ensure that internal consistency is maintained between all elements.

Policy LU 1.5

Lot Mergers. Where lot sizes impede redevelopment opportunities, encourage merging of adjacent lots to provide sites of adequate size and dimension for redevelopment.

GOAL LU 2

Development Capacity. Responsible growth through well-planned development provides for the needs of Wildomar's residents and businesses, makes efficient use of land and infrastructure, protects important environmental resources, promotes the health of the community, and maintains the unique character distinguishing the City as a special place in the region.

Policy LU 2.1

Adequate Service Provision for New Development. Coordinate with local agencies, service providers, and utilities to ensure adequate service provision for new development.

Policy LU 2.2

Population Density Standard. Pursuant to State law, each land use designation that provides for residential development is assigned a population density standard for the purposes of projection and infrastructure planning. These population density standards are relevant only for general planning purposes and shall not be interpreted as constituting legal limitations on the number of persons who may reside at any particular location or parcel.

GOAL LU 3

Focus Areas. Unique areas of the City are enhanced to meet residents' needs.

Policy LU 3.1

Cottonwood Canyon. Encourage lot mergers consistent with the land use and zoning designations for this area to establish developable lots that meet minimum thresholds for health and safety of onsite water treatment or require new development to provide for the extension or development of full public sewerage and water services.

Policy LU 3.2

Sedco Neighborhood. Work with utility providers to improve infrastructure in the Sedco area and explore opportunities to expand the provision of public services. Explore opportunities to ensure that current residents, including renters, benefit from investments in infrastructure improvements.

Policy LU 3.3

Old Town. Recognize Old Town as the traditional heart of Wildomar and explore opportunities to enhance the area as a center of activity reflecting the City's heritage. Seek to leverage vacant and underutilized sites and publicly owned parcels to activate the area with an events and community space reflecting a unique character and identity.

Policy LU 3.4

Hidden Springs/Wyman Road Specific Plan Area. Prior to any development within this 160+/- acre area, require preparation of a Specific Plan and accompanying EIR for the redevelopment area generally south of Clinton Keith Road, west of I-15 freeway, and east of Palomar Street that accommodates a mixed-use development reflecting a high quality of design that enhances the City's visibility and identity, provides housing opportunities in close proximity to resources, and contributes to the City's economic development goals. Light industrial/business park uses are permitted as long as they occupy not more than 35 percent of the area and are located and designed to be compatible with other uses.

Policy LU 3.5

Wildomar Trail/I-15 Project Area. The area bounded by the I-15 freeway, Wildomar Trail, Susan Drive, and La Estrella Street is recognized as a unique economic development opportunity zone and warrants a coordinated planning and development approach (such as a Specific Plan, Area Plan, or Vision Plan) to maximize the potential to establish a mixed-use community that enhances the City's visibility and identity.

Policy LU 3.6

Clinton Keith Corridor. Engage in an advance planning process (such as a Specific Plan, Corridor Plan, or Vision Plan) to identify goals and actions to improve the economic and community development qualities of the Clinton Keith Road Corridor and ensure that uses that meet the community's objectives are developed.

Policy LU 3.7

Mission Trail Corridor. Engage in an advance planning process (such as a Specific Plan, Corridor Plan, or Vision Plan) to identify goals and actions to improve the economic and community development qualities of the Mission Trail Corridor.

GOAL LU 4

Urban Form. A City of distinct centers and corridors surrounded by neighborhoods and connected to a network of parks and open spaces.

Policy LU 4.1

Patterns and Distribution of Uses and Density. Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Plan (Figure LU-1) to promote efficient development, reduce automobile dependence and greenhouse gas emissions, ensure compatibility among uses, enhance community livability and health, and sustain economic vitality.

Policy LU 4.2

Multi-modal Linkages. Incorporate appropriate linkages for pedestrians, cyclists, transit users, and other non-vehicular travel modes in the design and development of projects.

Policy LU 4

Adequate Circulation Facilities. Require that adequate and accessible circulation facilities exist to meet the demands of a proposed land use.

GOAL LU 5

Design. Well-designed communities contributing to the City’s distinct identity and quality of life of residents.

Policy LU 5.1

Sense of Place and Quality of Design. Require new developments to exhibit quality design and contribute to Wildomar’s unique sense of place.

Policy LU5.2

Enhance the Character of Surrounding Areas. Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area.

Policy LU 5.3

Maintain Design Standards. Enhance Wildomar’s unique character and raise the quality of design in the City by maintaining and implementing the City’s design standards.

Policy LU 5.4

Entryways and Branding. Encourage the development of identifiable entryways for the overall community and develop branding for unique or principal business/commercial districts of the City, by establishing design standards for these areas that include landscape setbacks, sign monumentation, and other special design treatments.

GOAL LU 6

Maintenance and Compatibility With Other Uses. Development is located and designed to maintain the qualities that distinguish Wildomar and to ensure effective transitions between neighborhoods and districts.

Policy LU 6.1

Protect from Adverse Impacts. Retain and enhance the integrity of existing residential, employment, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.

Policy LU 6.2

Design for Safety. Require the use of Crime Prevention Through Environmental Design (CPTED) techniques, such as providing clear lines of sight, appropriate lighting, and wayfinding signs, to ensure that new development is visible from public areas and easy to navigate.

Policy LU 6.3

Property Maintenance. Maintain structures and properties to prevent deteriorating conditions through enforcement of State laws and local ordinances, and expand access to conservation and rehabilitation programs.

GOAL 7

Compatibility with the Natural Environment. Land uses and development intensities are compatible with scenic and natural resources and encourage environmental preservation.

Policy LU 7.1

Design to Respect Natural Settings. Require that new development conform building massing to topographic forms and minimize alteration of natural landforms and vegetation, incorporate natural drainage systems, allow development clustering to maintain slopes, restrict grading of steep slopes, and encourage the preservation of significant hillsides, canyon edges, and hilltops as prominent visual features.

GOAL LU 8

Residential Neighborhoods. A City composed of neighborhoods with a variety of housing types that are desirable places to live, contribute to the quality of life, and are well maintained.

Policy LU 8.1

Variety of Housing Types. Policy Accommodate the development of a variety of housing types, styles, and densities that are accessible to and meet the needs of a range of lifestyles, physical abilities, and income levels, including medium density housing types such as duplexes, townhouses, stacked flats, courtyard homes, patio homes, and zero lot line homes.

Policy LU 8.2

Connections and Linkages. Integrate networks of parks, plazas, public squares, bicycle trails, and pedestrian paths into new residential development to provide internal connections in neighborhoods as well as linkages with surrounding features and neighborhoods.

Policy LU 8

Activity Centers. Establish activity centers within or near residential neighborhoods with services such as child or adult care, recreation, public meeting rooms, convenience commercial uses, or similar facilities.

GOAL LU 9

Commercial Areas. Vital, active, prosperous, and well-designed commercial centers and corridors offer a diversity of goods, services, and entertainment and contribute a positive experience for Wildomar's residents and visitors.

Policy LU 9.1

Commercial Uses and Variety. Provide for and encourage the development of a broad range of uses in Wildomar's commercial centers and corridors that reduce the need to travel to adjoining communities for goods and services and capture a greater share of local spending.

Policy LU 9.2

Concentrate Commercial Uses. Concentrate commercial uses near transportation facilities and higher-density residential areas and require the incorporation of facilities to promote the use of public transit, such as bus turnouts.

Policy LU 9.3

Battery Storage. Accommodate commercial battery storage as a permitted use in commercial areas to further the City's goals for reducing greenhouse gas emissions and improving the resiliency of the City's infrastructure.

Policy PLU 9.4

Internal and External Connections. Encourage the provision of non-vehicular access between commercial uses and adjoining neighborhoods and the development of internal cross-connections between

commercial uses so as to reduce the number of curb cuts and number of vehicle trips on adjacent roadways.

GOAL LU 10

Mixed-Use Districts and Corridors. Well-designed districts and corridors contain an integrated mix of commercial, office, and/or housing that enable Wildomar's residents to live close to businesses and employment, reduce automobile use, and actively engage and enhance pedestrian activity.

Policy LU 10.1

Mixed-Use Design and Development. Encourage mixed-use development, as designated in the Land Use Plan, that is designed appropriately for Wildomar.

Policy LU 10.2

Integrated Housing and Commercial Development. Support the development of housing integrated with commercial and/or office uses on existing commercially developed properties characterized by declining retail activity.

Policy LU 10.3

Enhance Economic Activity. Support mixed-use development projects as a strategy to enhance the economic vitality of adjoining commercial districts by increasing population in proximity to these uses.

Policy LU 10.4

Inclusion of Recreation and Amenities. Require that residential/commercial mixed-use projects provide on-site recreational areas and other pedestrian-scale amenities such as benches, fountains, and landscaping that contribute to the living environment of residents or contribute funds for their development within proximity of the project, consistent with the City's Parks Master Plan.

GOAL LU 11

Industrial Uses. Light industrial uses are accommodated to enhance economic activity and are located and designed in a compatible manner with surrounding land uses.

Policy LU 11.1

Protect from Incompatible Uses. Protect industrial lands from encroachment of incompatible or sensitive uses, such as residential or schools, that could be impacted by industrial activity.

Policy LU 11.2

Concentrate Near Transportation and Utilities. Concentrate industrial and business park uses in proximity to transportation facilities and utilities.

Policy LU 11.3

Integration of Complimentary Uses. Support the integration of complementary uses in areas designated “Light Industrial” supporting local employees and that may attract active uses, such as “maker” spaces, arts and crafts, point-of-sale retail, and recreation facilities, provided that these are compatible and do not detrimentally impact the primary industrial function of the area.

Policy LU 11.4

Distribution Centers and Warehouses. Limit the development of distribution centers and warehouses to discourage such uses and their significant environmental impacts.

GOAL LU 12

Public Facilities. Governmental, utility, institutional, educational, recreational, cultural, religious, and social facilities and services are located and designed to complement Wildomar’s neighborhoods, centers, and corridors.

Policy LU 12.1

Services Supporting Residents. Provide public facilities and services that are cost-effective and contribute to the health, safety, welfare, and personal development of all residents.

Policy LU 12.2

Co-location. Promote the co-location of parks, schools, libraries, health services, recreation facilities, and other community facilities, and explore opportunities for joint use of such facilities to support resident needs and leverage limited resources.

Policy LU 12.3

Development Impact Fees. Explore all options for new projects to build associated public improvements up front. When that is infeasible, require that new development contribute its fair share to fund infrastructure and public facilities such as parks and police and fire facilities.

Policy LU 12.4

Maintenance and Enhancement. Coordinate, partner with, and encourage school and utility districts and other government and independent agencies that may be exempt from City land use control to plan and improve their properties and design improvements to achieve a high level of visual and architectural quality that maintains the character of the neighborhood or district in which they are located.

Policy LU 12.5

Design of Utility Facilities. Minimize the visual impacts of above-grade utility structures, such as water storage tanks, water check valves, electric and telephone boxes, etc. through use of landscaping, screening materials, and colors that blend with the environment to the extent feasible.

Policy LU 12.6

Equitable Access. Support equitable access to a full complement of critical infrastructure and utilities for all residents and businesses.

GOAL LU 13

Open Spaces. Open space lands are preserved as natural resources, utilized to buffer land uses and enhance community aesthetics, and protected from adverse impacts of new development.

Policy LU 13.1

Preservation of Open Space Lands. Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, and scenic and recreational value.

Policy LU 13.2

Incorporate Open Space, Landscape, and Recreational Amenities. Incorporate open space, landscaping, and recreational amenities into areas of new development to enhance recreational opportunities and community aesthetics.



3. Circulation





3. Circulation Element

3.1 Vision

The ability to move around enables residents to get to jobs, goods, services, and education and enjoy entertainment, family, and friends. This Plan envisions a city in which residents and visitors have choices about how they can travel to and from their activities. The safety, efficiency, and accessibility of all modes of transportation are paramount. Although technology is advancing rapidly, the personal automobile will continue to be the primary means by which people navigate the City. This Element ensures that Wildomar’s roadway network can accommodate automobile users in a safe and efficient manner. Non-vehicular transportation networks, like pe-

This Plan envisions a city in which residents and visitors have choices about how they can travel to and from their activities...These improvements will make for a more welcoming environment where residents engage more with each other and their surroundings.

destrian, bicycle, and multi-purpose trail routes, will be enhanced and expanded to provide options for residents who want to improve their physical health, minimize their environmental impact, and control their transportation costs. These improvements will make for a more welcoming environment where residents engage more with each other and their surroundings.

3.2 Purpose

Per California Government Code § 65302(b), the Circulation Element addresses Wildomar’s multi-modal transportation networks and public utilities. It works concurrently with several other plan elements, including Land Use and Recreation and Community Services, to meet the City’s infrastructure needs as its land uses and physical form evolve.

Relationship to Other Planning Efforts

In addition to working in concert with other elements of the General Plan, the goals and policies in this element support and align with several existing local and regional planning efforts that pertain to the circulation network in the City.

Wildomar Active Transportation Plan

The Wildomar Active Transportation Plan (ATP) serves as a foundation for bicycle and pedestrian improvements in the City. The ATP, which was adopted in 2021, supports a Complete Streets approach that balances the needs of all roadway users, with or without vehicles.

Wildomar Local Roadway Safety Plan

The Wildomar Local Roadway Safety Plan (LRSP), which was adopted in 2022, provides a framework for traffic safety improvements on the City’s circulation network. The LRSP contains recommendations to address traffic safety through engineering, enforcement, education, and emergency services.

Western Riverside Active Transportation Plan

The Western Riverside Active Transportation Plan (WRATP), which was adopted by the Western Riverside Council of Governments in 2018, focuses on enhancing non-motorized infrastructure throughout

western Riverside County. The WRATP presents an overview of the proposed active transportation regional network, and it has proposed routes running through the City.

Connect SoCal

In September 2020, the Southern California Association of Governments (SCAG) adopted the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Connect SoCal is SCAG's long-range transportation plan and sustainable communities' strategy for the six-county region of Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial counties. It establishes a long-term cohesive vision for the buildout of the transportation network in the SCAG region.

3.3 Planning Context and Approach

Pedestrian Mobility

Every trip begins and ends on foot, regardless of the primary travel mode. We walk from our origins to our destinations, to our bicycles, to transit stops, or to vehicles, underscoring the importance of safe and comfortable walking environments.

Many roadways and older neighborhoods in Wildomar currently lack pedestrian infrastructure and could benefit from additional amenities such as sidewalks, crosswalks, street lighting, and curb ramps. This element seeks to address that shortfall by providing pedestrian infrastructure that is safe, connected, and comfortable for users of all ages and abilities. This is achieved through the implementation of a pedestrian network based on three route types—connectors, corridors, and districts, as shown on Figure 3-1.



Pedestrian infrastructure on Illinois Street.

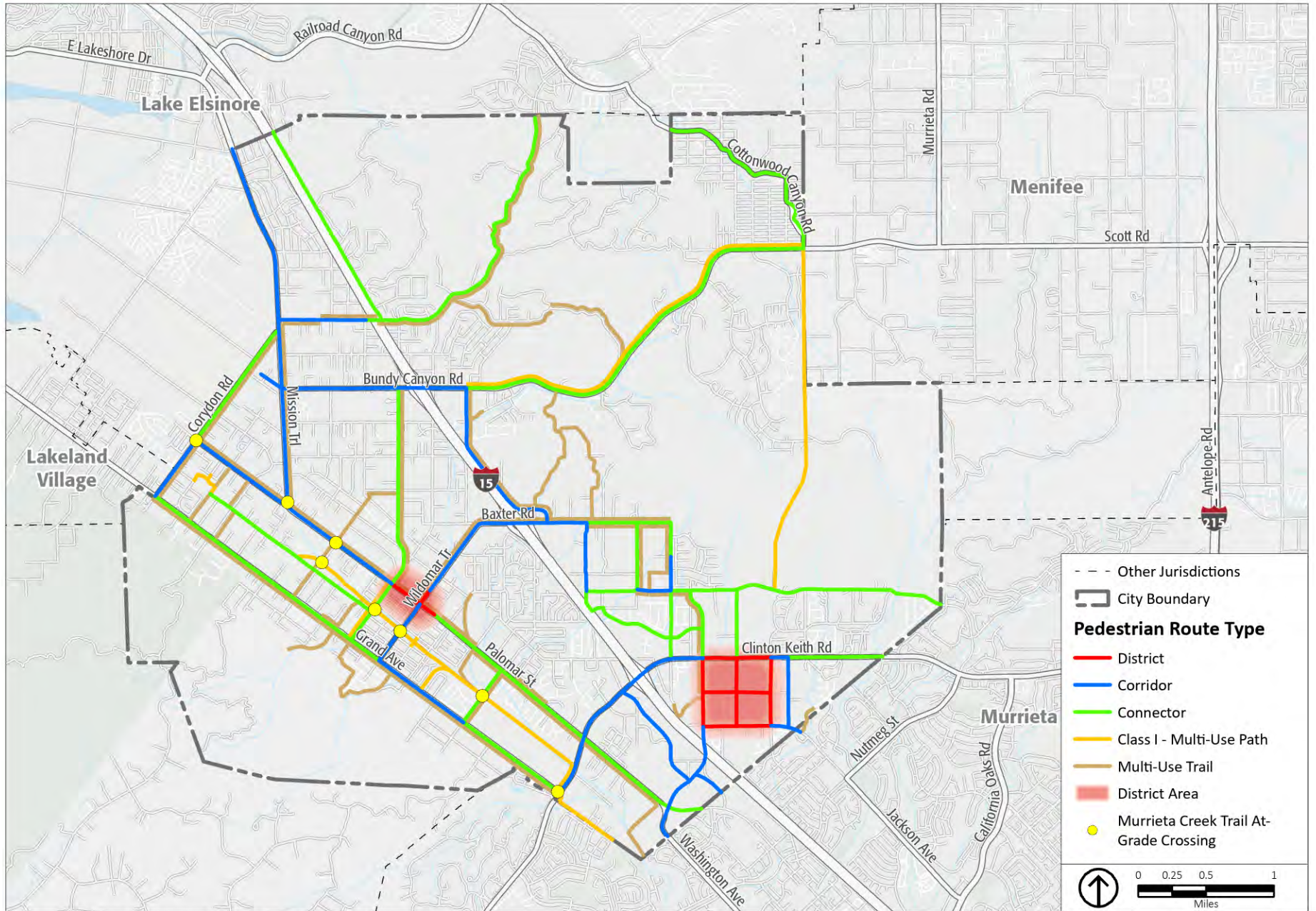
Connectors

Connectors are designated for roadways with low pedestrian activity and moderate to high levels of vehicular traffic. Connectors help bridge the gap between residential neighborhoods, Corridor routes, and final destinations. This designation makes up the greatest portion of the pedestrian route typology. The Connector route type consists of standard sidewalks with accessible curb ramps and marked crosswalks with advanced stop bars at signalized intersections.

Corridors

Corridors are assigned along roadways that support commercial businesses, shopping districts, schools, parks, and high-ridership transit stops. Moderate pedestrian activity is anticipated in these areas, necessitating more enhanced features to support pedestrians. Corridor features are the same as for the Connector route type but may include wider sidewalks (>5 feet), pedestrian countdown signal heads with lead pedestrian intervals at signalized intersections, and high-visibility crosswalks with advanced stop bars at marked crossing locations. Pedestrian-scaled lighting may also be appropriate in some areas.

FIG 3-1: PLANNED PEDESTRIAN ROUTE TYPES



Source: ESRI, 2024; Chen Ryan Associates, 2023; PlaceWorks, 2024

Districts

Districts are reserved for the areas with the greatest anticipated pedestrian activity. Examples of such locations include proximity to existing or planned commercial/retail, high ridership transit stops, and higher density residential uses. Areas designated as Districts receive the greatest level of pedestrian enhancements. In addition to the Connector and Corridor route type features, Districts features may also include wide sidewalks (>8 feet), increased landscaping and buffers from the roadway, decorative crosswalks, pedestrian street furnishings, and curb extensions at crossing locations.

Bicycle Mobility

Bicycling offers a variety of transportation and recreational benefits. Bicycles can be used for local trips, potentially replacing vehicular trips while also reducing greenhouse gas emissions and congestion. They can be used by school-age children for commute trips to and from school. Bicycles can also help people access transit stops and reach their final destinations—commonly referred to as “first/last mile.” It is an accessible mode of transportation given the comparatively low entry and operational costs. As a form of recreation, bicycling can improve public health.



Bicycle infrastructure at the intersection of Clinton Keith Road and Hidden Springs Road.

To provide a safe and connected bicycle network composed of context-appropriate bicycle facilities and supporting amenities for bicyclists of all ages and abilities, this Plan augments Wildomar’s existing bicycle routes with a network based on four classifications of facilities, as shown on Figure 3-2 and described in the following illustrations.

Class I Bike Path



Class I bike paths, also known as multi-use paths or shared-use paths, provide bicyclists and pedestrians with a space (right-of-way) that is completely separated from vehicles. The high level of separation contributes to a safer and more comfortable environment for walking and biking.

Class II Bike Lane



Class II bike lanes are striped lanes on the roadway that are designated exclusively for biking. They may have additional enhancements such as painted buffers and signage to further delineate the space for bicyclists.

Class III Bike Routes



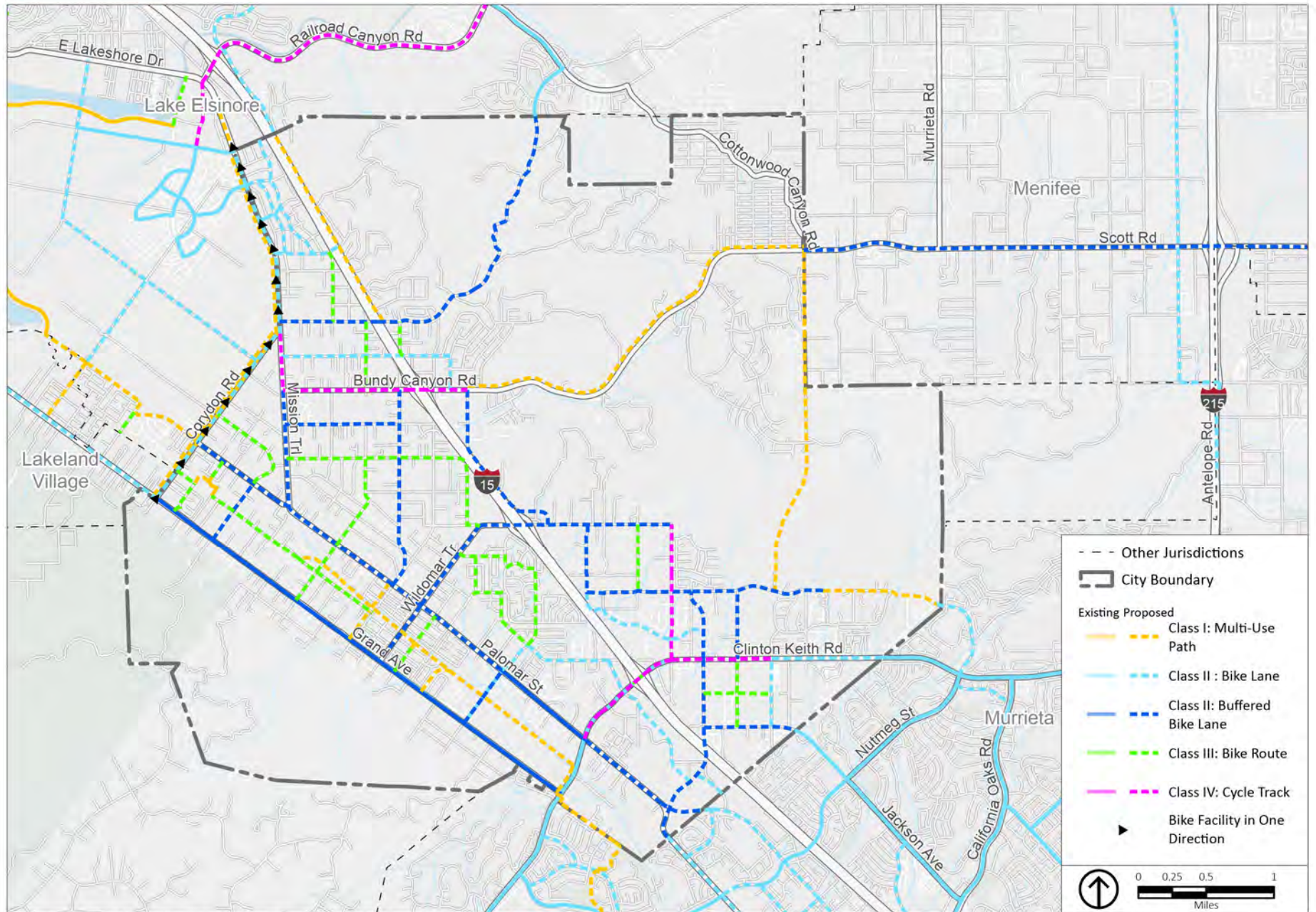
Class III bike routes share the roadway with vehicles. They are identified with signage and/or street markings known as "sharrows". Bike routes are best suited for low-speed, low-volume roadways as they do not provide a dedicated space for bicyclists. Bike routes help provide network continuity or designate preferred routes where other bikeways may be infeasible.

Class IV Separated Bikeways/Cycle Tracks



Class IV separated bikeways/cycle tracks are bikeways that are located on the roadway. They are designated exclusively for bicycle travel and are physically protected from vehicles using grade separation, flexible posts, on-street parking, or other vertical/physical elements.

FIG 3-2: PLANNED BICYCLE NETWORK



Source: ESRI, 2024; Chen Ryan Associates, 2023; PlaceWorks, 2024

Public Transit

Public transit is an energy- and space-efficient travel mode. Riverside Transit Authority (RTA) provides public transit services in Wildomar and plans service routes at a regional level. RTA collaborates with local jurisdictions on transit amenities such as benches, shelters, trash cans, and route information.



RTA bus stop at northwest corner of Palomar Street and Wildomar Trail.

The City is served by bus Routes 8 and 23 with no additional routes anticipated at the time of writing. This Plan envisions continuing to work with RTA to provide efficient service that connects residential communities, employment centers, commercial areas, schools, and other public resources while improving first/last mile connections. Existing transit routes and stops, as well as potential future service areas, are identified on Figure 3-3.

Vehicular Mobility

Vehicular mobility is the most common travel mode in Wildomar. Personal vehicles, bus transit, and movers of commercial goods all utilize the same roadway system. To provide for convenient and efficient vehicle circulation that does not degrade the safety and mobility of all other roadway users, the Plan's roadway network classification system—as

shown on Figure 3-4 and described below—was based on the City's existing functional classifications and future travel demand, with a horizon or buildout year of 2045.



Vehicular, bicycle and pedestrian infrastructure at the intersection of Clinton Keith Road and Arya Road.

The roadway classifications are intended to balance the needs of all roadway users while taking the existing built environment limitations into consideration. The classification cross-sections included in this element illustrate ideal dimensions, which may be adjusted as necessary to address conditions on the ground as approved by the City Engineer.

Primary Arterial

Primary arterials are 6-lane roads divided by a raised median. They are intended to carry the greatest volumes of vehicular traffic in the City, providing connections to the regional freeway system, major commercial centers, and some neighboring jurisdictions. Figure 3-5 depicts cross-sections of designated primary arterial roadways.

Major Arterial

Major arterials are 4-lane roads divided by a raised or striped median, or a center left-turn lane to maximize access where needed. These roadways supplement primary arterials, also providing access to the

freeway and major community resources. Major arterial roadway cross-sections are shown on Figure 3-6.

Minor Arterial

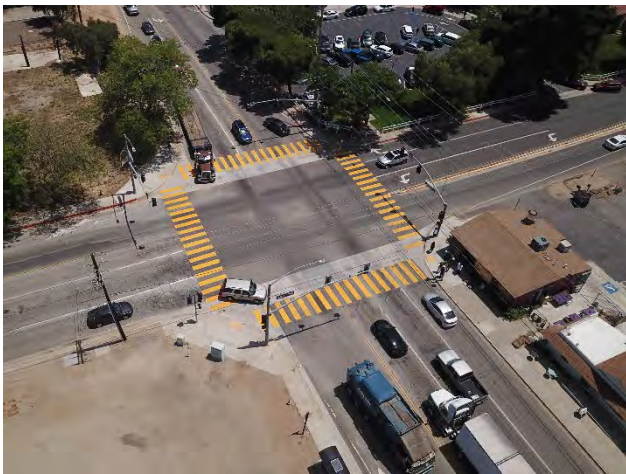
Minor arterials are undivided 4-lane roadways that provide left-turn pockets where needed for access. They carry moderate volumes of vehicular traffic and generally consist of less active frontages than major arterials. Figure 3-7 depicts cross-sections of designated minor arterial roadways.

Collector

Collectors are undivided 2-lane roadways that provide left-turn pockets where needed for access. These roadways are intended to carry lower volumes of vehicular traffic with lower posted speed limits. Figure 3-8 displays collector roadway cross-sections.

Goods Movement

Goods movement routes play a pivotal role in maintaining economic vitality, ensuring efficient transportation, preserving infrastructure, enhancing safety, minimizing environmental impact, improving quality of life, and supporting emergency response efforts.



Goods movement at the intersection of Palomar Street and Wildomar Trail.

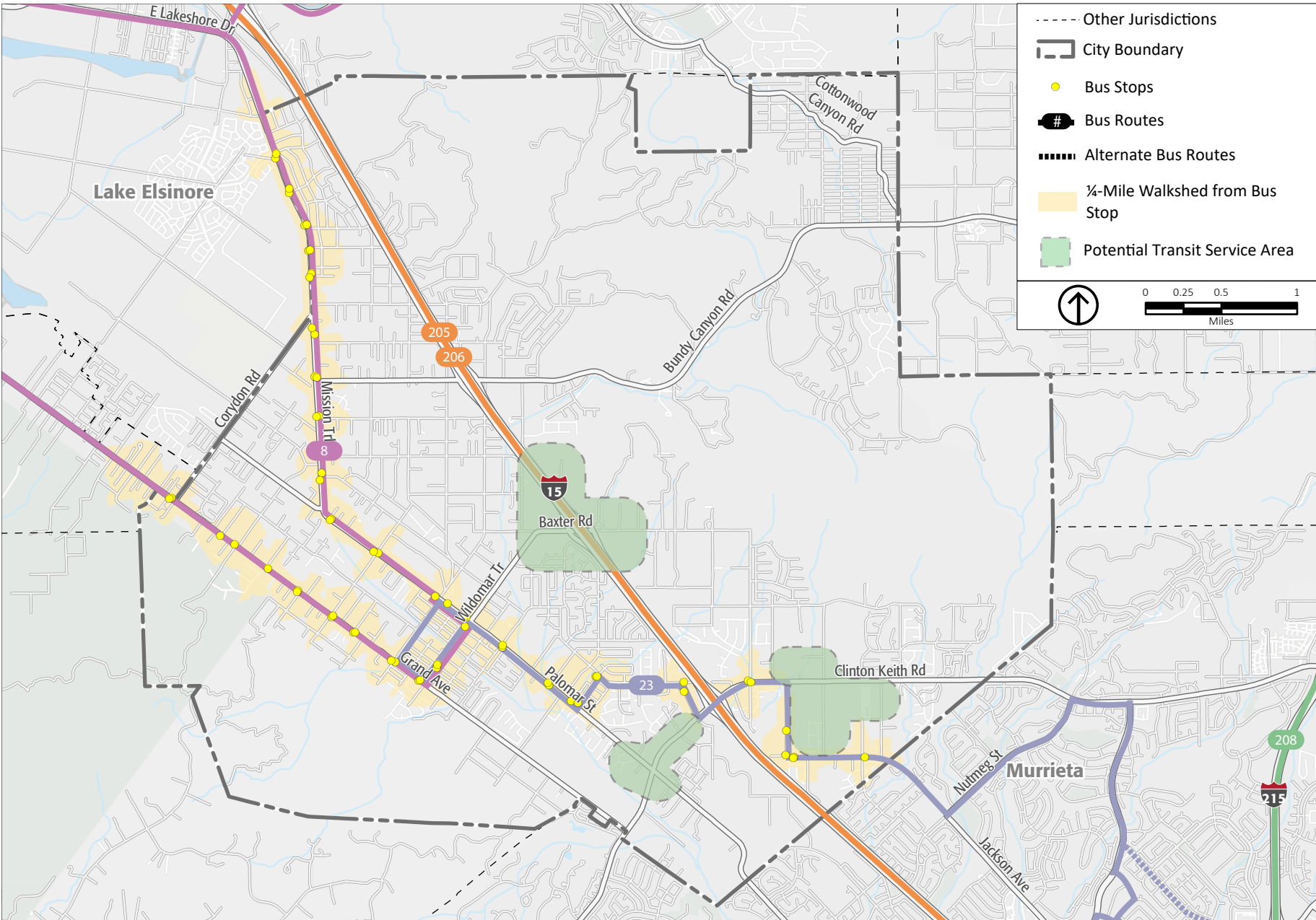
Proper planning and management of these routes contribute to the City's overall functionality and well-being. The City of Wildomar does not have designated goods movement routes. As part of this planning effort, a review of goods movement patterns in Wildomar was conducted, and based on the findings, a network of goods movement routes has been recommended, as shown on Figure 3-9.

Infrastructure and Utilities

The California Government Code stipulates that in addition to transportation routes, the circulation element must identify the location and necessity of public utilities and facilities. The Elsinore Valley Municipal Water District (EVMWD) provides wastewater collection and treatment services, and both EVMWD and the Farm Mutual Water Company supply potable water to city residents and businesses. CR&R Environmental Services collects solid and recycled waste, Southern California Edison (SCE) provides electricity, and Southern California Gas Company (SoCalGas) provides natural gas.

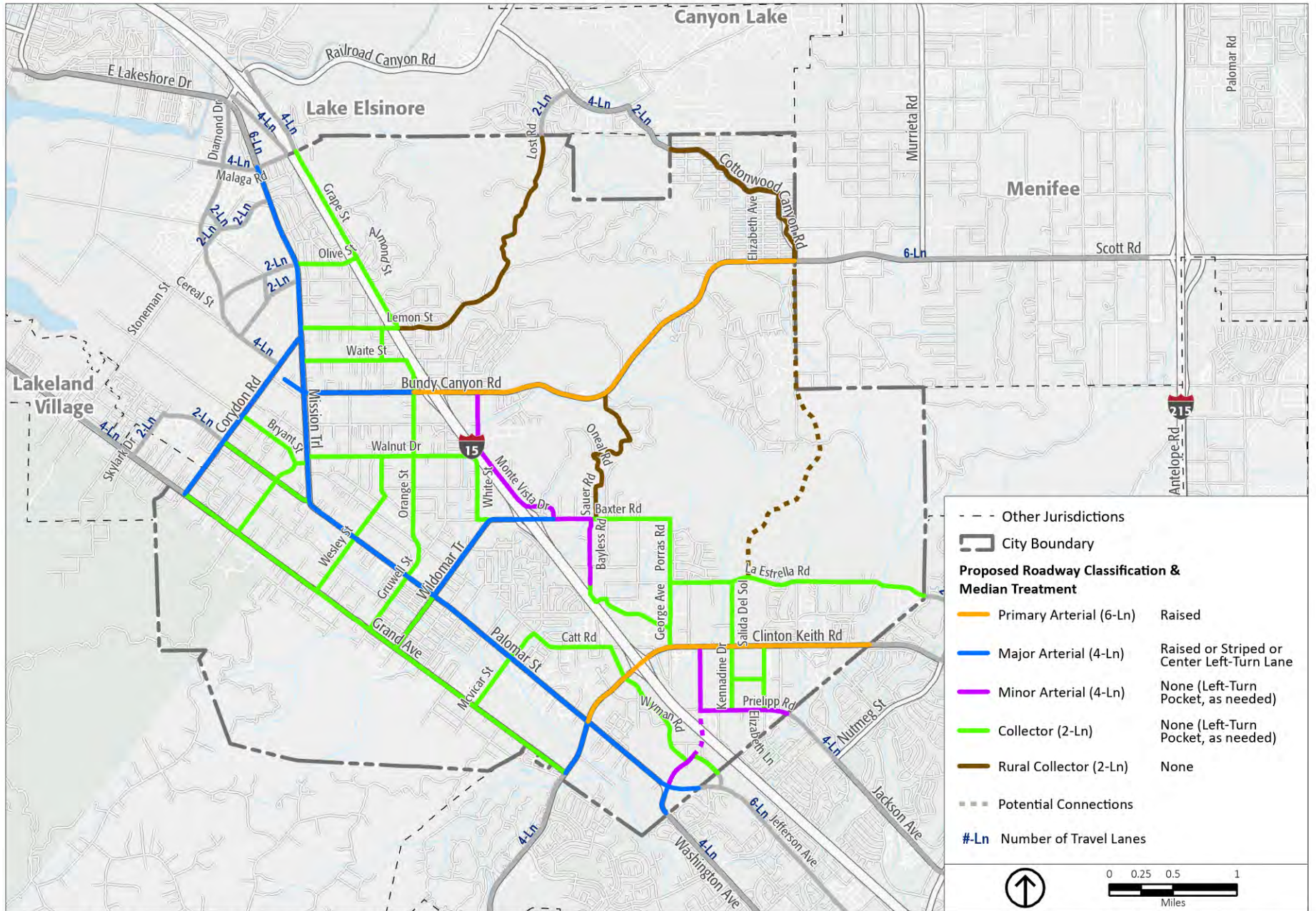
The Plan recognizes that a robust infrastructure and utility network is paramount to accommodate the growth and development that could occur from buildout of the Land Use Plan. Systems that provide for efficient management of water, wastewater, stormwater drainage, solid waste, energy, and telecommunications will continue to be expanded concurrently with new development, population, and employment growth.

FIG 3-3: PUBLIC TRANSIT NETWORK



Source: ESRI, 2024; Chen Ryan Associates, 2023; PlaceWorks, 2024

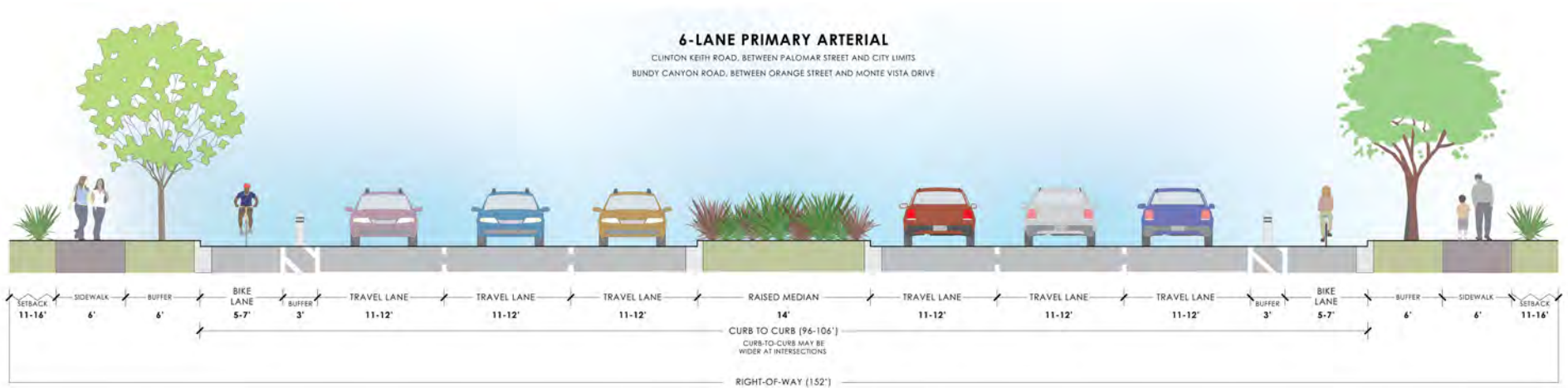
FIG 3-4: PLANNED ROADWAY NETWORK CLASSIFICATIONS



Source: ESRI, 2024; Chen Ryan Associates, 2023; PlaceWorks, 2024

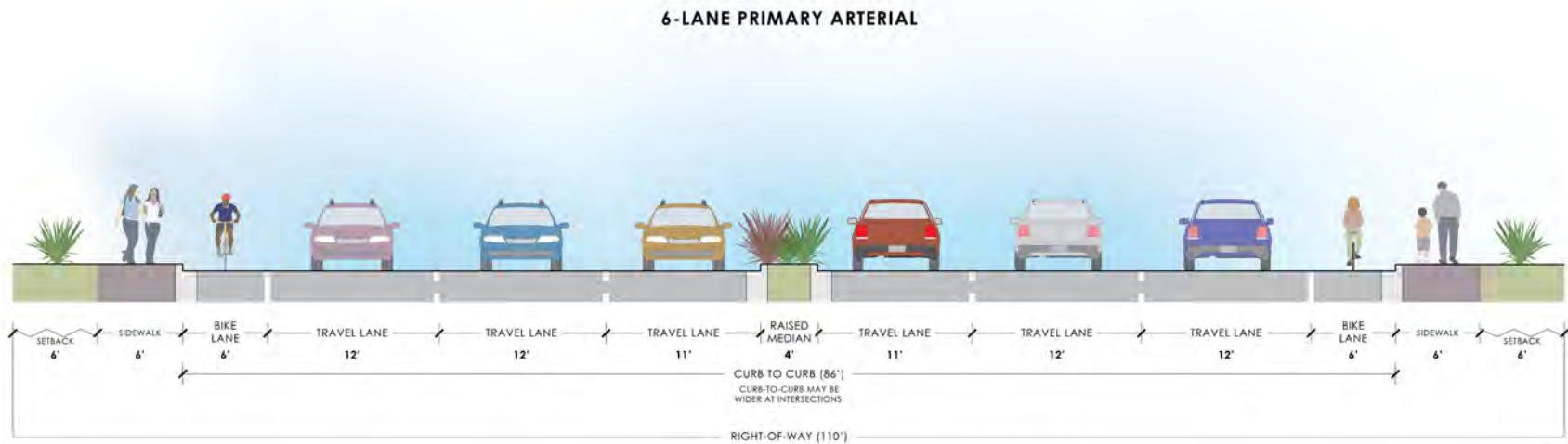
Figure 3-5 Typical Cross-Sections of Designated 6-Lane Primary Arterial Roadways, Part 1

(a)



Clinton Keith Road, between Palomar Street and Elizabeth Lane
Bundy Canyon Road, between Orange Street and Monte Vista Drive

(b)

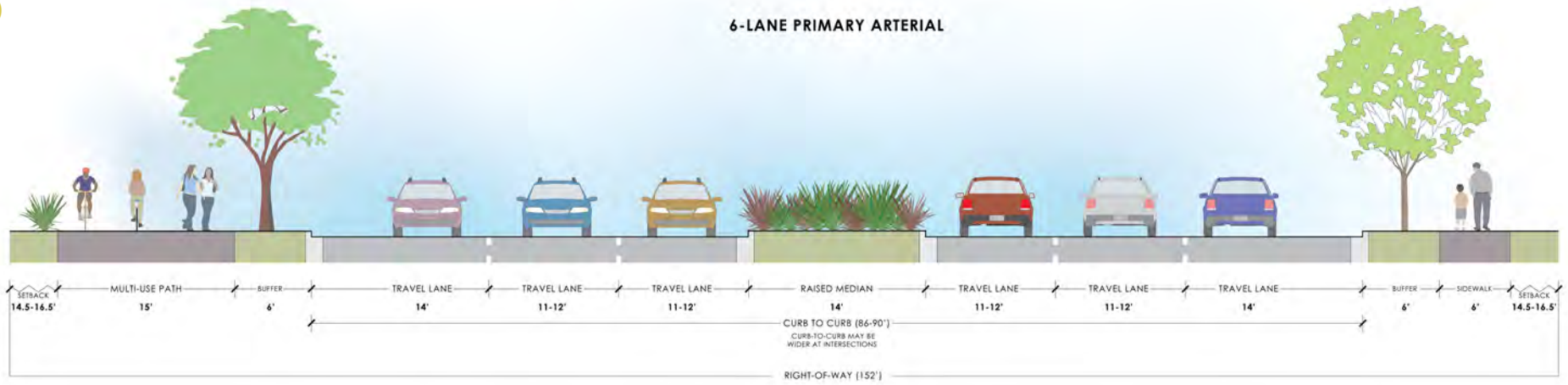


Clinton Keith Road, between Elizabeth Lane and City Limits

These Cross Sections are subject to change at the project-level at the discretion of the Public Works Director/City Engineer.

Figure 3-5 Typical Cross-Sections of Designated 6-Lane Primary Arterial Roadways, Part 2

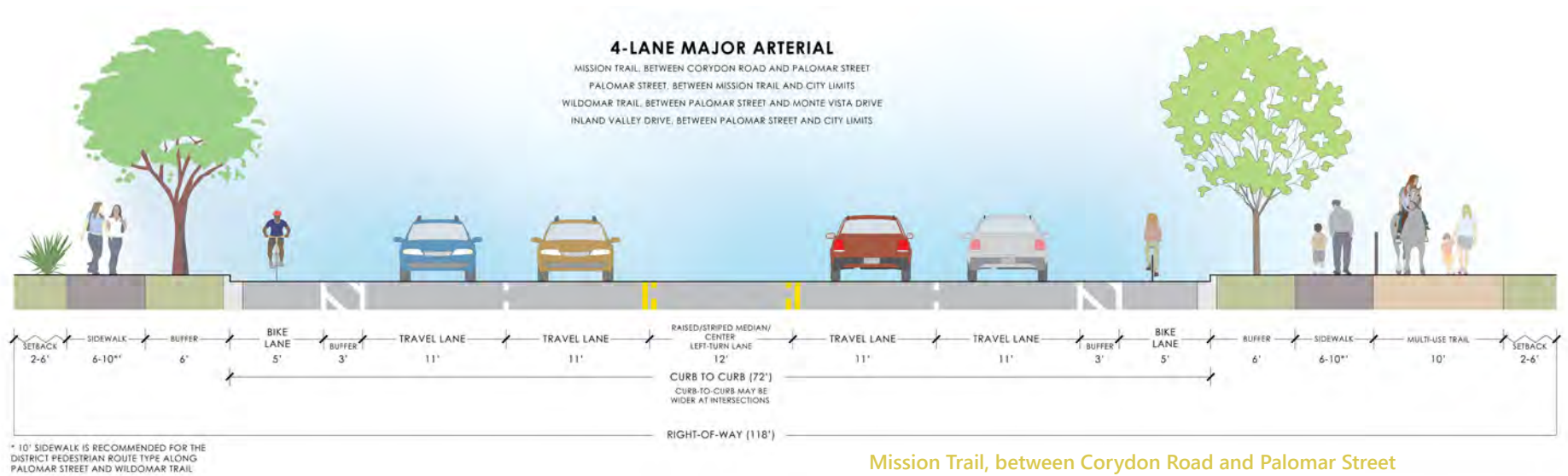
(c)



Bundy Canyon Road, between Monte Vista Drive and Sunset Avenue

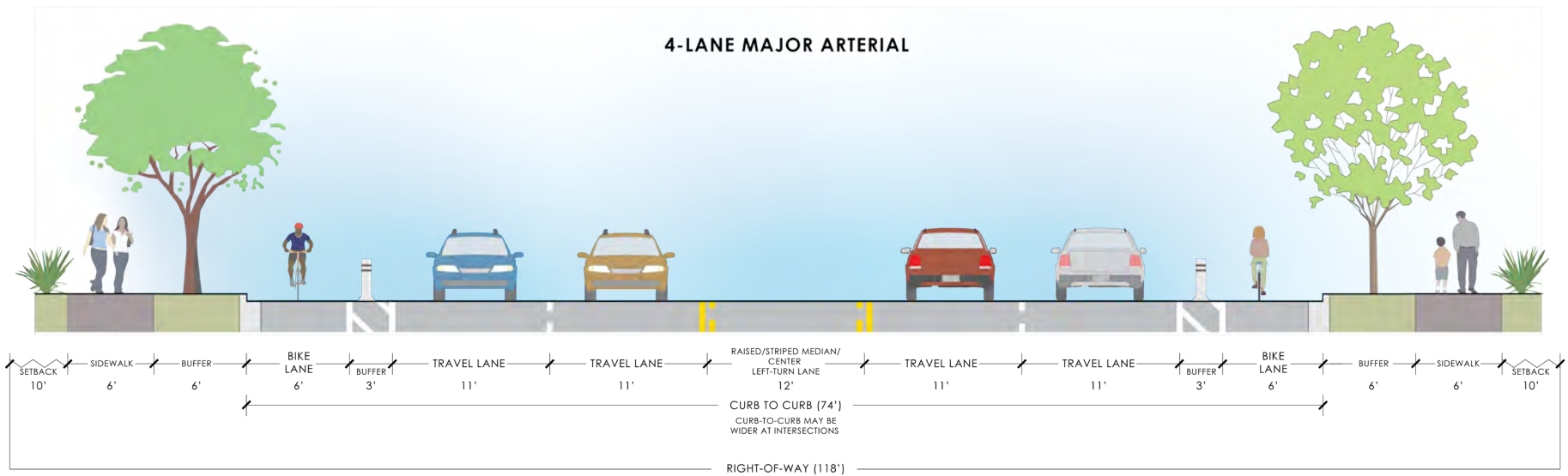
Figure 3-6 Typical Cross-Sections of Designated 4-Lane Major Arterial Roadways, Part 1

(a)



Mission Trail, between Corydon Road and Palomar Street
 Palomar Street, between Mission Trail and City Limits
 Wildomar Trail, between Palomar Street and Monte Vista Drive
 Washington Avenue, between Palomar Street and City Limits

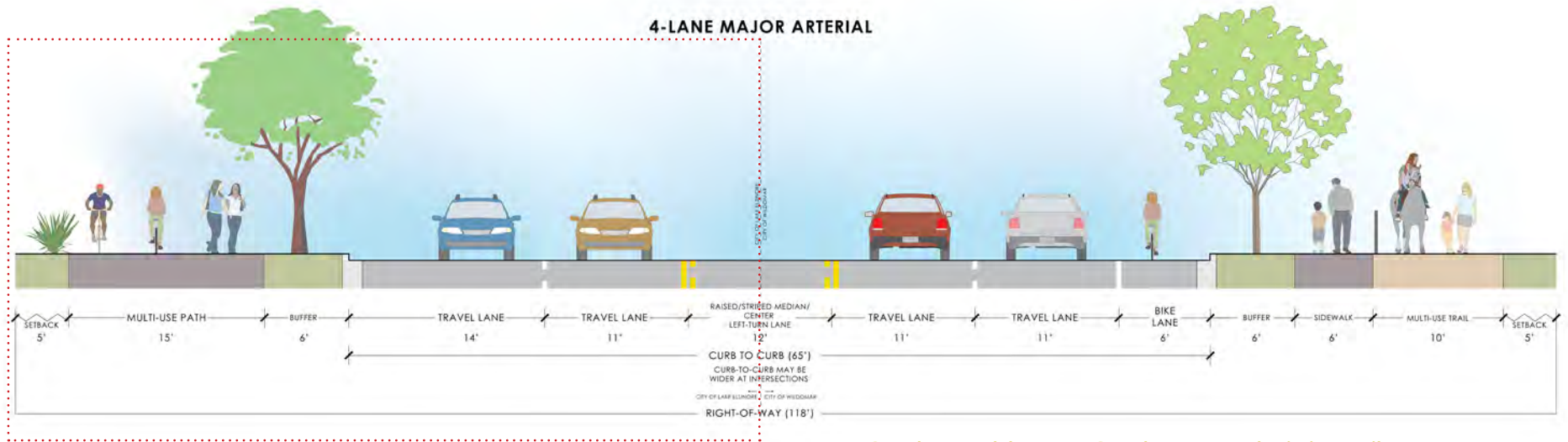
(b)



Bundy Canyon Road, between Mission Trail and Orange Street

Figure 3-6 Typical Cross-Sections of Designated 4-Lane Major Arterial Roadways, Part 2

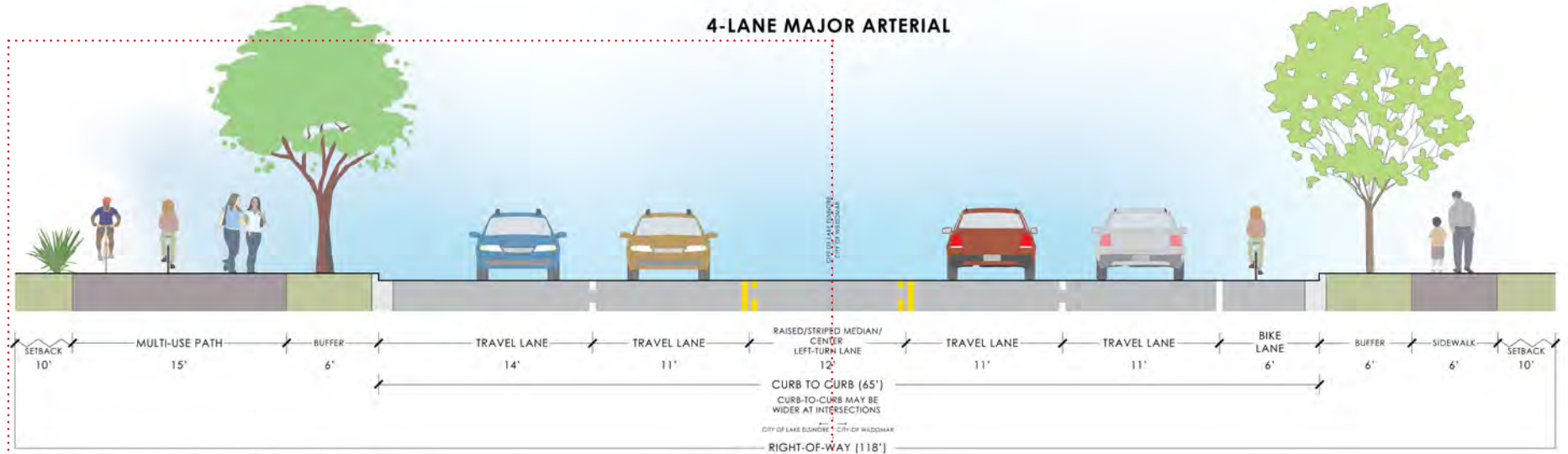
(c)



Corydon Road, between Grand Avenue and Mission Trail

Within City of Lake Elsinore's jurisdiction and outside of Wildomar's jurisdiction.
All dimensions are subject to change at the discretion of Lake Elsinore.

(d)



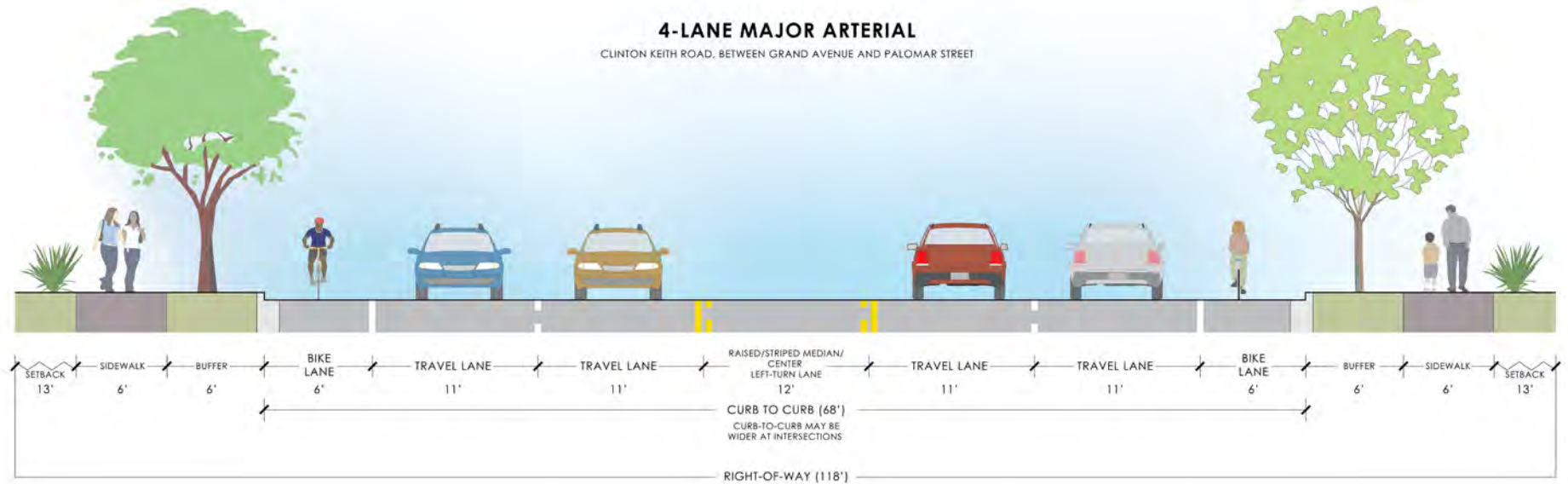
Mission Trail, between Malaga Road and Corydon Road

Within City of Lake Elsinore's jurisdiction and outside of Wildomar's jurisdiction.
All dimensions are subject to change at the discretion of Lake Elsinore.

PHYSICAL BUFFER TO BE CONSTRUCTED ON MISSION TRAIL FROM BUNDY CANYON ROAD TO CORYDON ROAD TO IMPLEMENT CLASS IV PROTECTED BIKE LANE

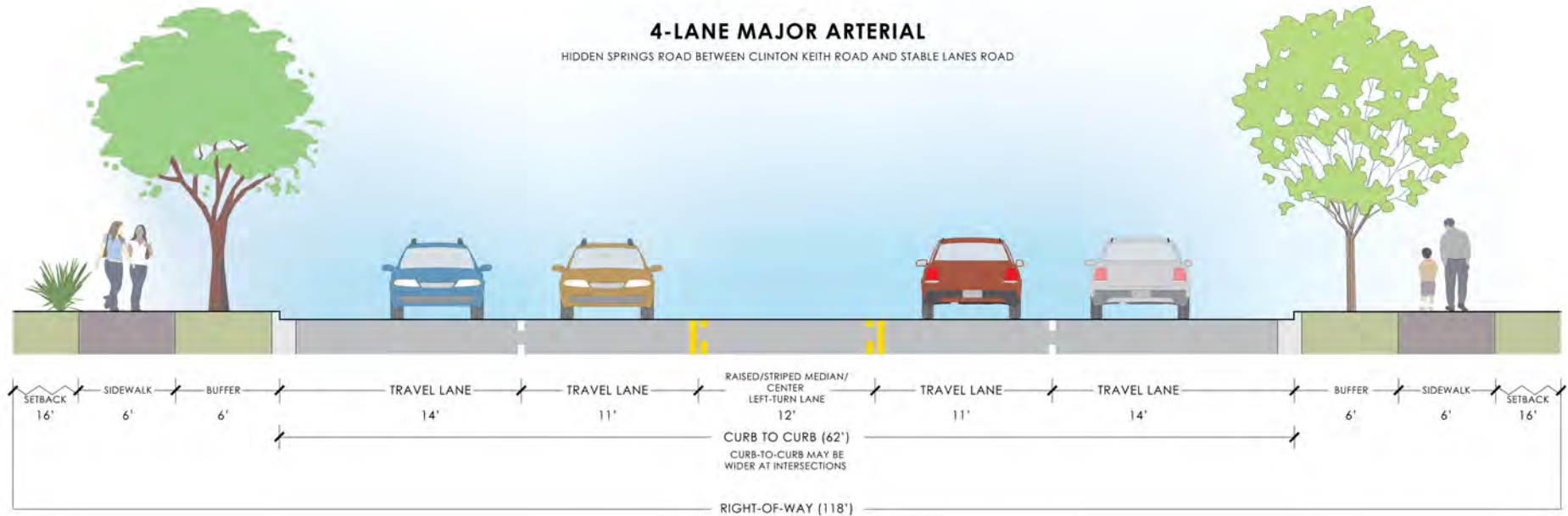
Figure 3-6 Typical Cross-Sections of Designated 4-Lane Major Arterial Roadways, Part 3

(e)



Clinton Keith Road, between Grand Avenue and Palomar Street

(f)

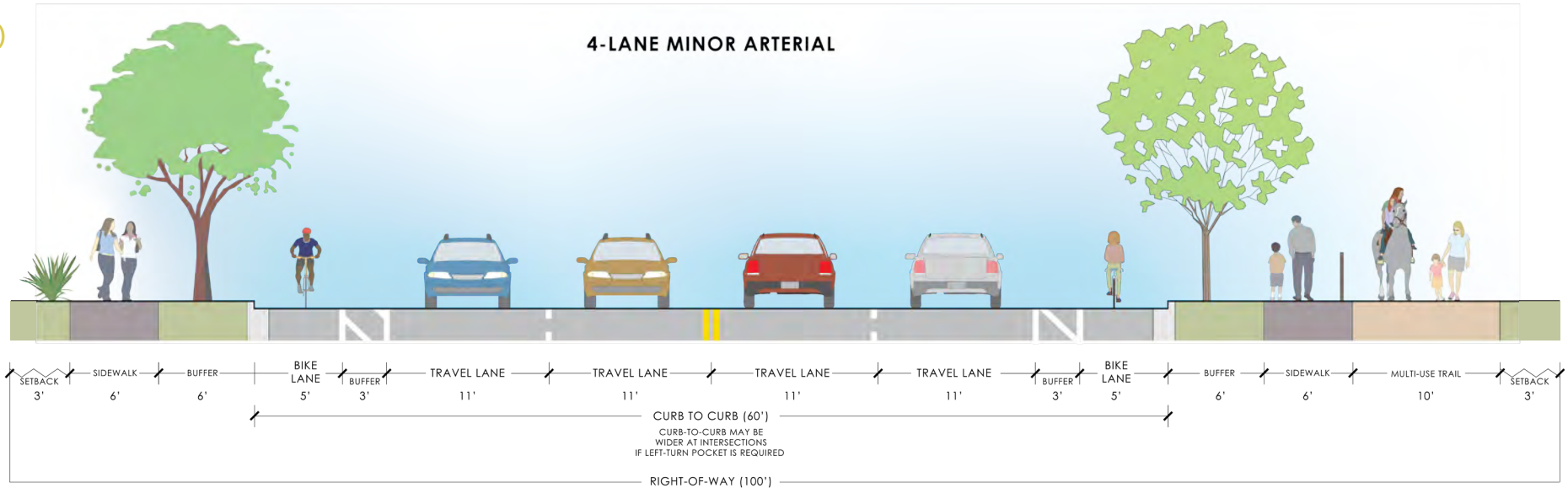


Hidden Springs Road, between Clinton Keith Road and Stable Lanes Road

These Cross Sections are subject to change at the project-level at the discretion of the Public Works Director/City Engineer.

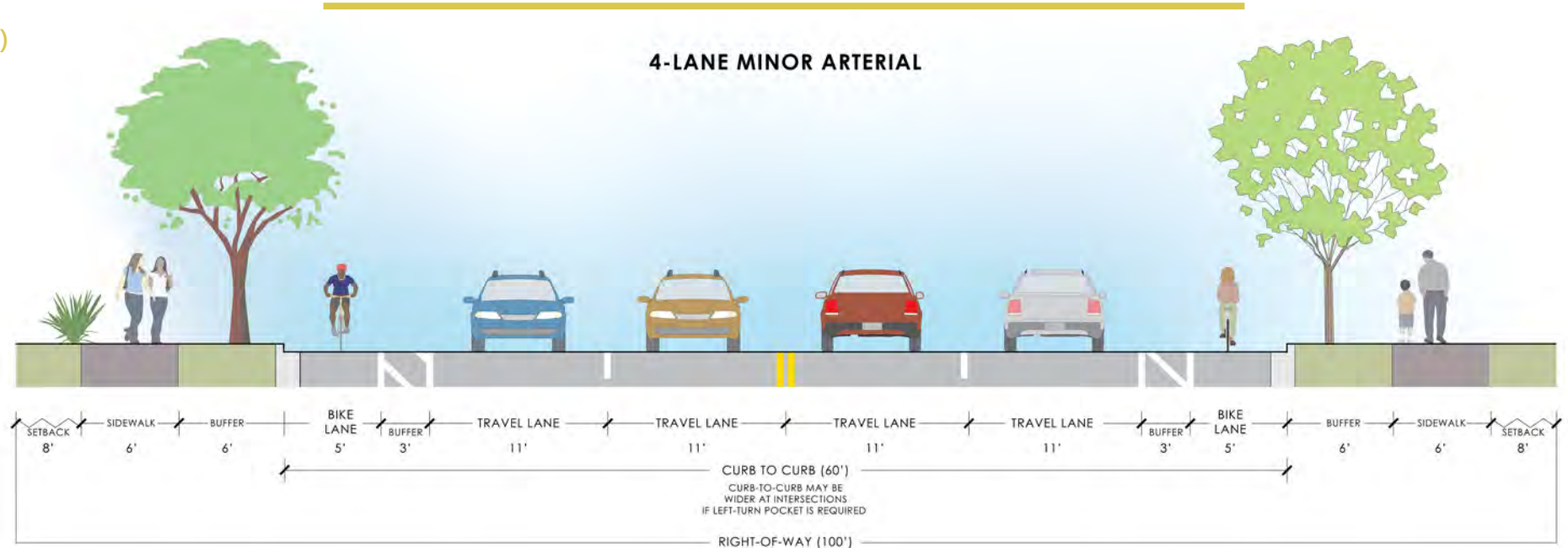
Figure 3-7 Typical Cross-Sections of Designated 4-Lane Minor Arterial Roadways, Part 1

(a)



Monte Vista Drive, between Bundy Canyon Road and Wildomar Trail
Wildomar Trail, between Monte Vista Drive and Bayless Road
Inland Valley Drive, between La Estrella Street and Bunny Trail

(b)

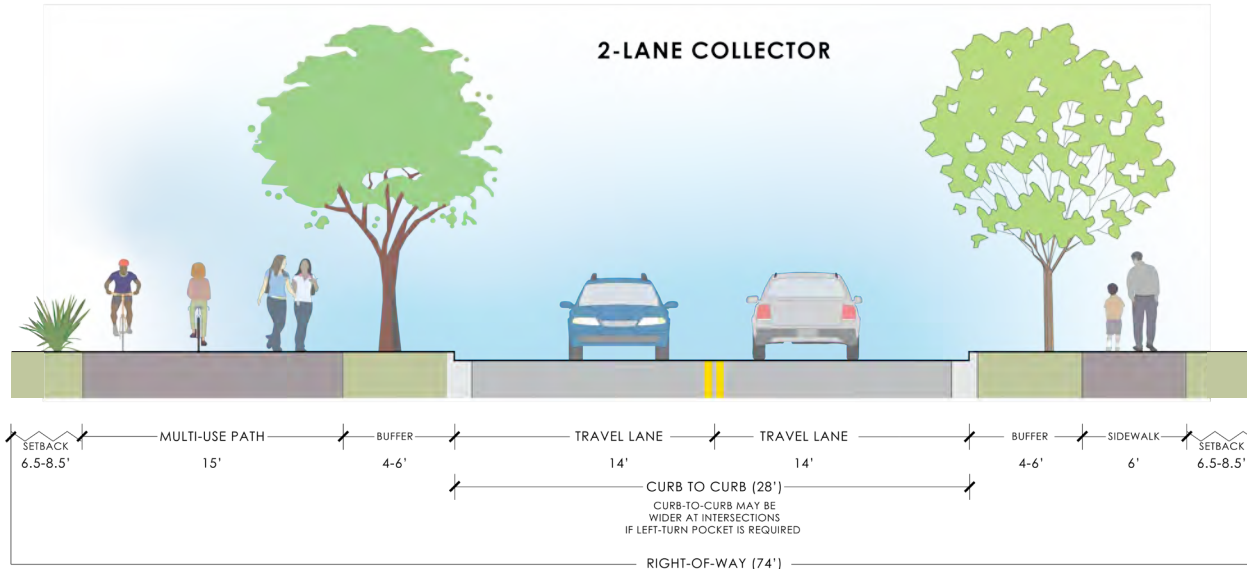


Bayless Road, between Wildomar Trail and La Estrella Street
Inland Valley Drive, between Bunny Trail and Palomar Street
Prielipp Road, between Inland Valley Drive and City Limits

These Cross Sections are subject to change at the project-level at the discretion of the Public Works Director/City Engineer.

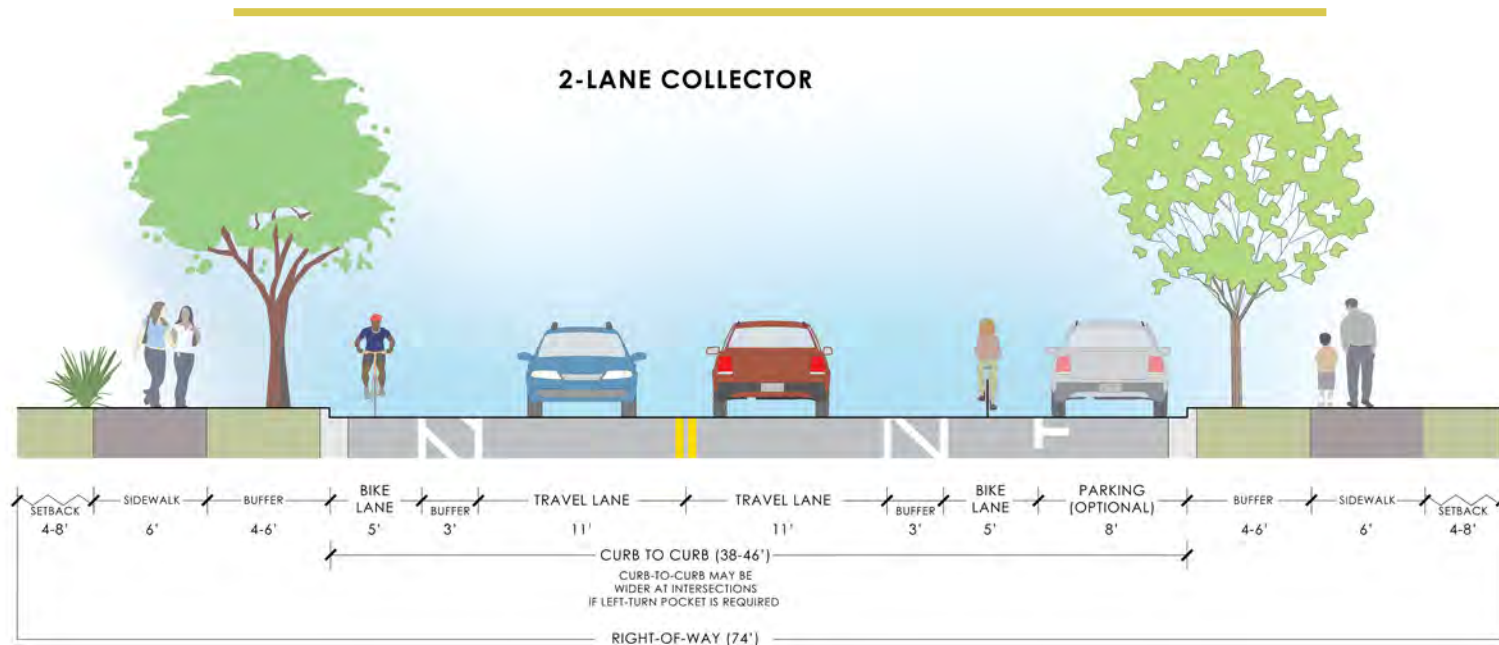
Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 1

(a)



Grape Street, between City Limits and Lemon Street
 Gruwell Street, between Palomar Street and Grand Avenue
 La Estrella Street, between Crossroads Street and City Limits

(b)

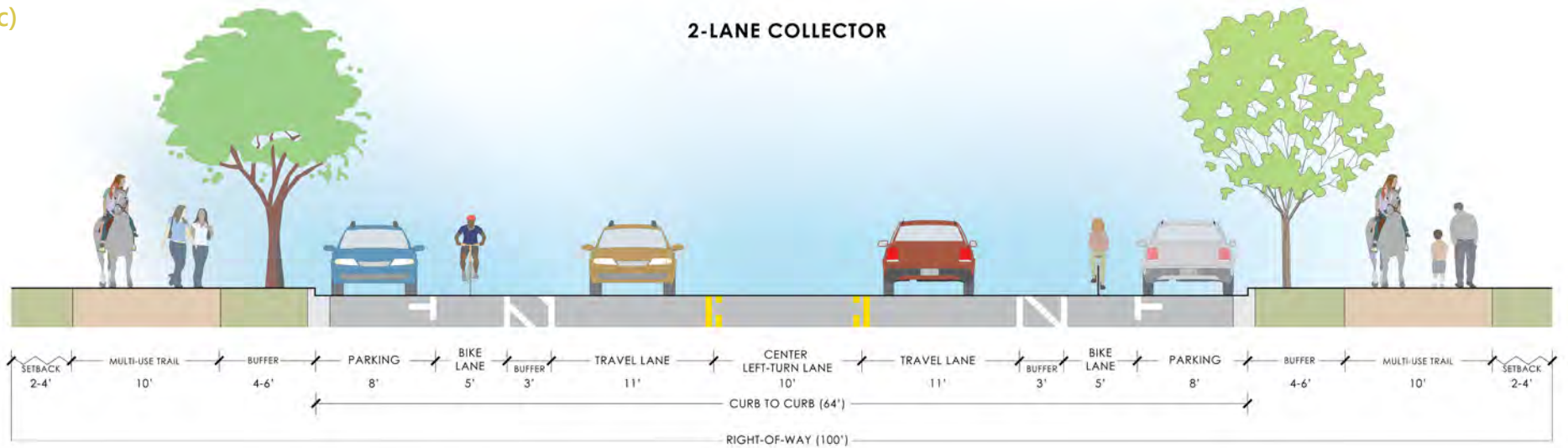


Lemon Street, between Mission Trail and Grape Street
 Wildomar Trail, between Palomar Street and Grand Avenue

Salida Del Sol, between La Estrella Street and Clinton Keith Road

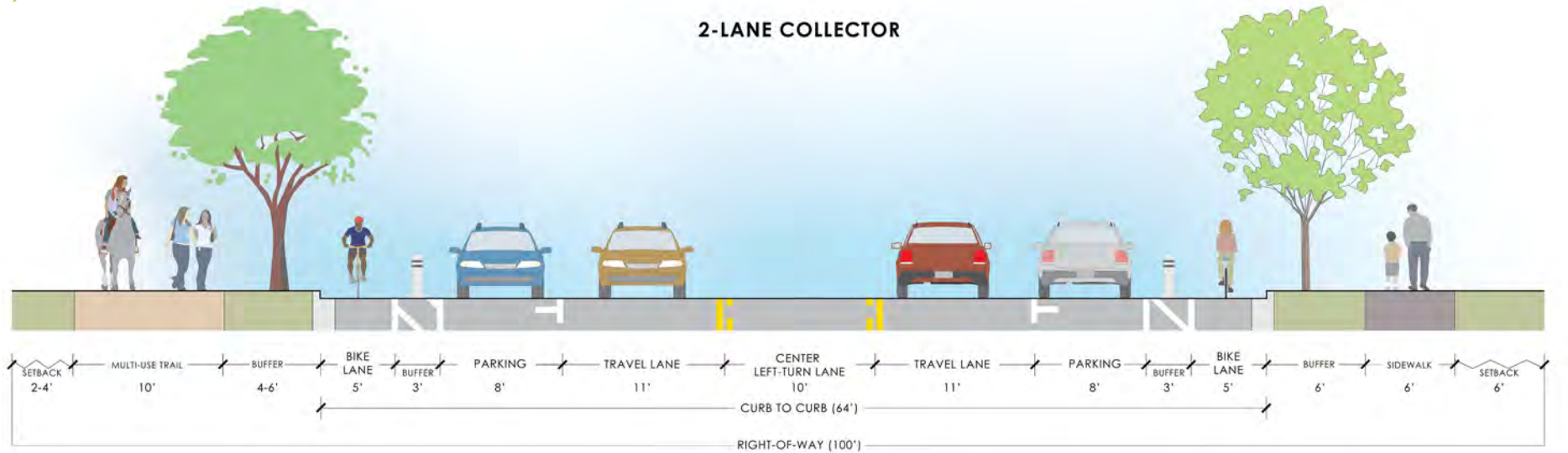
Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 2

(c)



Wildomar Trail (E/W), between Bayless Road and Wildomar Trail (N/S)

(d)

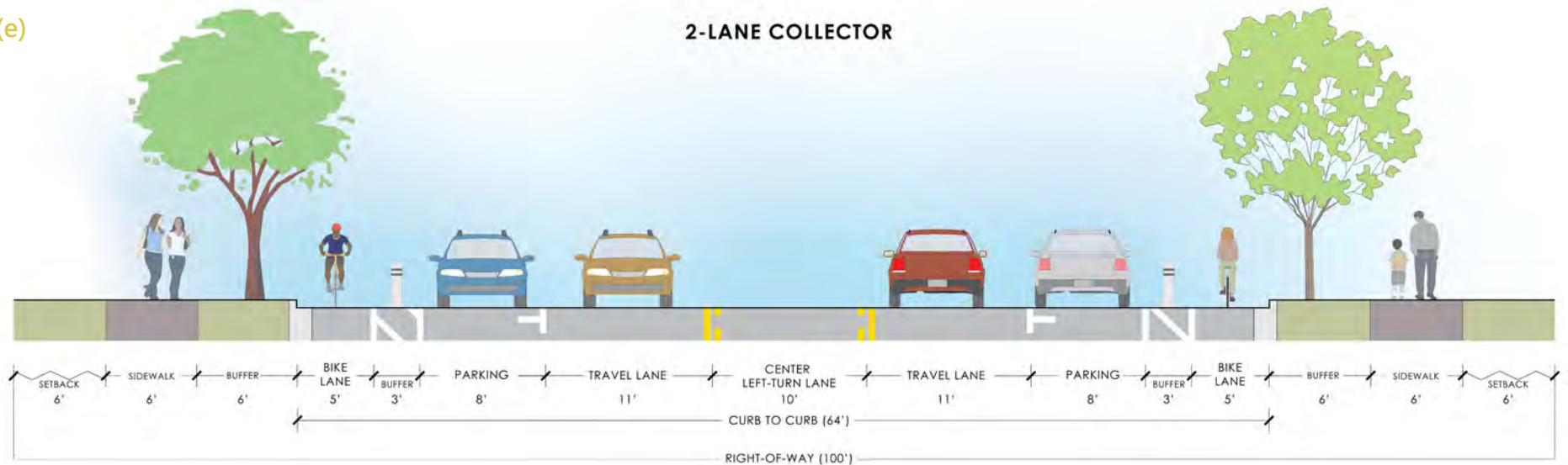


Wildomar Trail (N/S), between Wildomar Trail (E/W) and Brillante Drive

Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 3

(e)

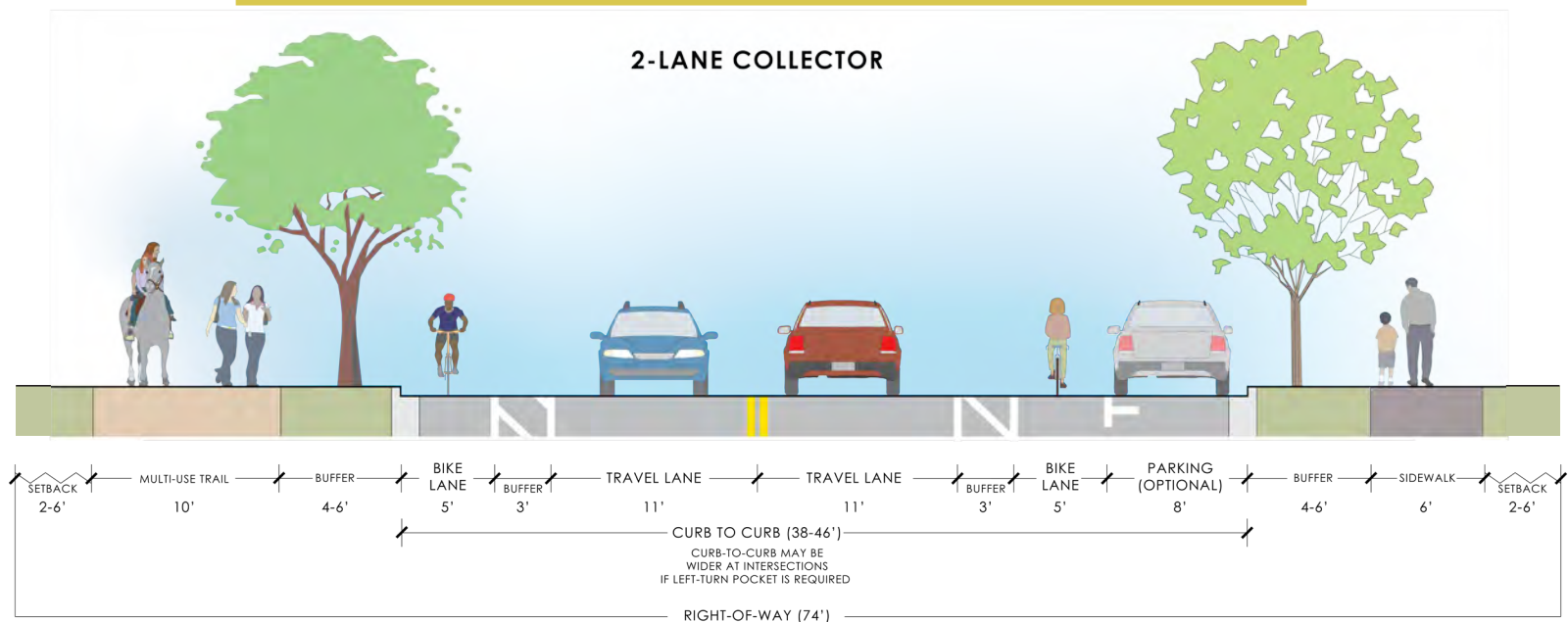
2-LANE COLLECTOR



Windward Trail (14'5"), between Diamond Drive and Clinton Keith Road

(f)

2-LANE COLLECTOR



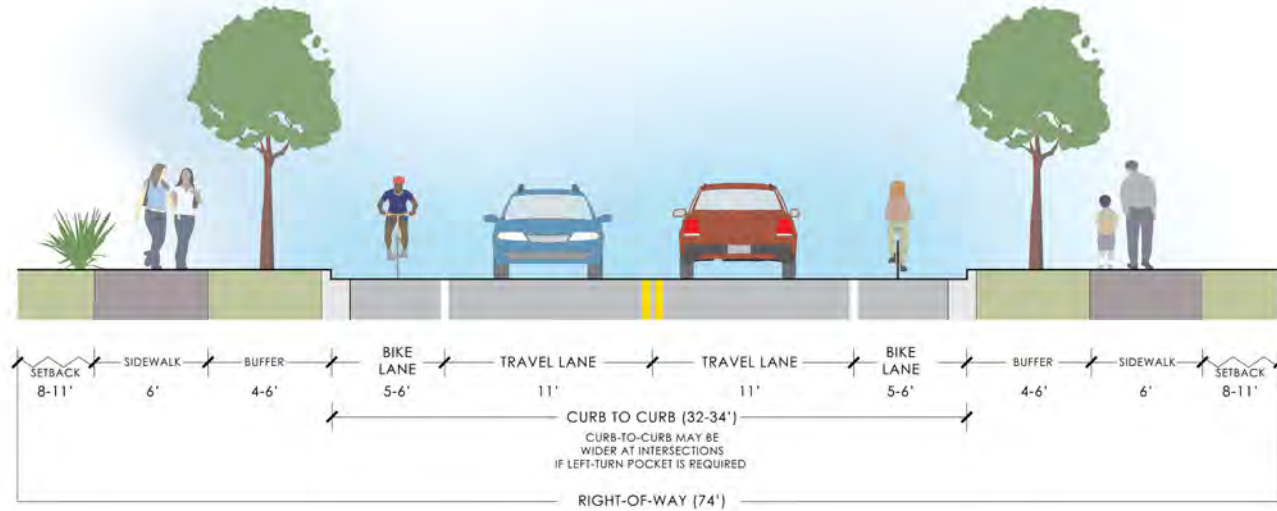
Palomar Street, between Corydon Road and Mission Trail
 Grand Avenue, between Corydon Road and Clinton Keith Road
 Orange Street, between Bundy Canyon Road and Gruwell Street

Gruwell Street, between Orange Street and Palomar Street
 McVicar Street, between Palomar Street and Grand Avenue
 Lemon Street, between Grape Street and Citrus Grove Lane

Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 4

(g)

2-LANE COLLECTOR



Depasquale Road, between Bayless Road and Wildomar Trail
 Hidden Springs Road, between Clinton Keith Road and Inland Valley Drive
 Gateway Drive, between Inland Valley Drive and City Limits

(h)

2-LANE COLLECTOR

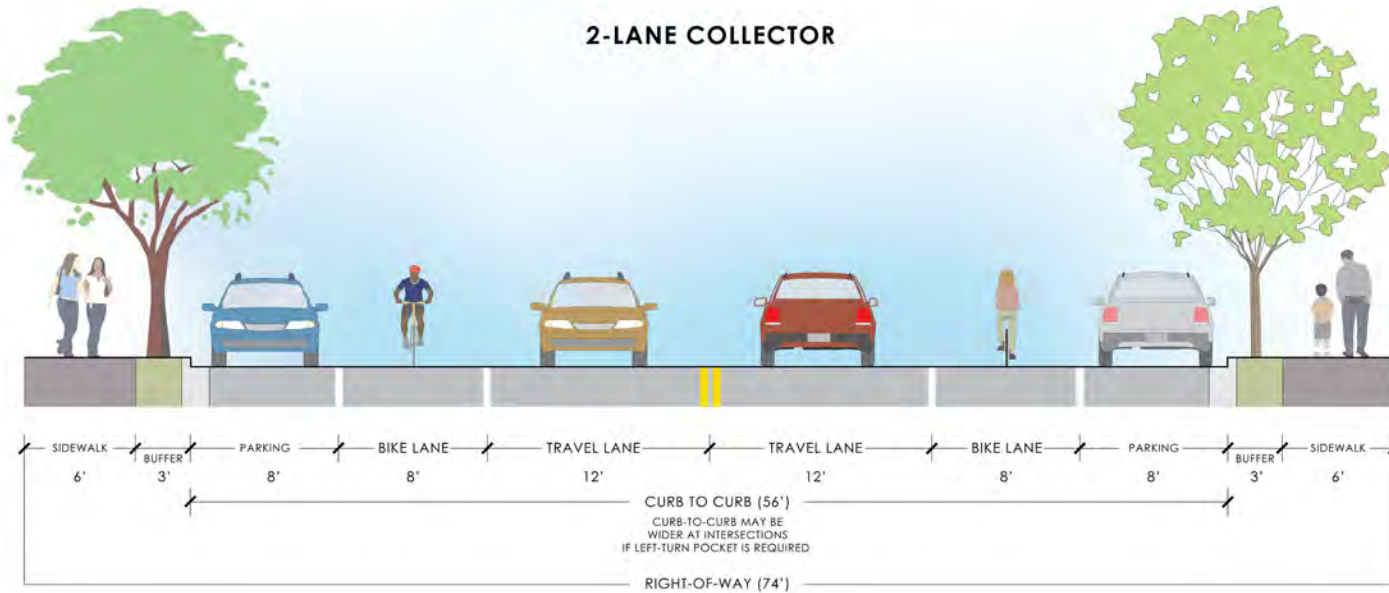


Bryant Street, between Palomar Street and Grand Avenue

These Cross Sections are subject to change at the project-level at the discretion of the Public Works Director/City Engineer.

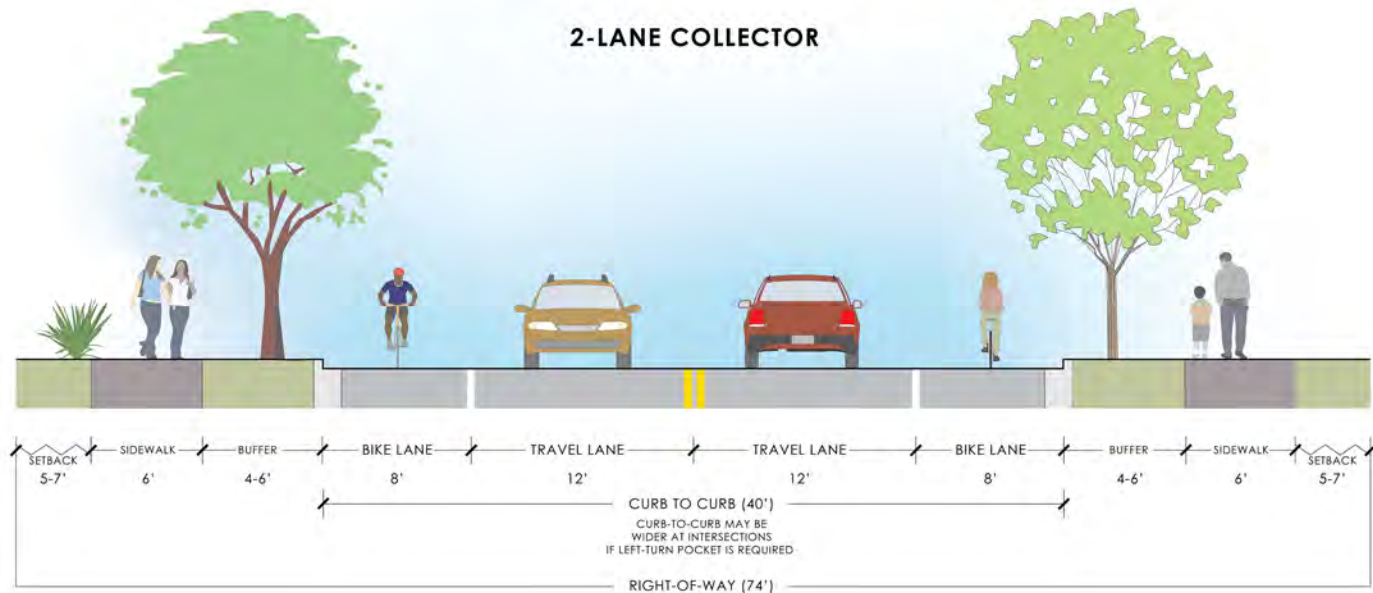
Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 5

(i)



Elizabeth Lane, between Clinton Keith Road and Prielipp Road

(j)

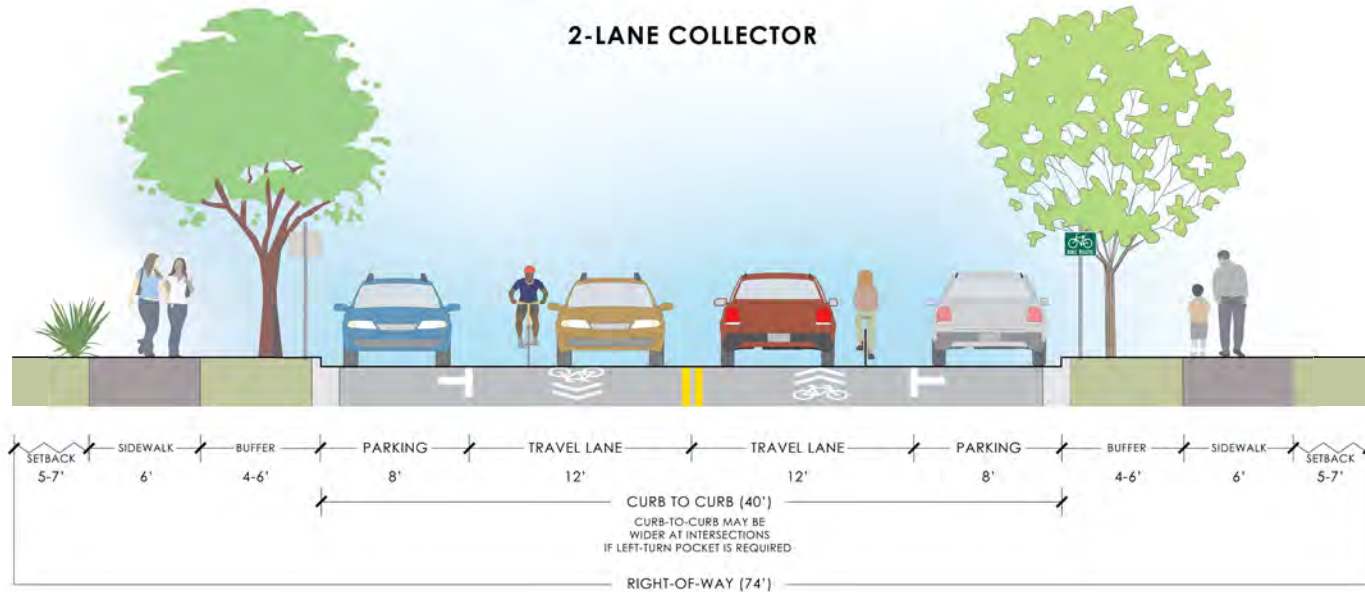


Olive Street, between Mission Trail and Grape Street

Waite Street, between Mission Trail and Bundy Canyon Road (optional parking)

Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 6

(k)



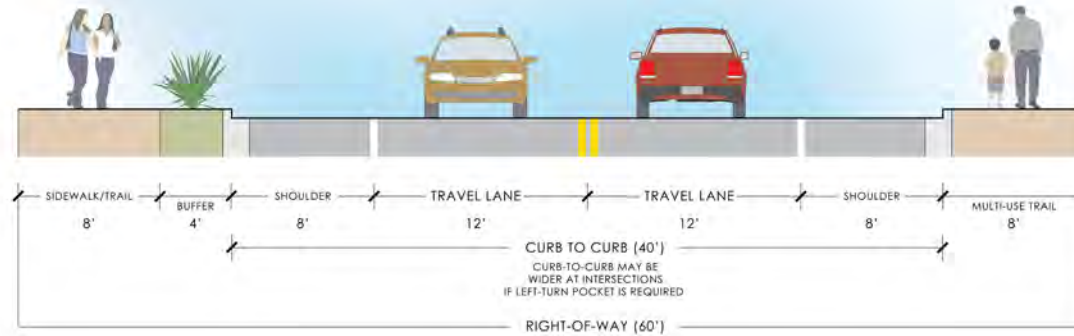
Walnut Street, between Mission Trail and Wildomar Trail
 Bunny Trail, between Yamas Drive and Elizabeth Lane
 Yamas Drive, between Clinton Keith Road and Prielipp Road
 Bryant Street, between Corydon Road and Palomar Street

Wesley Street, between Walnut Street and Grand Avenue
 Almond Street, between Lemon Street and Bundy Canyon Road
 Frederick Street/Catt Road, between Palomar Street and Hidden Springs Road

Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 7

(l)

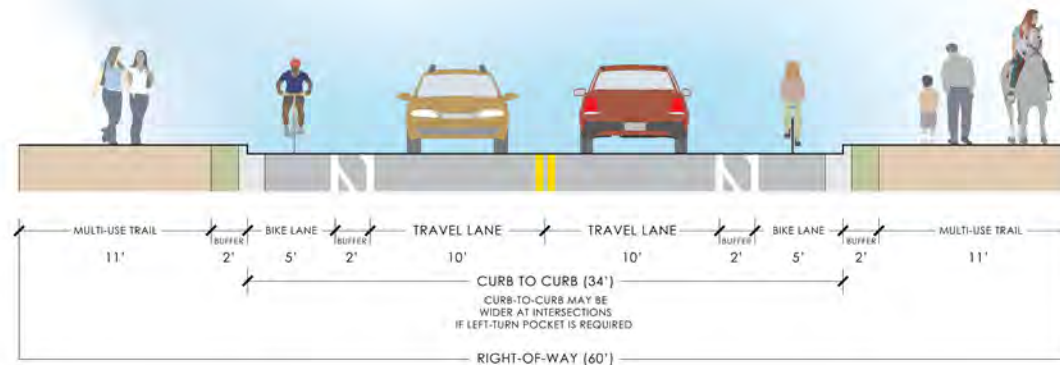
2-LANE RURAL COLLECTOR



Cottonwood Canyon Road, between North City Boundary and Bundy Canyon Road
Oak Circle Drive/Sauer Road, between Bundy Canyon Road and Wildomar Trail

(m)

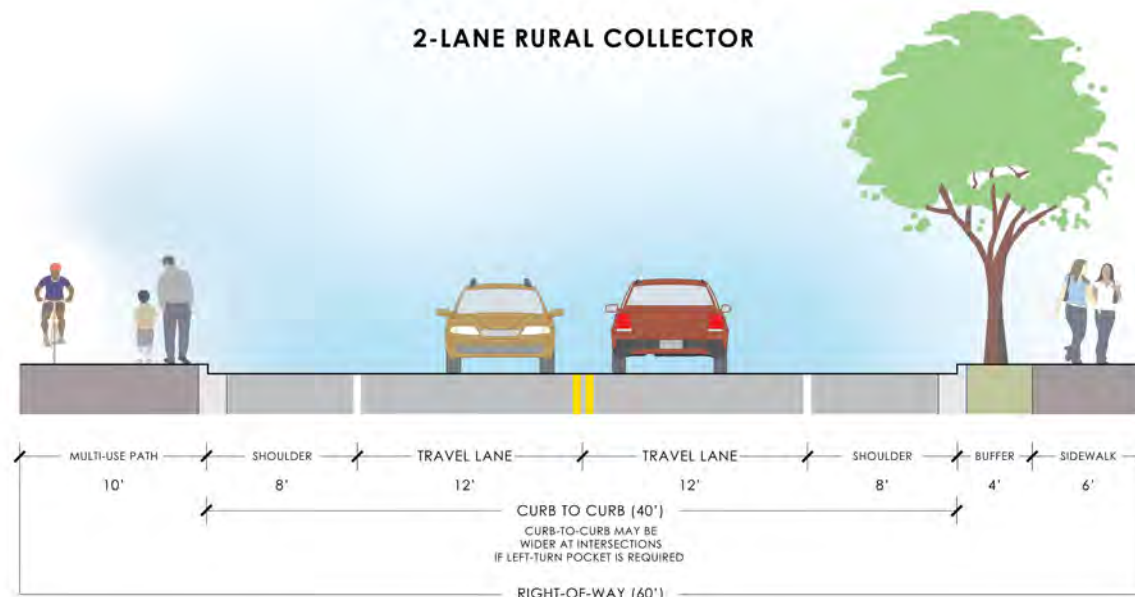
2-LANE RURAL COLLECTOR



Lemon Street/Lost Road, between Citrus Grove Lane and North City Boundary

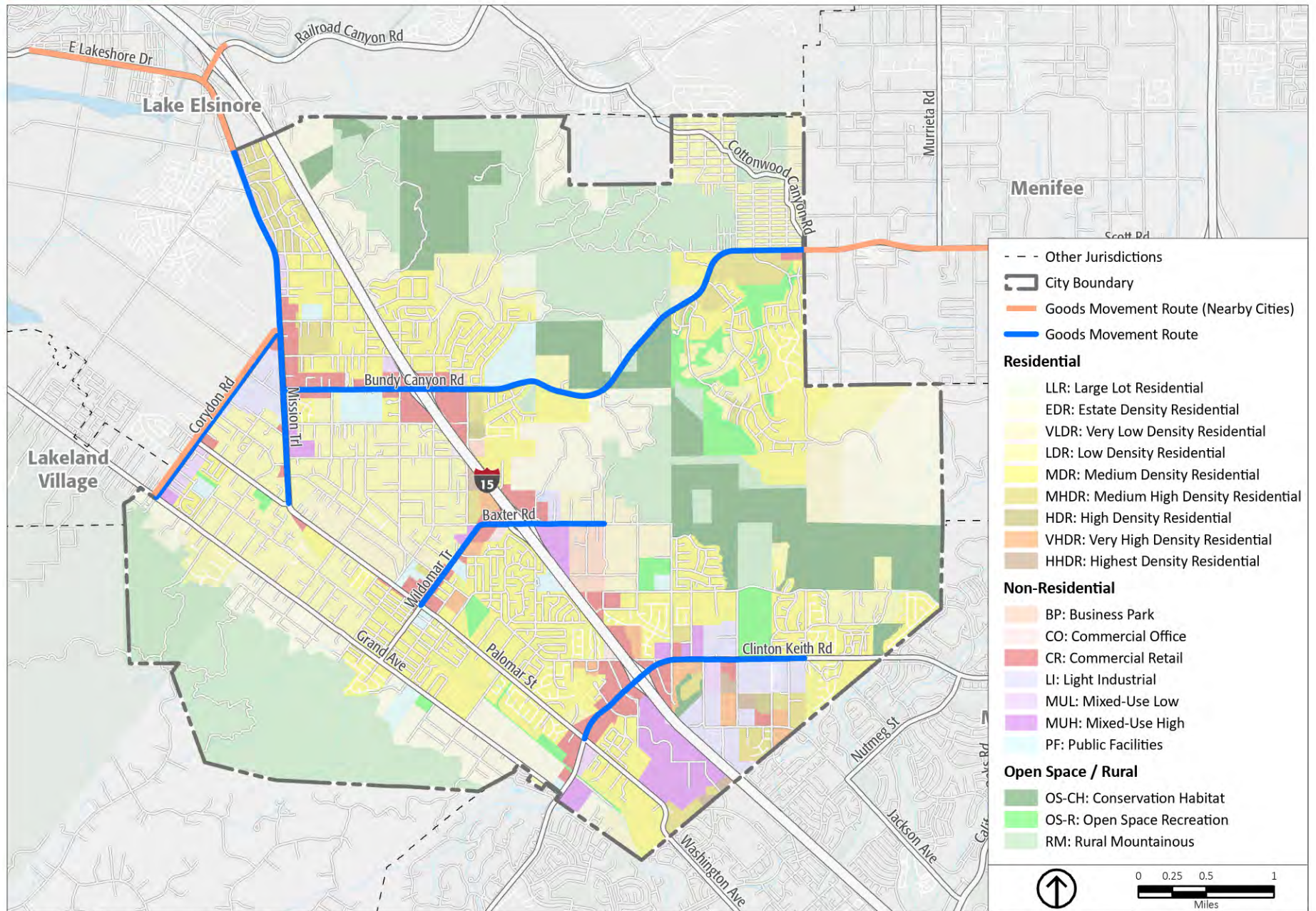
Figure 3-8 Typical Cross-Sections of Designated 2-Lane Collector Roadways, Part 8

(n)



Sunset Avenue. between Bundy Canyon Road and La Estrella Street

FIG 3-9: GOODS MOVEMENT ROUTES



Source: ESRI, 2024; Chen Ryan Associates, 2023; PlaceWorks, 2024

3.4 Goals and Policies

GOAL CI 1

A well-connected transportation network that is safe, comfortable, efficient, and accessible by users of all ages, abilities, and modes of travel, including pedestrians, bicyclists, drivers, equestrians, transit users, and movers of commercial goods.

Policy CI 1.1

Complete Streets. Plan, design, operate, and maintain City streets using Complete Streets principles for all types of transportation projects in the City, including new, retrofit/reconstruction, maintenance, and ongoing projects. Repurposing unneeded roadway pavement to implement bicycle and pedestrian improvements—for example, lane or road diets—should be considered as one of the tools to implement Complete Streets.

Policy CI 1.2

Roadway Cross-Sections. Implement the updated typical roadway cross-sections in this element to incorporate Complete Streets principles and help achieve mobility goals.

Policy CI 1.3

Local Context. Integrate Complete Streets in a manner that is sensitive to the local context, recognizing that needs vary between neighborhoods and communities.

Policy CI 1.4

Walkable Town Center. Create a walkable town center anchored around the Old Town core, with gathering places and trails that reflect the City of Wildomar’s unique qualities and history. Comfortable walking and bicycling connections will enhance access to the Old Town area from communities throughout the City.

Policy CI 1.5

Traffic Calming. Use traffic-calming tools to assist in implementing Complete Streets principles and reducing vehicular travel speeds along Circulation

Element roadways serving residential neighborhoods and schools—such as Grand Avenue, Orange Street, Lemon Street, Gruwell Street, and McVicar Street—and other roadways serving similar land uses. Traffic-calming tools may include but not be limited to curb extensions, speed cushions, chokers/neck-downs, raised medians, narrowing lanes, raised crosswalks, and neighborhood traffic circles or roundabouts. The feasibility of deploying traffic-calming devices shall be considered prior to increasing any posted speed limits.

Policy CI 1.6

Monitor Safety and Usage. Regularly monitor and evaluate citywide safety and usage trends for all travel modes. Additionally, as new infrastructure is implemented, such as bicycle facilities, pedestrian facilities, and traffic-calming measures, pre- and post-project evaluations should be considered and conducted where appropriate or warranted and when funding to conduct such evaluations is available, to better understand project benefits.

Policy CI 1.7

Dedications. Require developments to provide appropriate dedications to implement planned transportation infrastructure as indicated in this Circulation Element and future documents adopted by City Council.

Policy CI 1.8

Enhance Connectivity. When feasible, require developments to incorporate short block spacing and a strong street grid network as a means to enhance connectivity for all travel modes. Encourage the inclusion of non-motorized transportation corridors, such as paseos, promenades, and multi-use paths, to improve connectivity along long blocks or non-continuous streets.

Policy CI 1.9

Funding. Pursue funding for multimodal infrastructure projects that promote safety and Complete Streets, such as impact fees and local, regional, State, and federal grants.

Policy CI 1.10

Development Impact Fees. Regularly update the City's Development Impact Fees (DIF) program to ensure adequate funding is allocated for the development, operation, and maintenance of the City's transportation system across all travel modes.

Policy CI 1.11

Vision Zero. Explore adoption of a Vision Zero initiative with a target date to achieve its goals. The initiative aims at eliminating all traffic-related fatalities and severe injuries suffered by all road users while increasing safe, healthy, equitable mobility for all modes of transportation.

GOAL CI 2

Pedestrian infrastructure that is safe, connected, and comfortable for users of all ages and abilities, inclusive of accessible curb ramps and sidewalks, marked crosswalks, trail connections, lighting, and pedestrian crossing features.

Policy CI 2.1

Pedestrian Network. Improve pedestrian safety, comfort, and connectivity throughout the city, with an emphasis on implementing the various pedestrian route types (shown on Figure 3-1), and connections serving schools, parks, and commercial/retail centers.

Policy CI 2.2

Close Connectivity Gaps. Improve pedestrian network connectivity by requiring development projects to close connectivity gaps by extending project frontage improvements to the nearest connecting sidewalk/trail where feasible and/or where fee credit/reimbursement programs exist. Factors to consider may include, but are not limited to, the proposed project's land use, destinations created by the project, destinations that could be reached by occupants of the new development, the length of the gap, etc.

Policy CI 2.3

Local Roadway Safety Plan. Implement recommended projects of the Local Roadway Safety Plan

(as adopted and amended from time to time) to enhance the safety of trips made by foot to and from neighborhoods, schools, parks, retail locations, employment centers, government offices, and bus stops.

Policy CI 2.4

Implement Pedestrian Route Types. As adjacent parcels are developed and/or capital improvement projects are undertaken, implement the designated pedestrian route types, inclusive of the respective pedestrian route type toolkit features, where feasible.

Policy CI 2.5

Pedestrian Crossing Safety. Improve pedestrian crossing safety and efficiency through appropriate signal hardware and timing, installation of marked and high visibility marked crosswalks and accessible curb ramps, and other intersection design features, where relevant.

Policy CI 2.6

Pedestrian Visibility. Enhance pedestrian visibility by limiting parking at intersections, improving lighting at street crossings, and minimizing sidewalk obstructions.

Policy CI 2.7

Connections to Trailheads. Provide pedestrian connections to recreational trailheads, where feasible.

Policy CI 2.8

Funding. Pursue funding to implement programs that promote bicycle and pedestrian education, safety and use in schools.

Policy CI 2.9

Walking to School. Encourage walking as a preferred transportation mode for trips to and from elementary, middle, and high schools and nearby destinations.

Policy CI 2.10

Pedestrian Collision Monitoring. Regularly review and monitor reports of pedestrian-involved collisions to identify potential safety issues and appropriate improvements.



Example of an existing Class II bike lane in Wildomar.

GOAL CI 3

A safe and connected bicycle network composed of context-appropriate bicycle facilities and supporting amenities that serve the needs of recreational and utilitarian bicyclists of all ages and abilities.

Policy CI 3.1

Bicycle Network. Improve bicycle safety, comfort, and connectivity throughout the city, with an emphasis on implementing the planned bicycle network (shown on Figure 3-2).

Policy CI 3.2

Close Connectivity Gaps. Improve bicycle network connectivity by requiring development projects to close connectivity gaps by extending project frontage improvements to the nearest connecting bicycle facility, where feasible and/or where fee credit/reimbursement programs exist. Factors to consider may include, but are not limited to, the proposed project's land use(s), destinations created by the project, destinations that could be reached by occupants of the new development, the length of the gap, etc.

Policy CI 3.3

Implement Local Roadway Safety Plan. Implementation of recommended projects in the Local Roadway Safety Plan (as adopted and amended from time to time) to enhance the safety of trips made by bicycle to and from neighborhoods, schools, parks,

retail locations, employment centers, government offices, and bus stops.

Policy CI 3.4

Include Bicycle Facilities in Projects. Coordinate street resurfacing and restriping efforts, capital improvement projects, and development projects to include bicycle facilities identified in the planned bicycle network, where applicable.

Policy CI 3.5

Connect with Adjacent Jurisdictions. Coordinate with adjacent jurisdictions to provide continuous and uniform bicycle connections to and from neighboring communities, where feasible.

Policy CI 3.6

Wayfinding Program. Consider development of a wayfinding program that indicates additional bicycle connections and the direction and distance to key destinations.

Policy CI 3.7

Intersection Design. Enhance bicycle intersection crossing efficiency and safety through intersection design considerations, provisions of bicycle detection at signalized intersections, and other appropriate design features.

Policy CI 3.8

Biking to Schools. Pursue collaborative opportunities with local schools to implement programs that promote bicycle education and safety and encourage usage among students.

Policy CI 3.9

Bicycle Parking. Bicycle parking shall be provided with all new developments as required by Section 17.188.060 of Wildomar's Municipal Code.

Policy CI 3.10

Bicycle Racks. Encourage existing retailers, shops, and shopping centers to install bicycle racks. Permit the reallocation of vehicular parking space(s) to bicycle parking spaces, if supported by a parking utilization study and/or if the remaining spaces are consistent with the minimum required for the respective

land use as identified in Section 17.188.030 of Wildomar's Municipal Code.

Policy CI 3.11

Employer-Provided Amenities. Encourage employers to install end-of-trip amenities for bicycle riders, such as bicycle parking, maintenance stations, lockers, and/or showers.

Policy CI 3.12

Bicycle Safety. Regularly review and monitor reports of bicycle-involved collisions to identify potential safety issues and appropriate improvements. Explore opportunities to improve bicycle safety through educational and/or training programs for cyclists and other roadway users.

Policy CI 3.13

Freeway Crossings. As properties adjacent to I-15 develop, consider the feasibility of, and potential demand for, incorporating additional freeway crossings that prioritize pedestrian and bicycle mobility.



Bus stop along Mission Trail, adjacent to the Wildomar Library.

GOAL CI 4

A public transportation network that allows for convenient access to major destinations, both within Wildomar and the region.

Policy CI 4.1

Transit Network. Work with Riverside Transit Agency (RTA), Southern California Association of Governments (SCAG), and other regional partners to

ensure that adequate transit service is provided consistent with future growth (shown on Figure 3-3).

Policy CI 4.2

Station Amenities. Coordinate with Riverside Transit Agency to focus station improvements and enhanced amenities at locations with the greatest ridership. In coordination with RTA and adjacent properties, provide secure bicycle parking options for high ridership transit stops, where feasible.

Policy CI 4.3

First/Last Mile Connectivity. Encourage convenient and safe pedestrian and bicycle linkages to and from bus stops to provide better first/last mile connectivity. This includes connectivity to/from existing and new development and along streets providing access to the bus stops.

GOAL CI 5

Convenient and efficient vehicle circulation with minimal congestion that does not degrade pedestrian and bicycle safety, mobility, and access.

Policy CI 5.1

Roadway Network. Implement the planned roadway network and classification designations (as shown on Figure 3-4) through new development, redevelopment, resurfacing, and/or other capital improvement projects. This includes the new potential connections at Sunset Avenue between Bundy Canyon Road and La Estrella Street, and at Inland Valley Drive between Prielipp Road and Hidden Springs Road, if feasibility is demonstrated and appropriate funding is identified.

Policy CI 5.2

Connect with Adjacent Jurisdictions. Work with adjacent jurisdictions to provide continuous vehicular connections to and from neighboring communities.

Policy CI 5.3

Roadway Cross-Sections. Ensure the implementation of the updated typical roadway cross-sections displayed in this Circulation Element (as shown on

Figures 3-5 through 3-8), including the new “Rural Collector” classification.

Policy CI 5.4

Level of Service Threshold. Although Vehicle Miles Traveled (VMT) will be utilized as the traffic impact metric for California Environmental Quality Act (CEQA) review process, Level of Service (LOS) is still a critical measure and indicator of traffic operations. LOS D shall be the threshold for all Circulation Element roadways and intersections, consistent with Transportation Impact Analysis (TIA) Guidelines adopted by the City Council, unless otherwise approved by the City Engineer.

Policy CI 5.5

Vehicle Miles Traveled Threshold. All projects in the City shall be in compliance with Resolution No. 2020-40, Vehicle Miles Traveled (VMT) CEQA Threshold Policy Guidelines. Efforts should be made to reduce VMT by prioritizing pedestrian and bicycle travel and/or incorporating active transportation enhancements, to the extent feasible. Efforts to reduce VMT may not necessarily have to be implemented on-site; instead, in coordination with city staff, off-site projects can be identified that would offset the VMT increase caused by a particular project. Applicants/developers would have the option to either construct the project/improvement or calculate the costs associated with the construction of the project/improvement and pay that as an in-lieu fee.

Policy CI 5.6

Achieve Level of Service Threshold. All development projects shall achieve the LOS threshold identified in Policy 5.4; otherwise, the City reserves the right to request the proposed development to amend existing roadway designations to ensure roadways and intersections can adequately handle volumes of traffic generated by the development.

Policy CI 5.7

Evaluate Roadway Network. As development occurs, evaluate the need to designate additional roads as Circulation Element roadways, or amend existing designations to help enhance vehicle circulation, reduce congestion, and increase connectivity

throughout the city. Measures shall not come at the expense of pedestrian and/or bicycle safety, mobility, and access unless approved by the City Engineer.

Policy CI 5.8

Evaluate Intersections. Evaluate intersection geometrics and treatments at the intersections of Crescent Avenue/Elberta Road and Crescent Avenue/Olive Street to improve safety and operations. This could include, but not limited to, Crescent Avenue Road closure to vehicular traffic at its northern (Elberta Road) and southern (Olive Street) ends.

Policy CI 5.9

Connect Lake Elsinore to Interstate 15. Continue to coordinate with the City of Lake Elsinore and respective property owners in Wildomar to identify a preferred connection between Lake Elsinore and Interstate 15 via Bundy Canyon Road, or alternatives. This connection could help reduce cut-through traffic on local or Collector streets in Wildomar and capitalize on the region’s investment in Bundy Canyon Road.

Policy CI 5.10

Interchange Projects. Ensure that future interchange projects, such as the Bundy Canyon Road and Wildomar Trail Project Study Reports, incorporate recommended bicycle network and pedestrian route type features, to the extent possible.

Policy CI 5.11

Evaluate Traffic along Bundy Canyon. Evaluate local and regional traffic as development continues along the Bundy Canyon Road/Scott Road corridor to ensure adequate north-south connectivity along the corridor to facilitate expected traffic volumes and circulation and determine when improvements are warranted to proposed or potential north-south connections, as shown on the Proposed Network exhibit (as shown on Figure 3-4).

Policy CI 5.12

Utilize Transportation Demand Management. Regularly update the Transportation Demand Management (TDM) ordinance to include best

management practices for reducing VMT. Updates to the ordinance should include consideration of private shuttle bus services, work from home programs, vanpool programs, and parking strategies that would incentivize use of public or private transportation for key development projects.

Policy CI 5.13

Utilize Transportation System Management. Utilize Transportation System Management (TSM) measures throughout the City to ensure the circulation system is as efficient and cost-effective as possible. These measures include, but are not limited to, improvements to signal coordination, transit signal priorities, and pedestrian/bicycle prioritized signals.

Policy CI 5.14

Manage Curb Space. Manage curb space in activity areas to balance demands of all users, such as emergency vehicles, buses, vehicle parking, bicycle/scooter parking, delivery loading/unloading, rideshare pick-up/drop-off, street furniture, electric vehicle charging stations, etc.

Policy CI 5.14

Connected and Autonomous Vehicles. Utilization of advanced analytics and high-speed communication networks should be taken into consideration to prepare for the future deployment of connected and autonomous vehicles.

GOAL CI 6

Provide and maintain a safe and efficient system for delivering goods and services.

Policy CI 6.1

Goods Movement Network. Maintain a designated goods movement route network (as shown on Figure 3-9) in the City to ensure safe and adequate infrastructure support for the travel of commercial vehicles. Goods movement routes shall comply with the requirements in the City's municipal code.

Policy CI 6.2

Commercial Loading and Unloading. Coordinate with property owners and the business community to support commercial vehicle loading/unloading in a

manner that is efficient while not compromising safety and operations of other roadway users.

GOAL CI 7

A comprehensive trail network that provides for equestrian mobility and alternate recreational options.

Policy CI 7.1

Murrieta Creek Regional Trail Project. Continue to pursue funding and implementation of the Murrieta Creek Regional Trail Project, including an emphasis on safe at-grade roadway crossings with the roadway network. Crossing treatments could include curb extensions, raised crosswalks, pedestrian hybrid beacons (also known as HAWK), rectangular rapid flash beacons (RRFB), etc.

Policy CI 7.2

Close Connectivity Gaps. Analyze gaps in the trail system and develop an approach for closing gaps, including property acquisition and/or dedicated easements, where necessary and feasible.

Policy CI 7.3

Connect with Adjacent Jurisdictions. Leverage trails within other jurisdictions to provide connectivity from Wildomar to points beyond.

Policy CI 7.4

Equestrian Trails. Preserve and enhance equestrian trails where they currently exist.

Policy CI 7.5

Trail Design Guidelines. Develop City-specific trail design guidelines or formally adopt guidelines, such as those provided in the County of Riverside Comprehensive Trails Plan, as part of a Trails Master Plan.

GOAL CI 8

A robust network of infrastructure and utility systems supports the City's growth.

Policy CI 8.1

Collaborate with Utilities and Service Providers. Work with utilities and service providers for water, wastewater, energy, and solid waste, including but

not limited to, Elsinore Valley Municipal Water District (EVMWD), CR&R, Southern California Edison (SCE), and SoCalGas, to ensure that services and facilities meet resident needs reliably and support the City's growth.

Policy CI 8.2

Adequate Storm Drainage. Implement and periodically update the 2019 City of Wildomar Master Drainage Plan to manage storm runoff and provide flood control protection.

Policy CI 8.3

Telecommunications Systems and Access. Work with telecommunications service providers to meet the facility and service demands of existing and future development and to provide equitable access to telecommunications infrastructure, including encouraging retrofit and expansion of existing high speed internet systems and inclusion in all new housing.



4. Economic Development





4. Economic Development Element

4.1 Vision

This Element supports the economic health and resilience of Wildomar’s businesses, residents, and City finances in myriad ways. Wildomar will continue to support the growth of existing businesses and new start-ups by improving access to business management, financing, and marketing training and assistance. Economic development efforts will focus on businesses that bring new dollars into the local Wildomar economy and that capitalize on unique assets in and near Wildomar. The City will collaborate with schools and colleges to encourage training and jobs for residents. It will also support access to resources and education for entrepreneurs.

The City will embrace innovative and creative approaches to nurturing a vibrant local economy while remaining fiscally responsible. Existing commercial areas will be transformed and new commercial areas developed, with a focus on experience-oriented shopping. Emerging creative and artisan fabricator economies and ancillary retail sales and services will be accommodated in light industrial districts. The City will also leverage the benefits from commuting residents working from home and spending more money locally.

4.2 Purpose

Because an economic development element is optional under California planning requirements, there are no legal standards for what the element should contain. Although economic growth is essential to a fiscally sustainable city, there are limitations on what a city can do to promote and support economic development.

In addition to identifying goals, policies and implementation actions the City will undertake to advance

economic development, this element also outlines the structure of how Wildomar will pursue and invest in economic development. There are two key reasons for this. First, much of the work of economic development is conducted by local and regional partners, with the city playing a coordinating and supporting role. And second, most of the economic development programs and projects in which the City will invest will be formulated, implemented, and evaluated through an economic development strategic plan, which the City will adopt and periodically update. The Economic Development Element provides policy guidance for economic development partnerships and for economic development strategic planning.

4.3 Planning Context and Approach

A market study was conducted to support the preparation of the General Plan. Rather than discussing the market conditions at that time—market conditions that will change often over the life of the Plan—there are three (3) broad trends that will influence growth and land development over the long term.

Smaller Households and Fewer Children

From 2010 to 2020, the number of households in Wildomar with children at home declined—for both married couples and single parents. This is a trend throughout most of Western Riverside County, reflecting declining birth rates since 2007 and the lowest fertility rates ever in the US. The California Department of Finance (DOF) projects continuing declines in the number of Riverside County residents aged 18 and under and those aged 18 to 24. Reflecting these changes, the Southern California Association of Governments (SCAG) is projecting a long-term decline in the average household size.

Wildomar 2040 General Plan

This shift in household size and type has implications for housing development. With cities accommodating fewer and fewer families with children, the regional market will shift towards producing a variety of housing types instead of predominantly large single-family detached houses, such as smaller houses, multigenerational housing, and more attached and multifamily housing. This shift also has implications for the types of businesses—retail, dining, entertainment, and recreation—that will fill commercial buildings and be successful in Wildomar. Finally, this shift will have implications for the types of public facilities and services the City will be expected to provide.

Changing Retail Environment

The 20+ year trend of retail spending shifting from bricks-and-mortar stores to online purchasing accelerated with the COVID-19 pandemic (beginning in 2020). At the time this General Plan is being pre-

To be competitive in the regional market and in the changing retail environment, the City will need to facilitate the transformation of existing commercial areas and the development of new ones, with a focus on experience-oriented shopping (shopping where socializing, entertainment, activities, and the overall experience are as important, if not more so, as the purchase of goods).

pared, most chain retailers are highly focused on omni-channel retailing—creating multiple pathways to retail sales, including in-store shopping and online sales with store pickup, delivery, and shipping from centralized warehouses—which will reduce the need for more physical stores. Even though Wildomar is underserved by retail businesses (and so residents

often go to other cities to purchase goods), the proximity of competing shopping centers close to Wildomar will further diminish future demand for more commercial development in the City.



The Barn business plaza (top) and Montague Brothers Coffee (bottom).

To be competitive in the regional market and in the changing retail environment, the City will need to facilitate the transformation of existing commercial areas and the development of new ones, with a focus on experience-oriented shopping (shopping where socializing, entertainment, activities, and the overall experience are as important, if not more so, as the purchase of goods). Promoting the creation of new local businesses will help expand offerings for shopping, dining, entertainment, and recreation in Wildomar.

Changing Office Use

The COVID-19 pandemic forced the development of technology and changes in common business

4. Economic Development Element

practices to deal with employees forced to work from home. Although businesses are still adjusting to the new realities, it appears that some office workers may continue to work at home with a limited amount of in-office work. However, some office-based sectors of the economy will continue to operate primarily in offices. This includes medical services, which are forecast to account for the largest share of job growth.



City Hall is co-located with other offices in the Oak Creek shopping center.

Because Wildomar has a limited amount of office space, it is unlikely to be impacted by a regional lack of demand for offices as businesses decrease their office footprints when current leases expire. The City will benefit from commuting residents working from home and consequently spending more money locally. And the demand for medical office space can support mixed-use development in areas this Plan designates for such development.

Industrial Land Use

Even though there is strong regional demand for warehousing development, there is little land area suitable for large warehouses in Wildomar, and

significant growth in warehousing is not consistent with the community's character and vision. Instead, this General Plan focuses on supporting and facilitating light industrial/flex space, which offers smaller tenant spaces, and small- to medium-sized manufacturing facilities. This Plan also proposes to expand what "light industrial use" encompasses to include the creative and artisan fabricator economies and ancillary retail sales and services. Implementation of the Economic Development Element should focus on attracting relevant businesses, supporting entrepreneurs wanting to start new businesses, and maintaining the affordability of light industrial building space. Economic development efforts will focus on businesses that bring new dollars into the local Wildomar economy and that capitalize on unique assets in and near Wildomar.

This Plan also proposes to expand what "light industrial use" encompasses to include the creative and artisan fabricator economies and ancillary retail sales and services.

4.4 Economic Development Strategic Planning

This Economic Development Element is predicated on the City adopting, implementing, and periodically updating an economic development strategic plan. The strategic plan will identify specific projects, programs, and other investments that are realistic for the City to complete in three to five years. The strategic plan will also establish an evaluation framework and metrics to measure the effectiveness of the plan. And with the information from implementation, the City will adjust and amend the strategic plan.

4.5 Economic Development Partners

The City may partner with stakeholders that include but are not limited to, existing businesses, property owners, real estate brokers and developers, and other community organizations. Other stakeholders are key assets that economic development efforts will capitalize on, such as Inland Valley Hospital. Other stakeholders who do not necessarily have economic development as a primary function will still likely be engaged because they have a vested interest in growth and diversification of the local economy and are committed to the future of Wildomar. The City will engage stakeholders through the strategic planning process, and the economic development strategic plan will reflect the specific projects and programs to which these stakeholders are committed.

In addition, the City will need to collaborate with a wide variety of economic development organizations and service providers to leverage their expertise and federal, state, and non-profit funding. Through these partnerships, the City will seek to connect existing businesses, firms interested in locating in Wildomar, and local entrepreneurs starting new businesses, with training and assistance. A partial list of partners includes the Economic Development Coalition, Riverside County Office of Economic Development, Riverside County Workforce Development (RCWD), Inland Empire Small Business Development Center, Inland Empire Center for Entrepreneurship, Murrieta/Wildomar Chamber of Commerce, Lake Elsinore Unified School District, and Mt. San Jacinto Community College District. The list is expected to change over the lifetime of the General Plan.



4.6 Goals and Policies

GOAL ED 1

Vibrant Local Economy. A resilient local economy that provides goods and services desired by residents and contributes to the community's quality of life and sense of place.

Policy ED 1.1

Business Retention and Expansion. Retain existing businesses and support their profitability and expansion by collaborating with the local Chamber of Commerce and regional economic development service providers to improve access by local businesses to business management training, financing, marketing assistance, and other programs.

Policy ED 1.2

Business Startups. Grow the number of independent businesses to diversify the local economy, to provide business and employment opportunities for residents, and to provide goods and services desired by residents, by collaborating with the Chamber of Commerce and regional economic development service providers to provide entrepreneurial training and assistance.

Policy ED 1.3

Business Attraction. Attract businesses that diversify the local tax base and that improve the quality of life, by collaborating with economic development service providers to market Wildomar and to market commercial and industrial sites and facilities to potential new businesses.

Policy ED 1.4

Workforce Housing. Support an adequate and reliable workforce for local businesses by promoting the development of housing opportunities suited to the range of incomes, in accordance with the Land Use Element and the Housing Element.

Policy ED 1.5

Employment Opportunities for Residents. Support the growth of existing businesses, the creation of new businesses, and the attraction of businesses

that provide employment opportunities suited to a variety of skills and education levels.

Policy ED 1.6

Local Preferences. When considering approval of a development agreement, take into consideration the potential for a commitment to local procurement and local hiring preferences to provide a community benefit if incorporated into the development agreement.

GOAL ED 2

Economic Development Program. A robust program that supports residents and entrepreneurs and that attracts private investment.

Policy ED 2.1

Economic Development Objectives. Invest in the City's economic development program, amenities, and infrastructure to maintain and enhance the attractiveness of Wildomar for private investment, to expand and diversify the local tax base, and to facilitate growth in the local economy that contributes to and enhances Wildomar's quality of life.

Policy ED 2.2

Strategic Action Plan. Adopt and periodically update an economic development strategic plan that states the City's vision for economic development, identifies objectives for the time frame of the strategy, establishes strategies and action plans, and that may also identify target sectors, partnerships, and marketing and communications.

Policy ED 2.3

Staffing and Funding. Invest in the City's economic development to achieve long-term goals in accordance with an adopted strategic action plan, fund economic development staffing and training, and incorporate economic development thinking throughout City Hall.

Policy ED 2.4

Economic Development Partners. Leverage investments by the federal and state governments and by private and non-profit entities by collaborating with

economic development partners, including but not limited to the Economic Development Coalition, the Riverside County Office of Economic Development, Riverside County Workforce Development, the Inland Empire Small Business Development Center, the Inland Empire Center for Entrepreneurship, the Inland Empire Women’s Business Center, the Murrieta/Wildomar Chamber of Commerce, other public agencies, Lake Elsinore Unified School District, Mt. San Jacinto Community College District, and other stakeholders, including but not limited to existing businesses, real estate brokers and developers, and other community organizations.

Policy ED 2.5

Marketing and Communications. Maintain regular public communications of the City’s economic development efforts and successes, maintain regular communications with existing businesses and economic development stakeholders, and, consistent with the adopted economic development strategic plan, invest in communications to market Wildomar as a location for new businesses and private investment.

GOAL ED 3

Economic Activity Centers. Well-planned commercial and industrial districts, commercial corridors, and retail nodes that are integrated into and compatible with Wildomar’s neighborhoods.

Policy ED 3.1

Bundy Canyon Corridor Focus Area. Preserve larger land parcels with visibility and access to the freeway primarily for larger-scale, auto-centric shopping centers with retail sales and services businesses and experience-oriented commerce.

Policy ED 3.2

Old Town Focus Area. Facilitate a downtown look and feel in the Old Town Focus Area by promoting park-pace facilities in a pedestrian-friendly environment with experience-oriented retail sales and services, dining, and entertainment uses.

Policy ED 3.3

Wildomar Trail Corridor Focus Area. Require that sufficient land area with easy vehicular access and sufficient parking be reserved to ensure the viability of commercial uses if residential uses are developed first.

Policy ED 3.4

Hidden Springs/Wyman Road Specific Plan

Area. Recommend a market demand study be prepared in conjunction with a future specific plan to ensure that the buildout of this 160 +/- acre area meets the City’s needs for affordable and workforce housing, retail sales and services, entertainment, and employment opportunities.

Policy ED 3.5

Re-dustrial Focus Area. Seek to maintain the affordability of new development in the area centered around Clinton Keith Road east of Inland Valley Drive to support business start-ups and independent businesses.

GOAL ED 4

Fiscally Resilient Local Government. Fiscally sustainable land use and development patterns and conservative, well-managed municipal finances that support a fiscally resilient city.

Policy ED 4.1

Land Use Balance. Maintain a responsible balance between residential and nonresidential development, preserving community character and resources, to generate sufficient municipal revenues to continually reinvest in the community’s quality of life and periodically evaluate the potential buildout of the general plan to account for structural changes in the economy.

Policy ED 4.2

Funding and Financing Districts. Maintain the citywide community facilities district to ensure a healthy, safe, and family-friendly environment, and when investments are needed for localized improvements and services, consider additional funding and financing districts, such as business improvement

4. Economic Development Element

districts, landscaping and lighting maintenance districts, and enhanced infrastructure finance districts.

Policy ED 4.3

Fiscal Impact Analysis. Ensure that new development enhances the City's fiscal health and capacity

to provide community service programs, entertainment, and recreation opportunities by incorporating potential fiscal impacts into decision-making for General Plan amendments and zoning changes.

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5. Open Space and Conservation





5. Open Space and Conservation Element

5.1 Vision

The open space and conservation element seeks to balance human activities with the integrated ecosystem of plants and animals that use the same air, water, energy, and natural resources.

The policies in this element recognize that Wildomar's unique natural and cultural resources are irreplaceable and seek to minimize impacts on them from the daily activities of its human inhabitants...

Wildomar has the good fortune to contain a bounty of natural resources and open spaces. It is home to scores of native animals and plants and the habitats that nurture their lives. And it is shaped by natural features—from the hillsides to the valleys to the watercourses that give the City its unique form and character. The land also bears the traces of people who inhabited the area in times past.

The policies in this element recognize that Wildomar's unique natural and cultural resources are irreplaceable and seek to minimize impacts on them from the daily activities of its human inhabitants so that they can be enjoyed by subsequent generations of residents.

5.2 Purpose

This element responds to the requirements in the California Government Code §65560 et seq. and §65302(d). It overlaps with several other elements,

most notably the Land Use Element when determining the suitability of sites for future development; the Recreation and Community Services Element when considering access to open spaces for recreation, parkland, and trails; and the Safety Element to address open space for health and safety.



Residents value Wildomar's open spaces and natural features.

Relationship to Other Planning Efforts

The policies in the Open Space and Conservation Element support the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and Stephens' Kangaroo Rat Habitat Conservation Plan (SKRHCP), which seeks to protect habitat for the Stephens' kangaroo rat, an important keystone species.

Western Riverside County Multiple Species Habitat Conservation Plan

The MSHCP focuses on conserving species and their habitats in western Riverside County. In conjunction with other habitat conservation plans in Southern California, the goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region. MSHCP-conserved lands in the City are shown on Figure 5-1.

5.3 Planning Context and Approach

Open Spaces and Natural Resources

The City of Wildomar is nestled in a valley bordered by rolling hills to the east and the Cleveland National Forest and Santa Ana and Elsinore mountains to the west. Murrieta Creek and its important riparian corridor runs north-south through the City. The surrounding natural topography and environment afford views of natural open spaces, a rich biodiversity, and miles of mountain ridgelines, which this Plan endeavors to protect as scenic resources.

As shown on Figure 5-1, 1,122 acres of wildlife conservation areas are scattered throughout the north-eastern part of the City. These conserved open spaces serve multiple functions, including the protection of natural open areas, watersheds, environmentally sensitive areas such as creeks and riparian areas, wildlife habitats, hillsides, and visual resources.

The City's distinct vegetation communities are shown on Figures 5-2a through 5-2d. A total of 36 special-status plant species and 42 special-status wildlife species have been documented to occur in the City or may be potentially affected by activities in the City. Critical habitats for the City's sensitive species are shown on Figure 5-3. Aquatic resources are shown on Figure 5-4. These features have the potential to provide corridors that encourage the movement of wildlife and provide habitat for sensitive wildlife and plant species. Because these sensitive habitats are generally limited to the natural drainages and conserved areas where development is limited, they are deserving of continued protection.



Wild poppies color the City's open spaces in spring.

Mineral Resources

The City is designated as Mineral Resources Zone 3 (MRZ-3), which indicates that significance of mineral deposits cannot be determined from the available data. A mining pit, Bundy Canyon Pit, is currently operational. Additionally, a federal lode mining claim, the Baxty Queen, conducts small-scale prospecting and mining for mineral resources, including rare earth elements (REEs) and precious gem materials. These facilities are depicted on Figure 5-5.

Air Quality

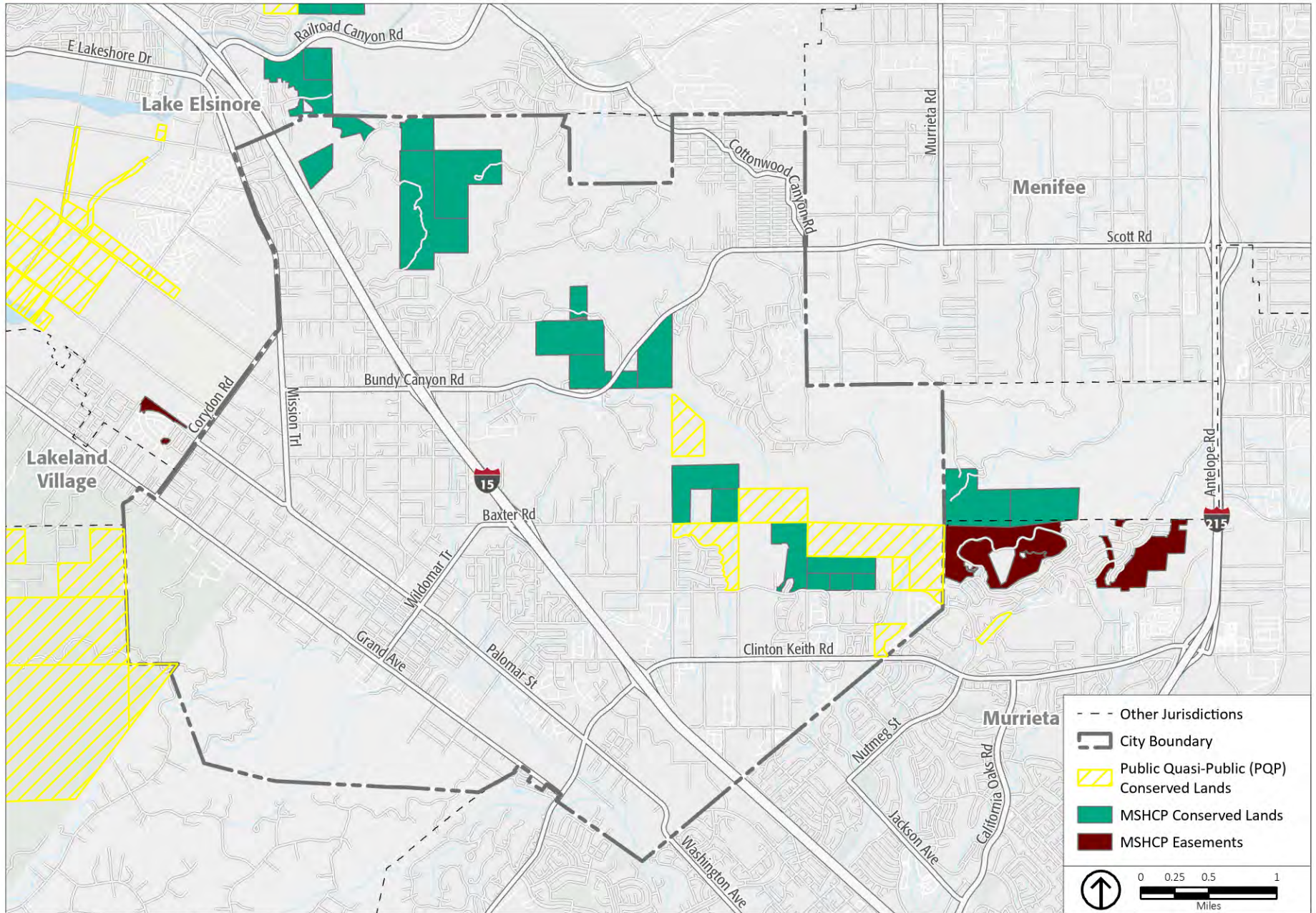
Clean air is a critical component for everyday living. Wildomar is under the jurisdiction of the South Coast Air Quality Management District (AQMD), which includes Los Angeles, Orange, Riverside, and San Bernardino Counties. South Coast AQMD is responsible for controlling emissions from stationary sources of air pollution.



Wildomar is under the jurisdiction of the South Coast Air Quality Management District (AQMD).

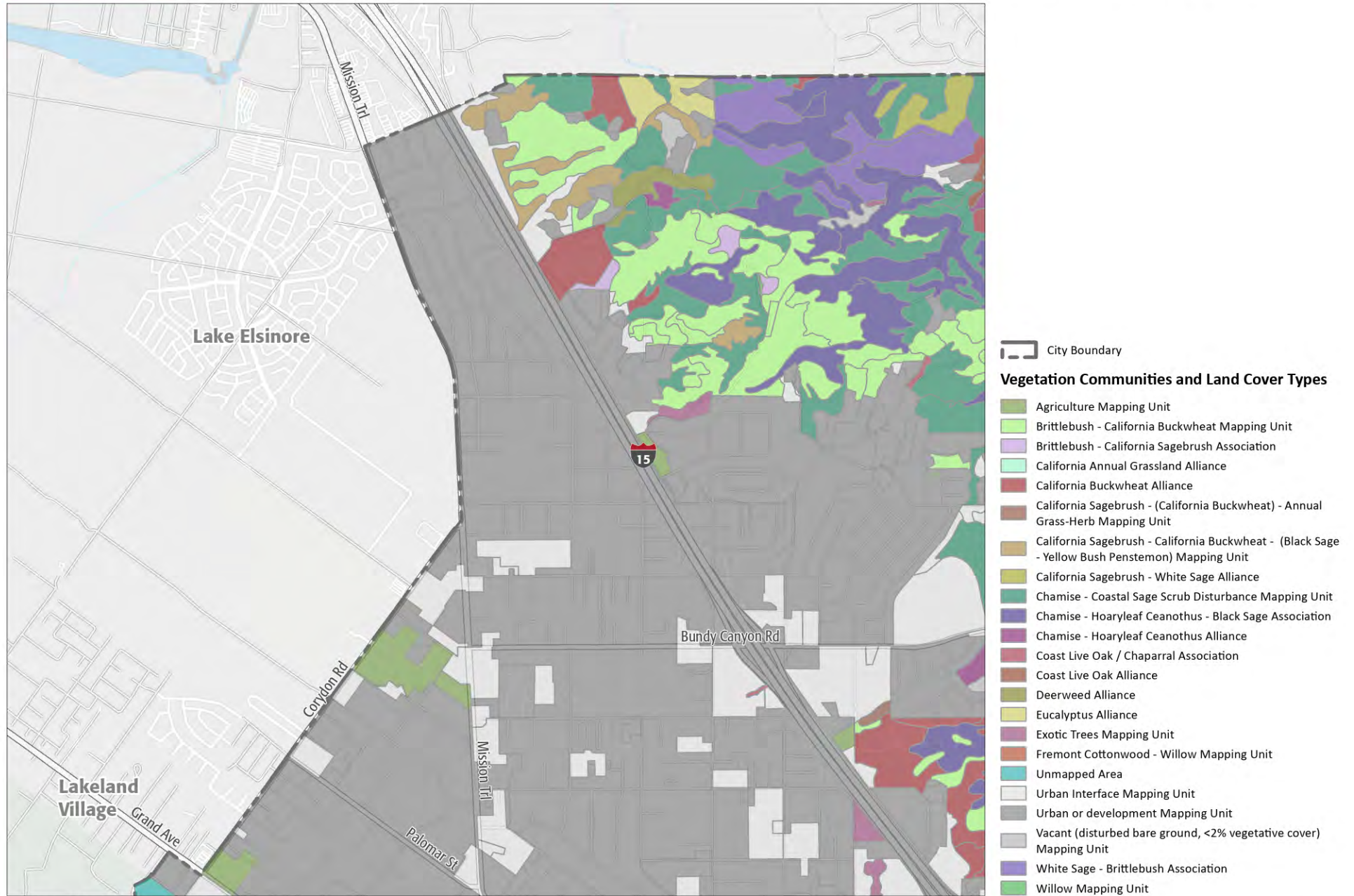
The South Coast AQMD region has among the highest levels of ozone (smog) in the nation, despite great strides in cleaning the air over the past several decades. The sources of pollution include both stationary and mobile sources.

FIG 5-1: CONSERVED LANDS



Source: ESRI, 2024; ECORP Consulting, 2024; PlaceWorks, 2024

FIG 5-2A: VEGETATION COMMUNITIES



Source: PlaceWorks, 2024

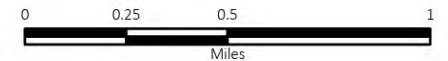
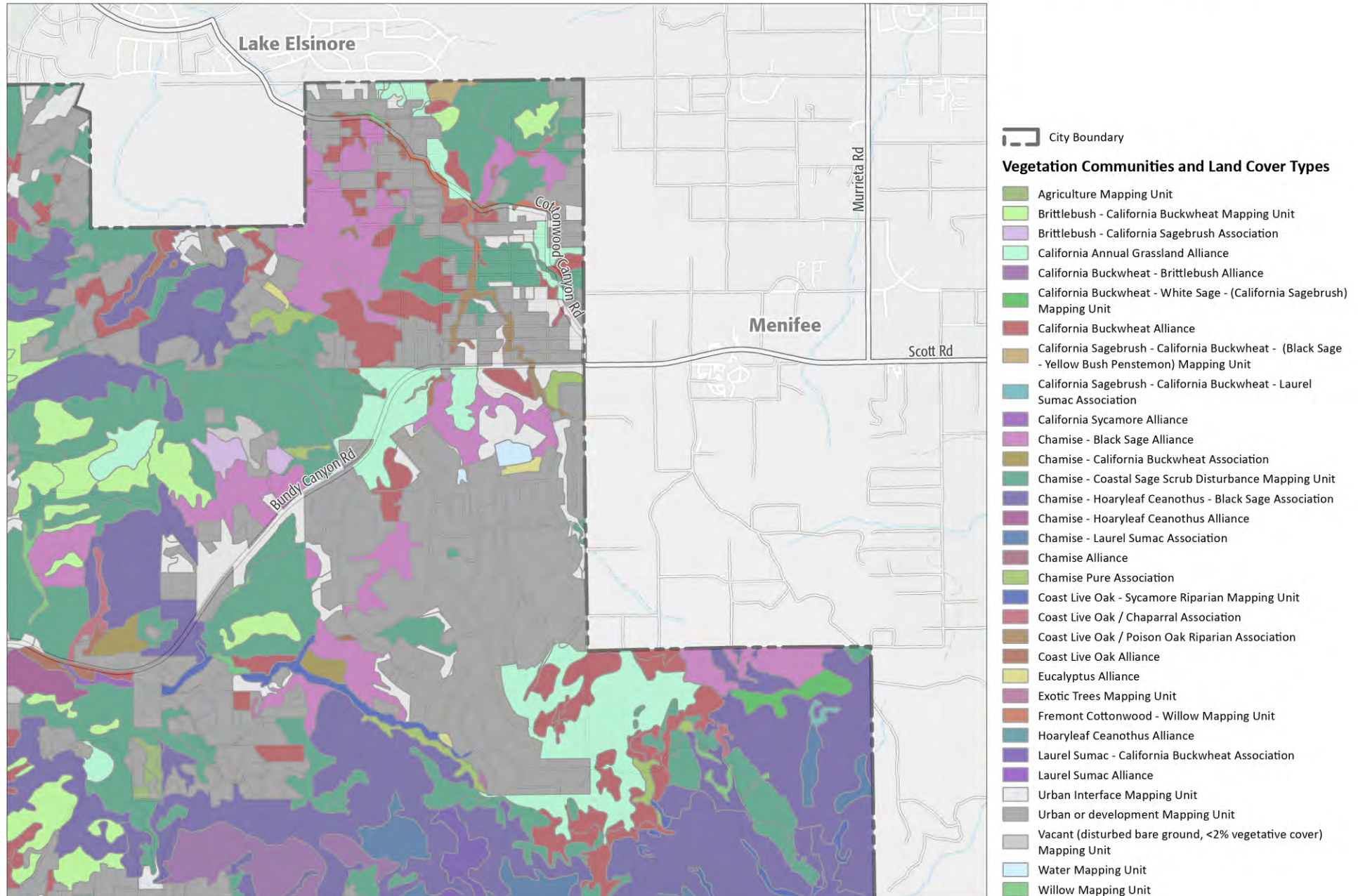


FIG 5-2B: VEGETATION COMMUNITIES



Source: PlaceWorks, 2024

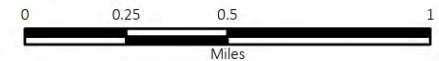
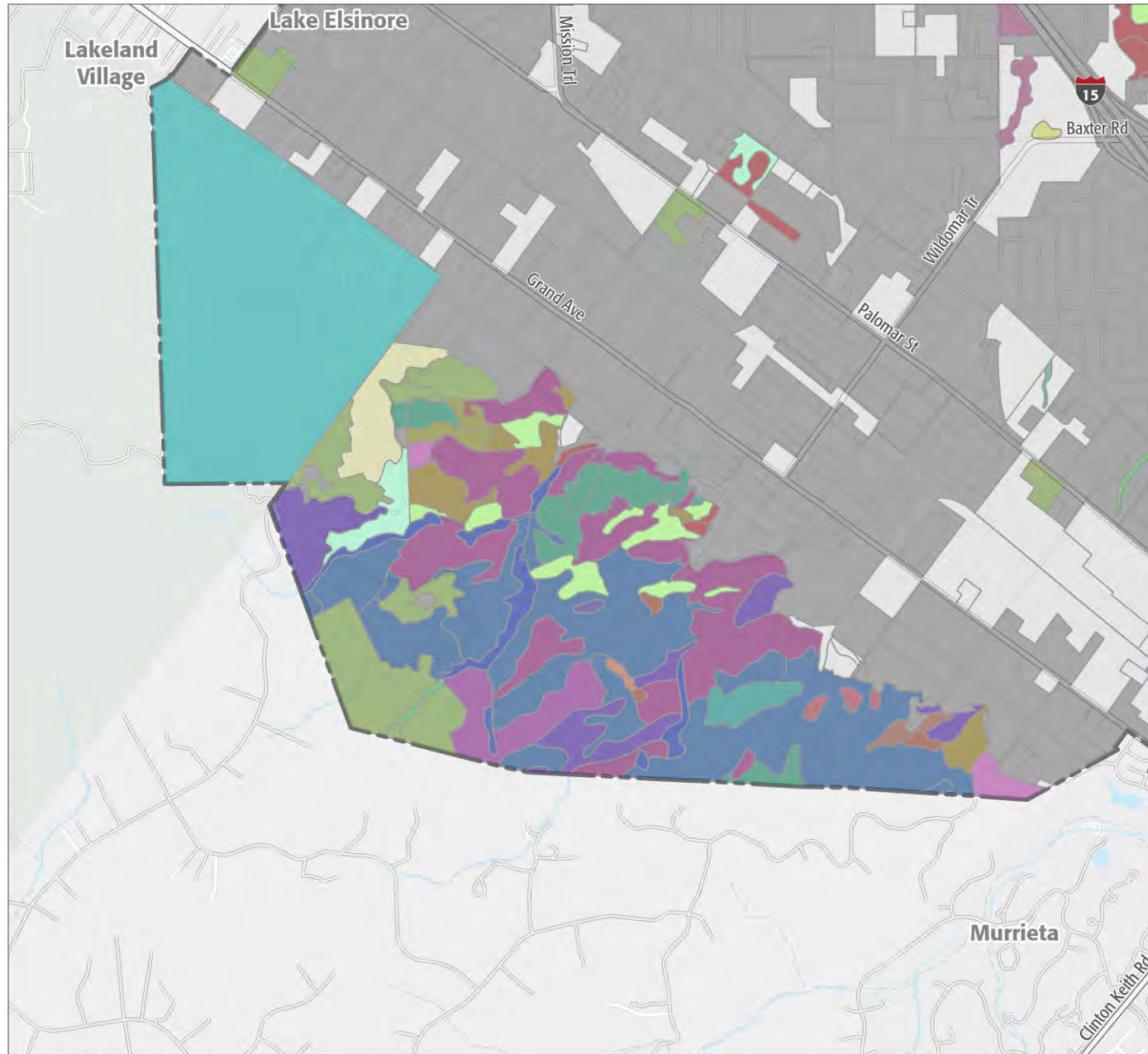


FIG 5-2C: VEGETATION COMMUNITIES



City Boundary

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- Brittlebush - California Buckwheat Mapping Unit
- California Annual Grassland Alliance
- California Buckwheat Alliance
- California Chaparral Mapping Unit
- California Sagebrush - (California Buckwheat) - Annual Grass-Herb Mapping Unit
- Chamise - Black Sage Alliance
- Chamise - California Buckwheat Association
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Hoaryleaf Ceanothus Alliance
- Chamise - Laurel Sumac Association
- Coast Live Oak - Sycamore Riparian Mapping Unit
- Coast Live Oak / Chaparral Association
- Coast Live Oak Alliance
- Deerweed Alliance
- Eucalyptus Alliance
- Exotic Trees Mapping Unit
- Hoaryleaf Ceanothus - Laurel Sumac Association
- Laurel Sumac - California Buckwheat - White Sage Association
- Laurel Sumac - California Buckwheat Association
- Red Willow Alliance
- Scrub Oak - Southern Mixed Chaparral Association
- Unmapped Area
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Willow Mapping Unit

Source: PlaceWorks, 2024

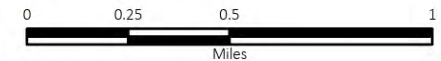
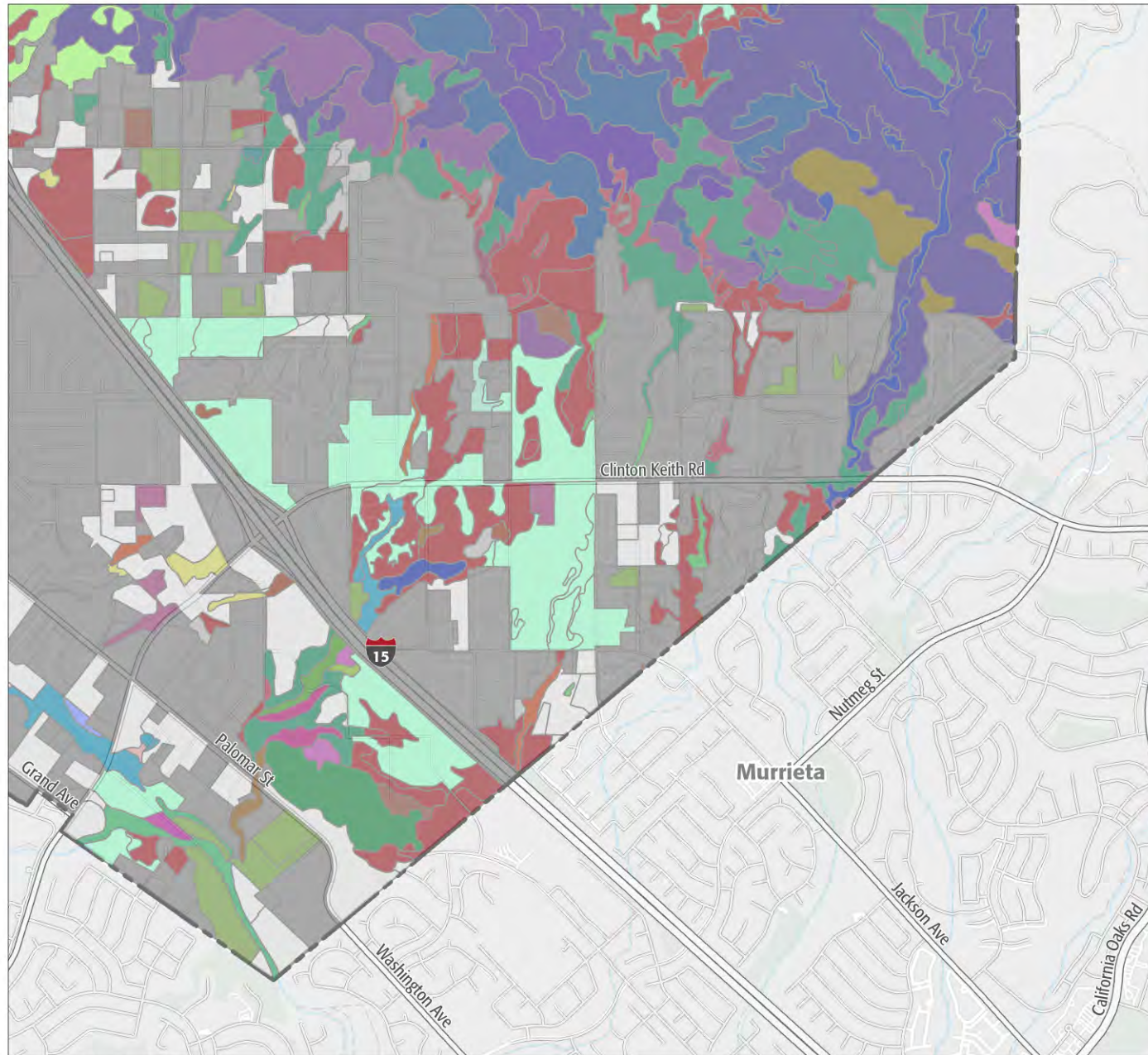


FIG 5-2D: VEGETATION COMMUNITIES



City Boundary

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- Annual Herbaceous Grasslands and Forbs Mapping Unit
- Blue Elderberry - (Mulefat) Mapping Unit
- Brittlebush - California Buckwheat Mapping Unit
- Bulrush - Cattail Mapping Unit
- California Annual Grassland Alliance
- California Buckwheat - Brittlebush Alliance
- California Buckwheat Alliance
- California Sagebrush - (California Buckwheat) - Annual Grass-Herb Mapping Unit
- California Sagebrush - California Buckwheat - White Sage Association
- Chamise - Black Sage Alliance
- Chamise - California Buckwheat Association
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Laurel Sumac Association
- Chamise Alliance
- Chamise Pure Association
- Coast Live Oak - California Sycamore - Red Willow Association
- Coast Live Oak - Sycamore Riparian Mapping Unit
- Coast Live Oak / Chaparral Association
- Coast Live Oak / Poison Oak Riparian Association
- Coast Live Oak Alliance
- Eucalyptus Alliance
- Exotic Trees Mapping Unit
- Fremont Cottonwood - Red Willow / Arroyo Willow / Mulefat Association
- Fremont Cottonwood - Willow Mapping Unit
- Fremont Cottonwood Dry Mapping Unit
- Hoaryleaf Ceanothus - Laurel Sumac Association
- Hoaryleaf Ceanothus Alliance
- Laurel Sumac - California Buckwheat Association
- Red Willow Alliance
- Scrub Oak - Chamise Alliance
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit
- Willow Mapping Unit

Source: PlaceWorks, 2024

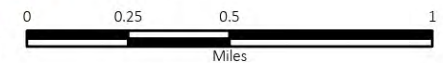
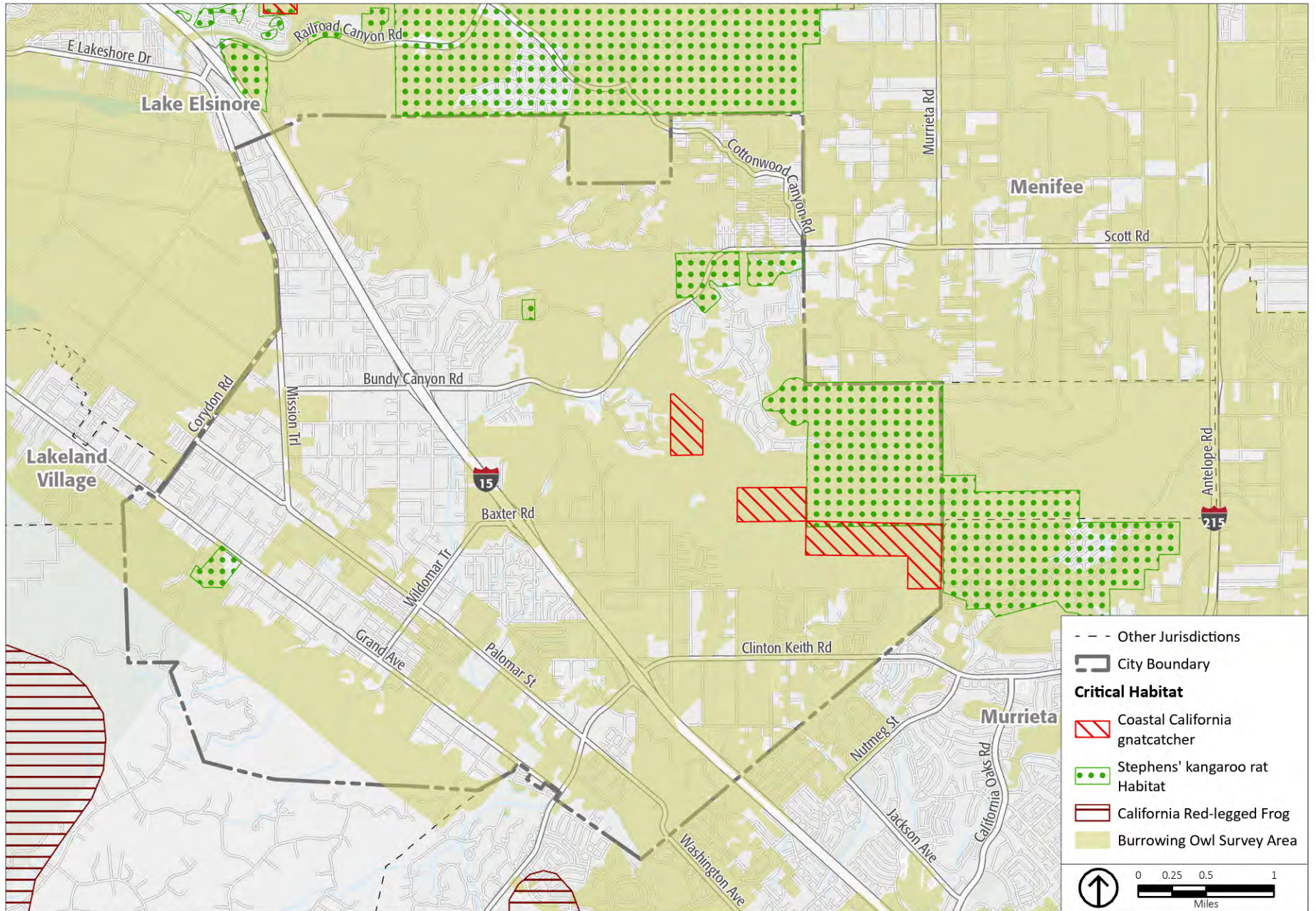
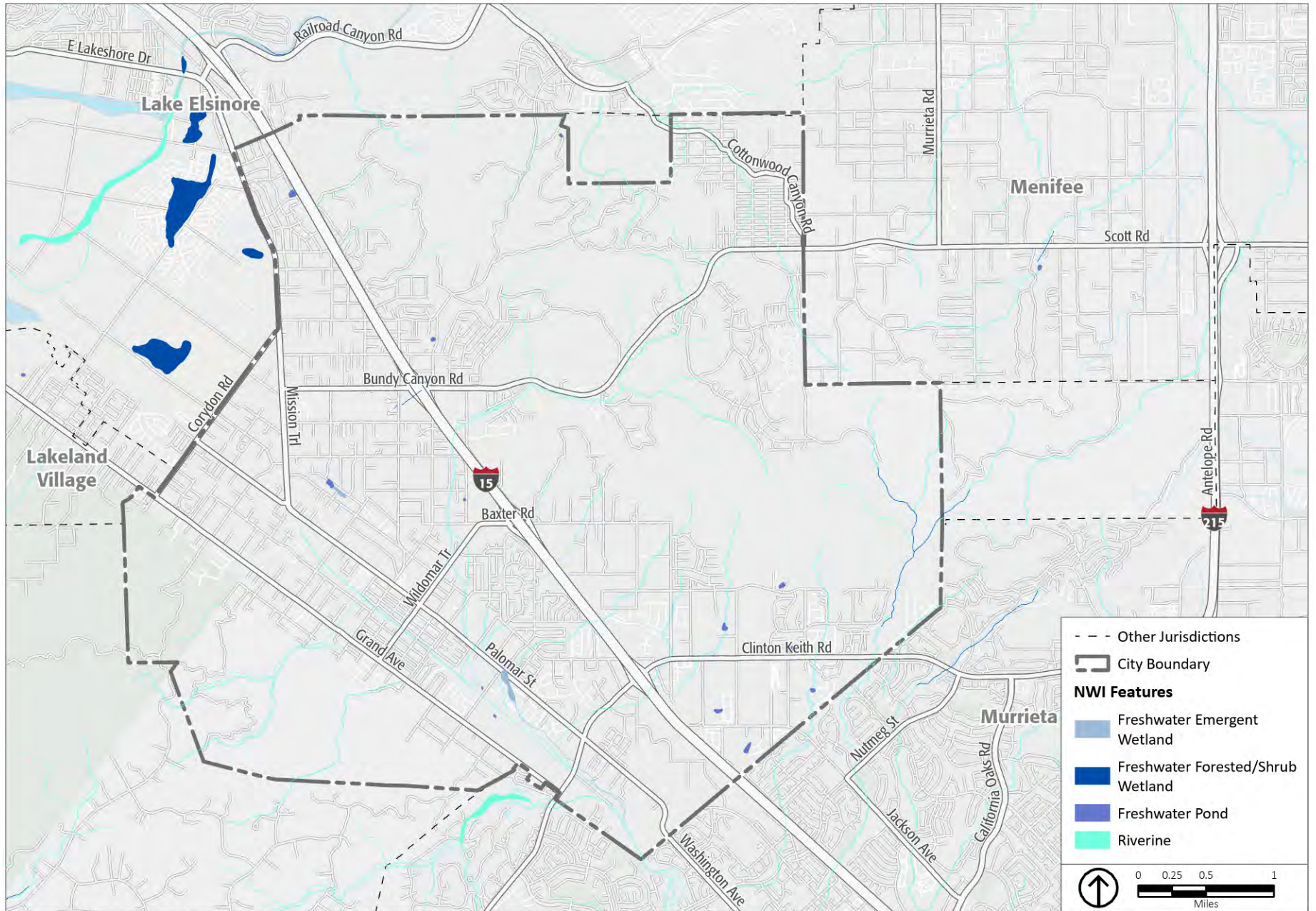


FIG 5-3: CRITICAL HABITAT



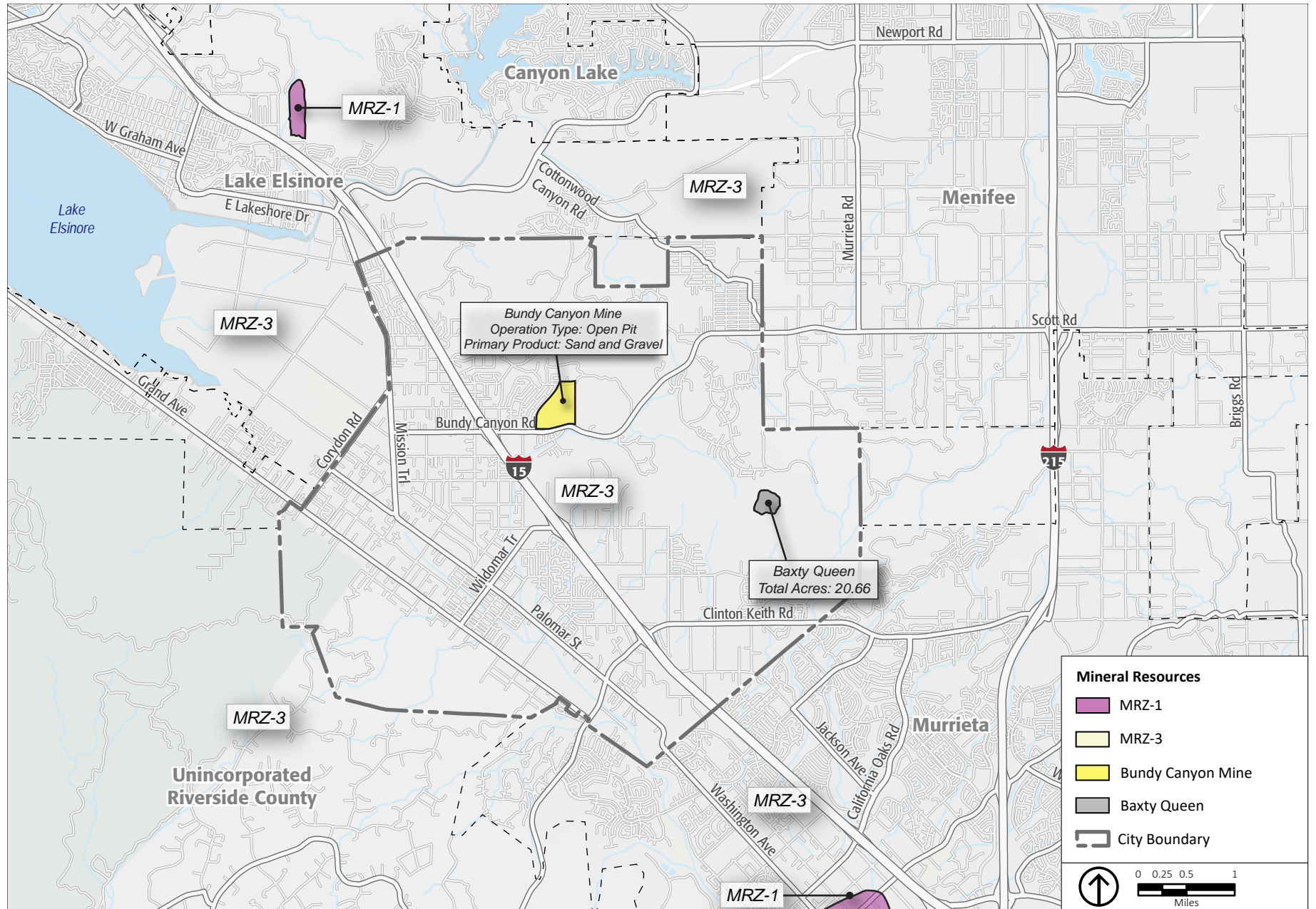
Source: ESRI, 2024; Ecorp Consulting, 2024; PlaceWorks, 2024

FIG 5-4: POTENTIAL AQUATIC FEATURES



Source: ESRI, 2024; ECORP Consulting, 2024; PlaceWorks, 2024

FIG 5-5: AREAS OF MINERAL SIGNIFICANCE



Source: ESRI, 2024; PlaceWorks, 2024

Exposure to high levels of air pollution can result in severe health impacts, such as respiratory and cardiovascular disease, asthma, and premature death. Protecting the City's air is thus a vital part of promoting community health. However, air doesn't recognize municipal boundaries. So the policies and programs in this element encourage responsible air management through collaboration with local and state air quality agencies, imposing air pollution regulations on new construction, and paving the way to use less-polluting vehicles and outdoor equipment.

Water Supply and Quality

In addition to clean air, the City needs a clean and adequate supply of water. The Elsinore Valley Municipal Water District (EVMWD) provides water services to Wildomar. EVMWD's water supply is a blend of local groundwater, surface water from Lake Elsinore and Railroad Canyon Reservoirs (Canyon Lake), and imported water.

While EVMWD provides the water, the City is responsible for ensuring that water is used responsibly. This Plan ensures both the protection of water quality in the City and continued collaboration with EVMWD to reduce water use.

Energy

Energy resources provide the power to keep our electronics running and buildings operating, help us keep cool in the summer heat, and power our critical and emergency services. Most of the energy used in Wildomar's buildings is in the form of electricity, provided by Southern California Edison (SCE), and natural gas, supplied by Southern California Gas Company (SoCalGas).

Wildomar promotes energy efficiency and conservation through participation in the Western Riverside Energy Partnership, a Western Riverside Council of Governments (WRCOG) initiative that brings SCE and SoCalGas together with local jurisdictions to achieve energy savings, reduce energy bills, and improve building comfort.

The General Plan's energy policies and implementation programs support the development of affordable, reliable, and independent local power. Policies to promote energy conservation will help lower bills for energy customers, ensure that buildings remain comfortable during all weather conditions, and manage the transition to move diverse power sources.

Solid Waste

Proper solid waste treatment and disposal contribute to safer and healthier environments for people to live in. In Wildomar, CR&R Services collects and disposes of solid waste generated by households and businesses. CR&R provides trash collection, recycling, and organics processing services and employs anaerobic digestion techniques to produce natural gas from organic waste.

The solid-waste-related policies and implementation programs in this element aim to help reduce the amount of waste that Wildomar sends to landfills. This includes efforts to divert organic materials and other recyclables into composting or other recycling programs as well as overall waste reduction efforts.

Greenhouse Gas Emissions

The buildup of greenhouse gases (GHG) in the atmosphere is a factor in climate change. Climate change is responsible for an increase in severe storms and weather that can make some natural hazards, such as floods, droughts, and wildfires, occur more frequently and with greater intensity. Activities that produce GHGs include the use of gas-powered vehicles such as cars and trucks, electricity and natural gas use in local buildings, and the decomposition of materials in landfills. California is working toward a goal of carbon neutrality by 2045, and Wildomar has a role to play in meeting those targets by reducing GHG emissions.

As with other communities across California, Wildomar has a responsibility to reduce GHG emissions and improve climate resiliency. Policies and implementation programs in this element will help guide the reduction of GHG emissions and provide a path

5. Open Space and Conservation Element

to increased resiliency to climate hazards like drier summers, more intense flooding, and more frequent wildfires. Policies in other elements, such as Safety, work in concert to reduce vulnerability to climate hazards. Through these policies and implementation programs, along with the efforts in the Subregional Climate Action Plan, Wildomar can significantly reduce its GHG emissions and support progress toward California’s adopted GHG reduction targets.

Cultural and Historical Resources

Wildomar is part of the ancestral lands of the Pechanga and Soboba Tribes, both federally recognized tribes. For more than 10,000 years, the Pechanga People have called the Temecula Valley, which includes Wildomar, their home. The Soboba tribe has lived within the present-day San Jacinto Valley and surrounding areas for centuries.

The Built Environment Resources Database lists 14 properties in the City whose dates of occupancy or construction are between the years 1885 and 1940, and which range in type from single-family homes to health resorts, as shown in Table 5-1. Although none are currently listed on the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP), four resources have been evaluated as potentially eligible for listing, with a status code of 3S.

Table 5-1: Previously Evaluated Built Environment Resources in the City

Address	Name	Date of Construction	CRHR/ NRHP Code
25025 Catt Road	--	1940	5S2
2525 Catt Road	Schwartz	1934	5S2
32785 Central Street	Judge William Collier Home, Lois Cook House		
21343 Dunn Street	Ben Taylor House	1934	3S
35880 Frederick Street	Heal Ranch, Robinson	1922	5S2
20619 Grand Avenue	--	1935	7N
21999 Grand Avenue	R.J. Brown	1886	3S
22060 Grand Avenue	Easterbrook	1886	3S
22180 Grand Avenue	--	1899	5S2
34860 Iodine Springs Road	Iodine Springs	1925	5S2
21680 Lime Street	--	1945	6Y

Table 5-1: Previously Evaluated Built Environment Resources in the City

Address	Name	Date of Construction	CRHR/NRHP Code
Palomar Street	Wildomar Bell	1887	5S2
21564 Palomar Street	--	1910	7N
21457 Pecan Street	Dr. O.S. Brown	1888	3S

Source: Cultural Resources Assessment for City of Wildomar General Plan Update, Riverside County, California, ECORP Consulting, Inc., October 27, 2023

Notes: CRHR = California Register of Historical Places, NRHP = National Register of Historic Places

3S: Appears eligible for NRHP individually through survey evaluation.

5S2: Individually eligible for local listing or designation.

6Y: Determined ineligible for NRHP by consensus through Section 106 process – Not evaluated for CR local listing.

7N: Needs to be reevaluated – formerly coded as may become NRHP eligible with specific conditions.

Wildomar’s unique cultural and historical resources, both known and undiscovered, tell the story of the City and the people that have occupied the land for thousands of years. The City will continue to consult with local tribes and other stakeholders to identify and protect these irreplaceable treasures.

5.4 Goals and Policies

GOAL OS 1

Biological resources are protected from development, conserved, restored, and enhanced.

Policy OS 1.1

Habitat Conservation. Require and enforce provisions of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and Stephens’ Kangaroo Rat Habitat Conservation Plan to protect environmentally sensitive lands, habitats, and vulnerable species.

Policy OS 1.2

Wetland and Riparian Area Protection. To the maximum extent possible, development shall avoid and conserve remaining habitats in wetlands and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these areas.

Policy OS 1.3

Biological Reports. Require biological reports that comply with the MSHCP for new development projects, transportation projects, and other planning efforts in the City.

Policy OS 1.4

Rewilding and Habitat Restoration. Pursue opportunities for rewilding and restoring critical habitats for sensitive species that include, but are not limited to the following: preserving, enhancing, restoring, and expanding an integrated network of open space to support beneficial uses, such as habitat, recreation, natural resources, historic and tribal resources, water management, and aesthetics.

Policy OS 1.5

Wildlife Corridors. Protect existing wildlife corridors by reducing habitat fragmentation from new developments. Work with the Riverside Conservation Agency (RCA) to pursue land purchase opportunities to preserve available lands.

5. Open Space and Conservation Element

Policy OS 1.6

Natural Vegetation Conservation. Maintain and conserve mature and historic examples of native trees, natural vegetation, stands of established trees, and other features for ecosystem, aesthetic, and water conservation purposes.

Policy OS 1.7

Project Siting. Require that new development projects respect, integrate with, and complement the natural features of the land, including conforming building massing to topographic forms, restricting grading of steep slopes, and encouraging the preservation of visual horizon lines and significant hillsides as prominent visual features.

Policy OS 1.8

Protect Ridgelines. Protect ridgelines from incompatible development that diminishes their scenic value, and ensure their conservation, preservation, and management.

Policy OS 1.9

Contour Grading. Utilize contour grading and slope rounding to gradually transition graded road slopes into a natural configuration consistent with the topography of the areas.

GOAL OS 2

Air quality is protected from adverse environmental factors that contribute to poor air quality.

Policy OS 2.1

Air Quality Coordination. Collaborate with the South Coast Air Quality Management District (South Coast AQMD), Southern California Association of Governments (SCAG), and the California Air Resources Board (CARB) in the preparation and application of regional air quality management plans, programs, enforcement measures, and mitigation measures designed to reduce and/or minimize the amount of primary and secondary air pollutants.

Policy OS 2.2

New Construction. Require compliance with South Coast AQMD regulations and support appropriate future measures to reduce fugitive dust emanating from new project construction sites.

Policy OS 2.3

Compatible Development Siting. Require that siting for new developments is compatible with the existing land uses and ensure that land uses for sensitive receptors such as daycares, schools, hospitals, and elderly housing are separated and protected from polluting point sources using pollution control measures such as distance, barriers, and landscaping.

Policy OS 2.4

Landscaping and Construction Equipment. Encourage the reduction of gasoline- or diesel-powered landscaping and construction equipment and increased use of electric equipment.

Policy OS 2.5

Vehicle Charging Infrastructure. Work with utility providers to expand EV charging infrastructure throughout the community to accelerate the use of zero emission vehicles, prioritizing multifamily, commercial, office, and municipal properties.

Policy OS 2.6

City Vehicles. Purchase City vehicles consistent with the state's Advanced Clean Fleet regulations, as feasible.

GOAL OS 3

Reliable and safe water supply that supports Wildomar's current and future needs.

Policy OS 3.1

Collaboration with EVMWD. Collaborate with the Elsinore Valley Municipal Water District (EVMWD) to conserve and protect water quality and supply and continue to provide assistance for urban water management plans.

Policy OS 3.2

Water Quality Protection. Require that new developments do not degrade natural water bodies such as streams and rivers, and protect groundwater resources.

Policy OS 3.3

Water Conservation Strategies. Encourage water-conserving site design and the use of water-conserving fixtures in new development, and advocate for the adoption and implementation of water conservation strategies by water service agencies.

Policy OS 3.4

Water Conservation in Existing Development. Encourage existing development to use water-conserving mechanisms such as stormwater capture systems, graywater systems, water-efficient appliances, and drought-tolerant landscape planting.

Policy OS 3.5

Recycled Water. Continue to coordinate with and support EVMWD on opportunities to expand the recycled water system in the City.



City of Wildomar's Historic Bell at Wildomar Elementary School.

GOAL OS 4

Cultural and historical resources that are protected, enhanced, and restored for the education, appreciation, and enjoyment of future generations.

Policy OS 4.1

Adaptive Reuse. Repurpose buildings or structures of historical significance to preserve, maintain, and enhance them for future use where appropriate and feasible.

Policy OS 4.2

Tribal Consultation. Consult Native American tribes as part of the SB 18 and AB 52 regulations on projects that could potentially have an impact on archeological sites and other culturally significant properties. Ensure that any inadvertent discoveries of Native American cultural resources are treated with appropriate dignity.

Policy OS 4.3

Paleontological and Archeological Resources. Require new development to avoid paleontological and archeological resources if possible and to minimize impacts to them in accordance with the requirements of CEQA.

Policy OS 4.4

Historic and Cultural Resources Inventory. Maintain and periodically update an inventory of recognized historic and cultural resources of local, regional, or national significance and those that might be eligible for recognition, in consultation with interested parties such as the Wildomar Historical Society.

GOAL OS 5

A high-quality network of open spaces that support preservation of natural resources.

Policy OS 5.1

Open Space Access. Require new developments to provide access to open spaces.

Policy OS 5.2

Murrieta Creek. Enhance Murrieta Creek as a critical riparian area within the City.

GOAL OS 6

Energy is used efficiently and sourced from resilient, low carbon, and renewable energy supplies.

Policy OS 6.1

Energy Conservation. Encourage energy audits and energy-efficient retrofitting of existing buildings throughout the City.

Policy OS 6.2

Energy Transition. Work with local energy providers and contractors to support residents and business owners transitioning to all-electric appliances and renewable energy.

Policy OS 6.3

Grid Reliability. Support and encourage efforts by local energy service providers and other public agencies to improve the safety and resilience of the local power grid.

Policy OS 6.4

Energy Independence. Increase the installation of on-site renewable energy systems in new and existing developments with the capacity to support these systems, enforcing the renewable energy requirements of the California Building Standards Code and encouraging buildings not covered by State requirements to install renewable energy systems.

Policy OS 6.5

Energy Storage. Encourage new and existing buildings to include battery storage systems, especially buildings with solar energy installations and municipal buildings that provide essential community services.

Policy OS 6.6

Municipal Energy Transition. Transition municipal operations to renewable energy sources and electric building operations as feasible.

Policy OS 6.7

Tree Canopy. Maintain and expand the tree canopy in residential and commercial neighborhoods to provide shade, improve air and water quality, reduce the heat island effect, and create habitat for birds and pollinators.

Policy OS 6.8

Urban Cooling. Promote the construction of cool roofs, green roofs, and rooftop gardens, as feasible, to support decreased energy demand and urban cooling. Rooftop gardens also cool the surrounding area through moisture retention and surface reflectivity. The construction of rooftop gardens would reduce energy consumption and associated GHG emissions in the building energy sector.

Policy OS 6.9

Cooling Elements. Encourage site and building design that avoids unwanted heat gain from solar exposure and considers passive solar and wind design. Features that provide shading at suitable times of the day and year generally should be “passive” or automatic, avoiding the need for occupants to regularly monitor or adjust them. Examples of passive and active solar and wind design include orienting buildings to maximize exposure to cooling effects of prevailing winds, daylighting design, natural ventilation, space planning, thermal massing, and locating landscaping and landscape structures to shade buildings.

Policy OS 6.10

Financing. Partner with SCE, the Inland Regional Energy Network, and local solar installers to assist low-income homeowners and small business owners with identifying financing options for installation of rooftop solar energy systems, energy efficiency retrofits, energy storage, and electrification of existing buildings.

GOAL OS 7

Waste generation is decreased through recycling and waste diversion programs.

Policy OS 7.1

Recycling Programs. Support residential, commercial, industrial, and construction/demolition recycling programs to minimize the solid waste stream to landfills.

Policy OS 7.2

Electronic Waste Recycling. Coordinate with businesses that recycle electronic waste (e.g., batteries, fluorescent lamps, compact-fluorescent (CFL) bulbs) and the California Product Stewardship Council, CalRecycle, and other pertinent agencies to increase rates of electronic waste recycling.

GOAL 8

Greenhouse gas emissions are reduced significantly across all sources in the community.

Policy OS 8.1

Climate Action Plan. Work collaboratively with regional agencies, neighboring cities, community-based organizations, businesses, and other partners,

as appropriate, to develop and implement a climate action plan or equivalent approach to identify current and future sources and quantify local GHG emissions and strategies to reduce Wildomar's GHG emissions to levels consistent with statewide GHG reduction and elimination goals, including those of Assembly Bill 1279, Executive Order B-55-18, Senate Bill 32, and Executive Order S-03-05.

Policy OS 8.2

Regional Climate Action. Work with regional and subregional agencies to promote collaboration and partnership on climate action issues and to integrate regional tools and resources into Wildomar's climate action planning efforts.



6. Recreation and Community Services





6. Recreation and Community Services Element

6.1 Vision

Parks, trails, recreation facilities and programs, and community services nurture the social, physical, and mental well-being of Wildomar’s residents. The Recreation and Community Services Element supports a vision of an expanded network of parks and trails, enhanced recreation activities, and robust community services that continue to support the healthy lifestyles of Wildomar’s current and future generations.

This Element supports a vision of an expanded network of parks and trails, enhanced recreation activities, and robust community services that continue to support the healthy lifestyles of Wildomar’s current and future generations.

The City will provide a network of parks and recreational facilities that contribute to individual health by supporting physical activity and access to the mentally restorative powers of nature. Public facilities and community services such as libraries, schools, and arts and cultural programs will enrich the mind and connect neighbors with each other. Wildomar will work with its partners to provide a backbone of public safety and medical services that maintain a high quality of life for the City’s residents.

6.2 Purpose

This element addresses California Government Code requirements (§ 65560 et. seq.) to assess open space for outdoor recreation and works in concert with the Land Use Element and Open Space and Conservation Element. Other topics addressed in the element are not required by government code but represent the City’s commitment to maintaining and improving recreational and community facilities and programs to support the social, physical, and mental well-being of its residents.

Relationship to Other Planning Efforts

This element is intended to set the overall policy framework for the growth and development of recreational and community services in Wildomar. However, it builds upon several other important planning and policy documents.

Wildomar Parks Master Plan

The City prepared the Wildomar Parks Master Plan (WPMP) in 2015. The plan offers a vision and specific actions that the City can undertake to acquire land and build a parkland system that meets residents’ recreational needs.

Wildomar Active Transportation Plan

The Active Transportation Plan (Wildomar ATP) contains strategies and recommendations for multi-use trails, including equestrian access, as well as bicycle and pedestrian networks for both recreation and mobility purposes.

Murrieta Creek Regional Trail Project

Wildomar is a partner in the regionwide Murrieta Creek Regional Trail Project. The project envisions a multi-use, non-motorized trail system along the creek that connects the cities of Temecula, Murrieta, Wildomar, and Lake Elsinore, and echoing the route of the historic Butterfield Overland Trail.

6.3 Planning Context and Approach

Parks and Recreation

The City’s current parkland system and recreational open spaces consist of four public parks, recreation facilities at the parks and on joint-use land, and trails that serve as recreational and transportation routes. The four parks in the city are Marna O’Brien Park, Regency-Heritage Park, Windsong Park, and Malaga Park, and they cover more than 15 acres of parkland.



Play structure at Marna O’Brien Park.

The City has three new parks in the planning stages. A 27-acre park is planned adjacent to Ronald Reagan Elementary School, and an 11-acre park is planned along Grand Avenue, adjacent to David A. Brown Middle School. Both parks are planned for a mix of active and passive elements. A 20-acre park is planned on the eastside of Palomar Street, generally south of Pasadena Street adjacent to Gierson Avenue. The park has been proposed as a passive nature park with trails and supporting amenities.

Existing and proposed parkland facilities are shown on Figure 6-1.

The City has several facilities for organized sports play or other recreational activities. Marna O’Brien Park has three (3) baseball fields with spectator and player benches, two (2) full basketball courts, two large multi-use soccer fields, and sports field lighting;

while Regency Heritage Park has two (2) basketball half courts and a dog park. Both parks have a tot-lot.

There are also recreational facilities owned by other entities that help to meet the community’s recreational needs. These include the ball fields at the Wildomar Cemetery and recreational amenities at public school grounds that may be made available to the public after school hours on weekdays and on the weekend.

The goals and policies in this Element supplement the Wildomar Parks Master Plan (WPMP) by providing an overall vision for the provision of parks and recreational facilities in the City and addressing topics not included in the WPMP. New parks will be designed to be safe, sustainable, and inclusive to accommodate residents of all ages, backgrounds, and abilities. While expanding access to such facilities, the City will strive to serve neighborhoods with the highest unmet needs. This expansion will be abetted by creative approaches to joint use opportunities and funding sources.

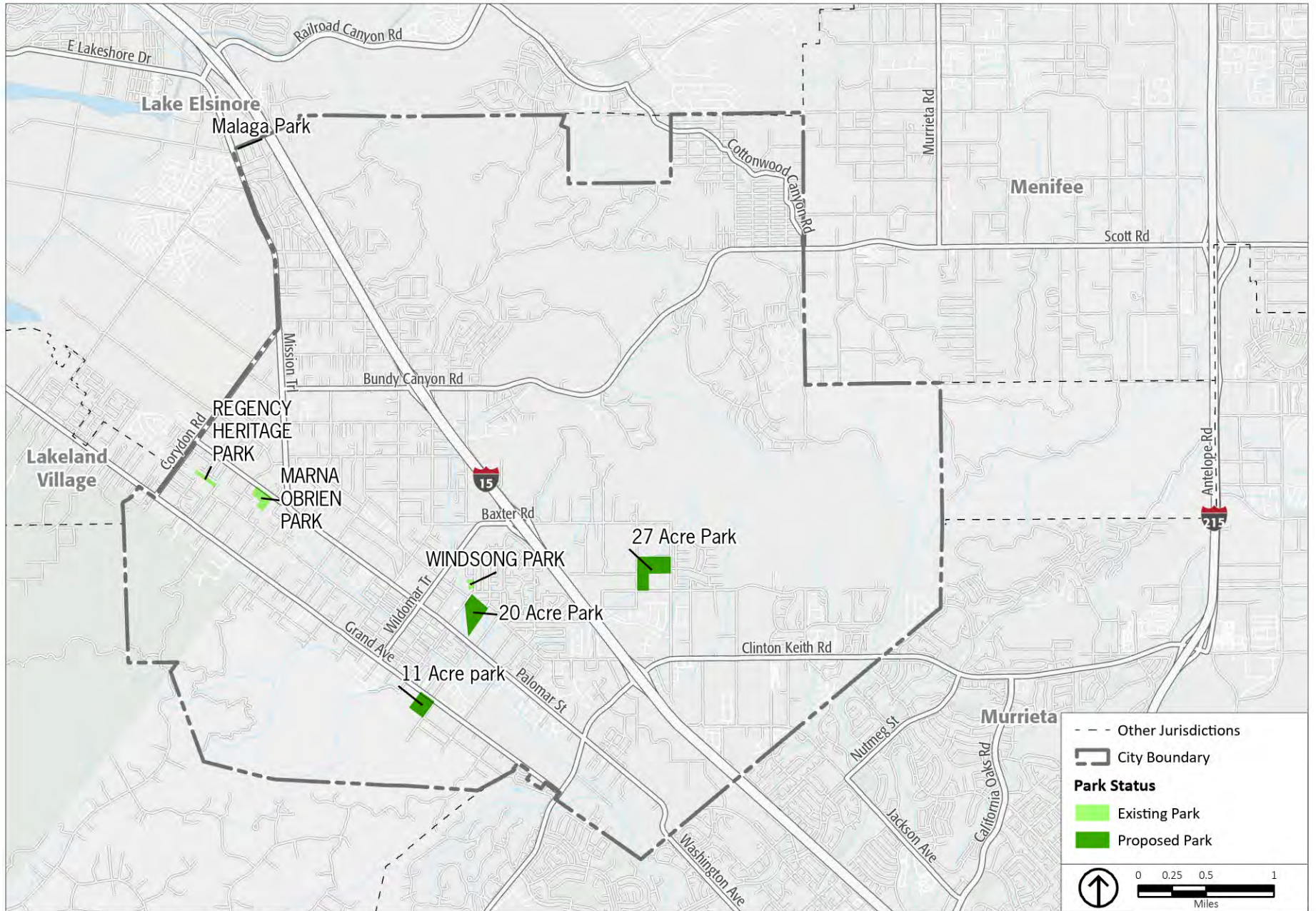
Trails

Wildomar has a network of multi-use and equestrian trails that serve as both recreational facilities and transportation routes for pedestrians, hikers, and cyclists. The trails connect to different parts of Wildomar and regional trail networks. Existing and proposed trails are shown on Figure 6-2.



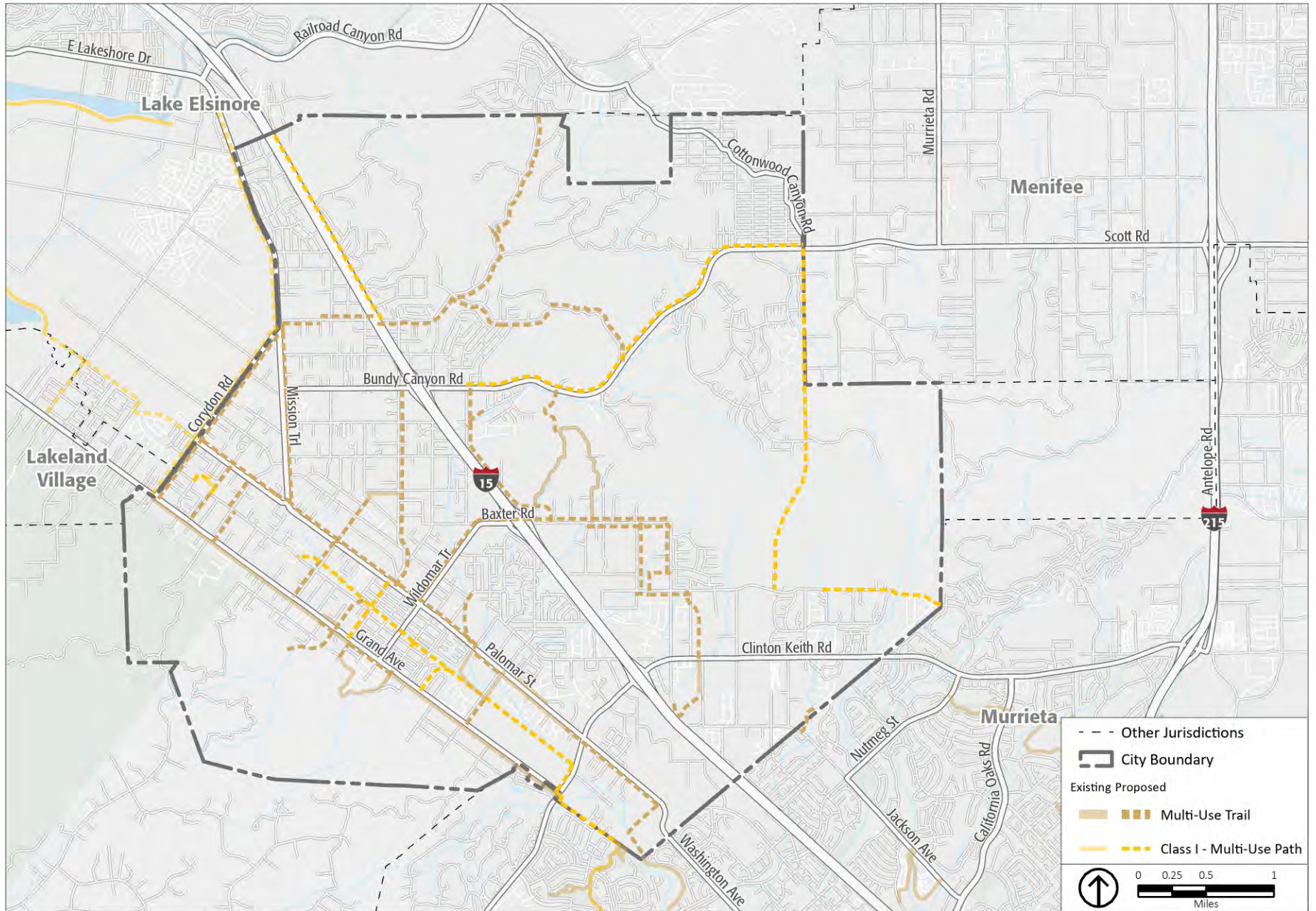
Multi-use trail along Grand Avenue.

FIG 6-1: PLANNED PARKS NETWORK



Source: ESRI, 2024; Chen Ryan Associates, 2023; PlaceWorks, 2024

FIG 6-2: PLANNED MULTI-USE TRAILS



Source: ESRI, 2024; Chen Ryan Associates, 2023; PlaceWorks, 2024

6. Recreation and Community Services Element

Murrieta Creek is a regional creek that runs through the cities of Temecula, Murrieta, Wildomar, and Lake Elsinore. The Murrieta Creek Regional Trail Project is an ongoing citywide priority and multi-agency collaboration to create a multi-use, non-motorized trail system along Murrieta Creek.

The General Plan recognizes that Wildomar's multi-use trails are highly valued by residents. In addition to implementing prior plans for adding to this network, a future Trails Master Plan will provide more detailed guidance on trail design, signage, and wayfinding.

Community Services

The City of Wildomar has a range of community services, from schools to police, fire, and emergency services, the locations of which are shown on Figure 6-3. The City partners with various departments in Riverside County to provide these services. To support the social, physical, and mental well-being of residents, the General Plan provides for facilities, programs and services that nurture the arts and culture, healthy diets, lifelong learning, and public safety.

School Services

The Lake Elsinore Unified School District operates the following seven schools in the City:

- Valley Adult School:
21440 Lemon Street
- Ronald Reagan Elementary School:
35445 Porras Road
- Donald Graham Elementary School:
35450 Frederick Street
- Wildomar Elementary School:
21575 Palomar Road
- William Collier Elementary School:
20150 Mayhall Drive
- David A. Brown Middle School:
21861 Grand Avenue
- Elsinore High School:
21800 Canyon Drive

Library Services

There is one library within the City limits. The Wildomar Library at 34303 Mission Trail is a part of the Riverside County Library System. It offers traditional services plus public computers and copying.

Fire Protection Services

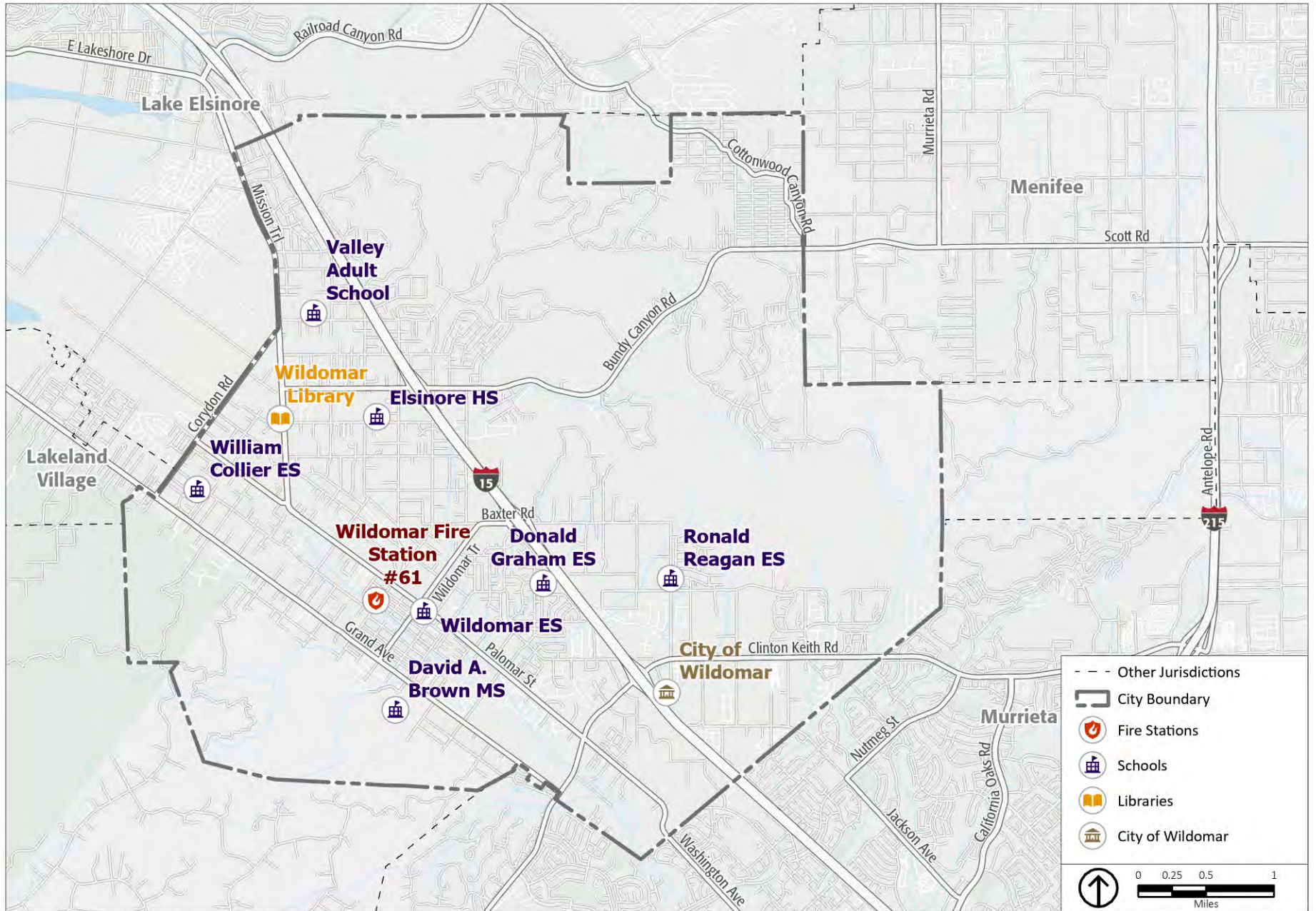
CAL FIRE/Riverside County provides fire protection services for residents and businesses in the City. Wildomar Fire Station 61 is at 32637 Gruwell Street.



Wildomar Fire Station.

Police Protection Services

Law enforcement services are provided by the Riverside County Sheriff's Department with local policing directed from the Lake Elsinore Sheriff's station located at 333 Limited Avenue, Lake Elsinore.



Source: City of Wildomar, 2023; PlaceWorks, 2024

6.4 Goals and Policies

GOAL RC 1

A system of parklands and recreational open spaces that meet the needs of Wildomar’s current and future residents.

Policy RC 1.1

Parks Master Plan. Implement the Parks Master Plan to achieve the City’s vision for parks facilities.

Policy RC 1.2

Service Level Goal. Provide and maintain three (3) acres of neighborhood and community parks per 1,000 residents.

Policy RC 1.3

Park Demand and Evaluation. Evaluate the community’s parks and recreational needs and the adequacy of the City’s recreational facilities and programs in meeting these needs.

Policy RC 1.4

Park Equity. Seek opportunities to develop parks in neighborhoods with the highest unmet need.

Policy RC 1.5

Developer Fee Contribution. Require developers to contribute fees as part of the development review process to fund parkland acquisition and improvements.

Policy RC 1.6

Joint Use Agreements. Collaborate with agencies and organizations such as Elsinore Valley Municipal Water District (EVMWD) and enact joint use agreements for open spaces such as flood control channels and water recharge basins that could be used jointly for recreational purposes.

Policy RC 1.7

Land Acquisition. Pursue the acquisition of public and private land, to provide adequate parkland as envisioned in the Parks Master Plan.

Policy RC 1.8

Community Facilities District. Require new developments to be annexed into the Community Facilities District to support maintenance of open space, parkland, and trails.



Decorative landmark at Marna O'Brien Park.

GOAL RC 2

Parkland and recreational facilities that are safe, inclusive, and sustainable.

Policy RC 2.1

Siting and Design. Design new parkland and recreational facilities that are compatible with the surrounding built and natural environments; utilize sustainable best practices; and when feasible, incorporate features that reflect Wildomar’s unique attributes.

Policy RC 2.2

Safety Through Design. Require new parkland and recreational facilities to be designed for safety using best practices, including providing shade structures, appropriately trimmed landscaping, sufficient lighting for nighttime activities, sufficient and accessible access points, and placing community-gathering features and amenities along main routes with high pedestrian traffic.

Policy RC 2.3

Design For Inclusiveness. Design new parkland and recreational facilities and, when feasible, retrofit existing facilities to be more inclusive for users of all ages and abilities. Examples of such design features include meeting and exceeding Americans with Disabilities Act (ADA) accessibility requirements and offering play equipment to accommodate people with all abilities.

GOAL RC 3

A network of well-designed trails that provide recreational opportunities and connect residents to the places that they desire to go.

Policy RC 3.1

Trails Master Plan. Implement a Trails Master Plan that builds on the Trail Design Guidance in the Wildomar Active Transportation Plan (Figure 7-1) and includes an adopted Trails Map and specific trail design guidance appropriate for the surrounding built and/or natural environment.

Policy RC 3.2

Murrieta Creek Trail. Seek funding to design and build the Murrieta Creek Trail as a recreational amenity with appropriate access and safety considerations.

Policy RC 3.3

Equestrian Trails. Ensure that the Trails Master Plan provides some trails that support equestrian usage.

Policy RC 3.4

Trail Signage And Wayfinding. Require new trails to have clearly labeled signage at trailheads and informational wayfinding signage along the trails. When feasible, have wayfinding signage that shows the proximity to nearby trails.

RC 3.5

Trail Connectivity. Prioritize new trails that offer connectivity to open spaces, other trails or active transportation facilities, and local and regional destinations.



Wildomar Elementary School.

GOAL RC 4

Community services and recreational programs that support a high quality-of-life and healthy lifestyles.

Policy RC 4.1

Diversity of Community Services. Provide a variety of community services and recreational programs to enhance the quality of life for the City's diverse populations.

Policy RC 4.2

Inclusive Recreation. Provide community services and recreational programming that support individuals with different physical, mental, developmental, and age-related needs.

RC 4.3

Arts and Culture. Explore opportunities to expand the presence of arts and culture in the physical and social fabric of Wildomar, including, but not limited to, cultural facilities and events, arts education and programs, and public art requirements for new construction and public improvement projects.

Policy RC 4.4

Library Resources. Continue to collaborate with Riverside County to support the Wildomar Library to ensure that Wildomar residents have access to high-quality library resources.

6. Recreation and Community Services Element

Policy RC 4.5

Healthy Food Options. Encourage and support community gardening and farmers markets to provide residents with healthy food options.

Policy RC 4.6

Educational System. Partner with local public and private schools, including the Lake Elsinore Unified School District, to maintain effective educational, vocational, and workforce training programs.



Wildomar Library.

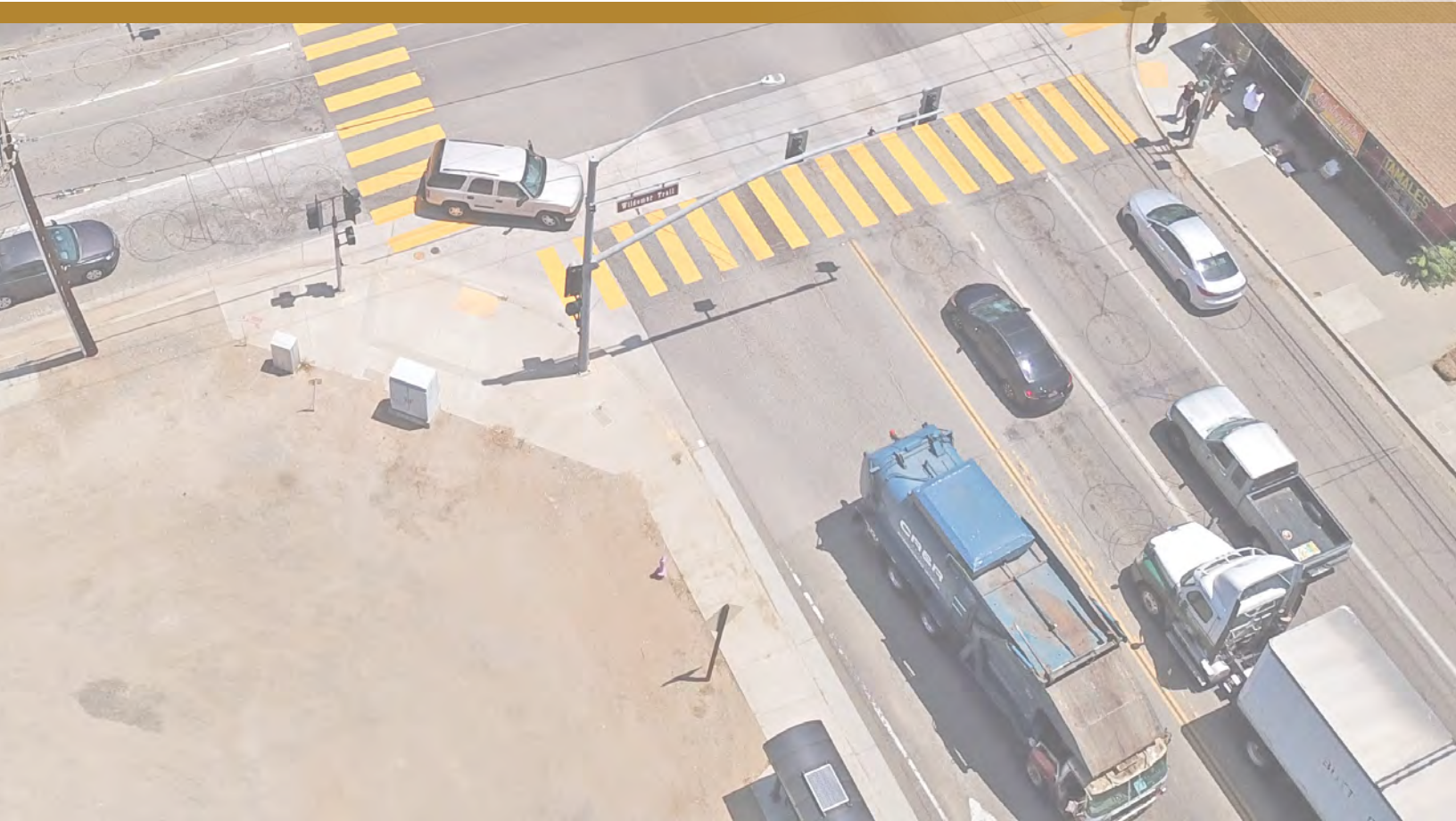
Policy RC 4.7

Police, Fire and Emergency Medical Services. Work with the Riverside County Sheriff's Department and CAL FIRE Riverside County Fire Department to continue to provide effective law enforcement, fire, and emergency medical services.

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7. Noise





7. Noise Element

7.1 Vision

The vision for managing noise in Wildomar is to allow the "good noises" associated with a vibrant city full of life and limit the impact of the "bad noises" that occur infrequently as a part of that life so that there are still quiet places to sleep, relax, and recharge.

The vision for managing noise in Wildomar is to allow the "good noises" associated with a vibrant city full of life and limit the impact of the "bad noises"

People's relationship to noise can be complicated. Certainly, noise can be unwelcome at times, but places that are full of life are often noisy. People make noise going about their daily routines as they move about, use equipment, build things, talk, sing, shout, and laugh. People also play music, cheer for sports, have dogs, and generally make themselves known. These are sounds of life and are welcome in most instances. Anyone with children or experience near a school during recess understands. To most, these are good sounds and would not be considered noise in the right context.

Noise becomes a nuisance when it regularly disturbs sleep, discourages the enjoyment of the outdoors, and affects the daily routine of residents. When this occurs, it is essential to lower the level of noise.

7.2 Purpose

California Government Code § 65302(f) requires municipalities to prepare and adopt "a Noise Element that shall identify and appraise noise problems

in the community." The Noise Element supports development locations of planned noise-sensitive land uses and facilitates noise levels for sensitive noise receivers. For purposes of this Noise Element, "noise-sensitive areas and uses" include residential areas, parks, schools, churches, hospitals, and long-term care facilities. It is also important that noise generating uses such as industrial and commercial be protected from incursion of noise-sensitive uses to avoid noise complaints that may affect the operation of these fixed noise sources.

7.3 Noise

At the basic level, noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness."

Noise also uses specific terminology to describe levels of noise and how measurements are taken and compared. Noise also reacts to the environment and can be reduced through barriers such as walls, buildings, and topography. The most obvious noise source in the City is traffic from I-15 and major roadways such as Clinton Keith, Bundy Canyon, and Wildomar Trail.

7.4 Terminology

Like many technical fields, specific terms are used to explain different aspects of analysis. For noise, understanding the following terms will help when reading this element.

- **Decibel (dB)**

This is a unit for measuring the amplitude of a sound that is based on a logarithmic scale, which

compresses the wide range of sound pressure levels to a more usable range of numbers.

- **A-weighted decibels (dBA)**

This refers to the sound pressure level in decibels as measured on a sound level meter using the A-weighting network. This method de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on frequencies within the sensitivity range of the human ear.

- **Day-Night Average Sound Level (Ldn)**

This noise measurement describes the average noise level over a 24-hour period after the addition of 10 decibels to sound levels after 10 p.m. and before 7 a.m. The 10 dBA adjustment accounts for our greater sensitivity to nighttime noise and the fact that lower ambient levels at night tend to make noise events, such as aircraft flyovers, more intrusive.

- **Community Noise Equivalent Level (CNEL)**

Similar to Ldn, the CNEL is the 24-hour average noise level after the addition of 5 dB to sound levels from 7:00 p.m. to 10:00 p.m. and 10 dB to sound levels between 10:00 p.m. and 7:00 a.m.

- **Equivalent Continuous Noise Level (Leq)**

Leq is a noise descriptor that can be thought of as the average noise level during a period of time. The average noise level is based on the energy content (acoustic energy) of the sound. It is typically computed over 1-, 8-, and 24-hour sample periods.

- **Noise Contours**

Noise contours are a graphical representation of projected noise exposure levels associated with noise sources such as roadways, aircraft, and railroad operations. They are expressed as the physical distance from the noise source at which different noise levels can be heard.

7.5 Noise Environments & Measurements

All sound levels referred to in this element are A-weighted to de-emphasize the very low and very high frequencies in a manner similar to the human ear. A-weighting gives a better measurement for human annoyance and some health effects.

Ambient noise, which is the total noise in an environment, is usually measured with an A-weighted decibel scale (dBA). However, ambient noise varies over time; therefore, other metrics that give an average noise level over a specified period of time are used. Such metrics include the energy-equivalent noise level (Leq), the day-night average noise level (Ldn), and the community noise equivalent level (CNEL). Leq is an hourly average, and Ldn and CNEL are 24-hour weighted averages.

Ambient noise monitoring was conducted in October 2022 to determine a baseline noise level for different environments. The results of the noise measurements can be found in Appendix 5.13-1 of the General Plan Environmental Impact Report.

7.6 Planning Context

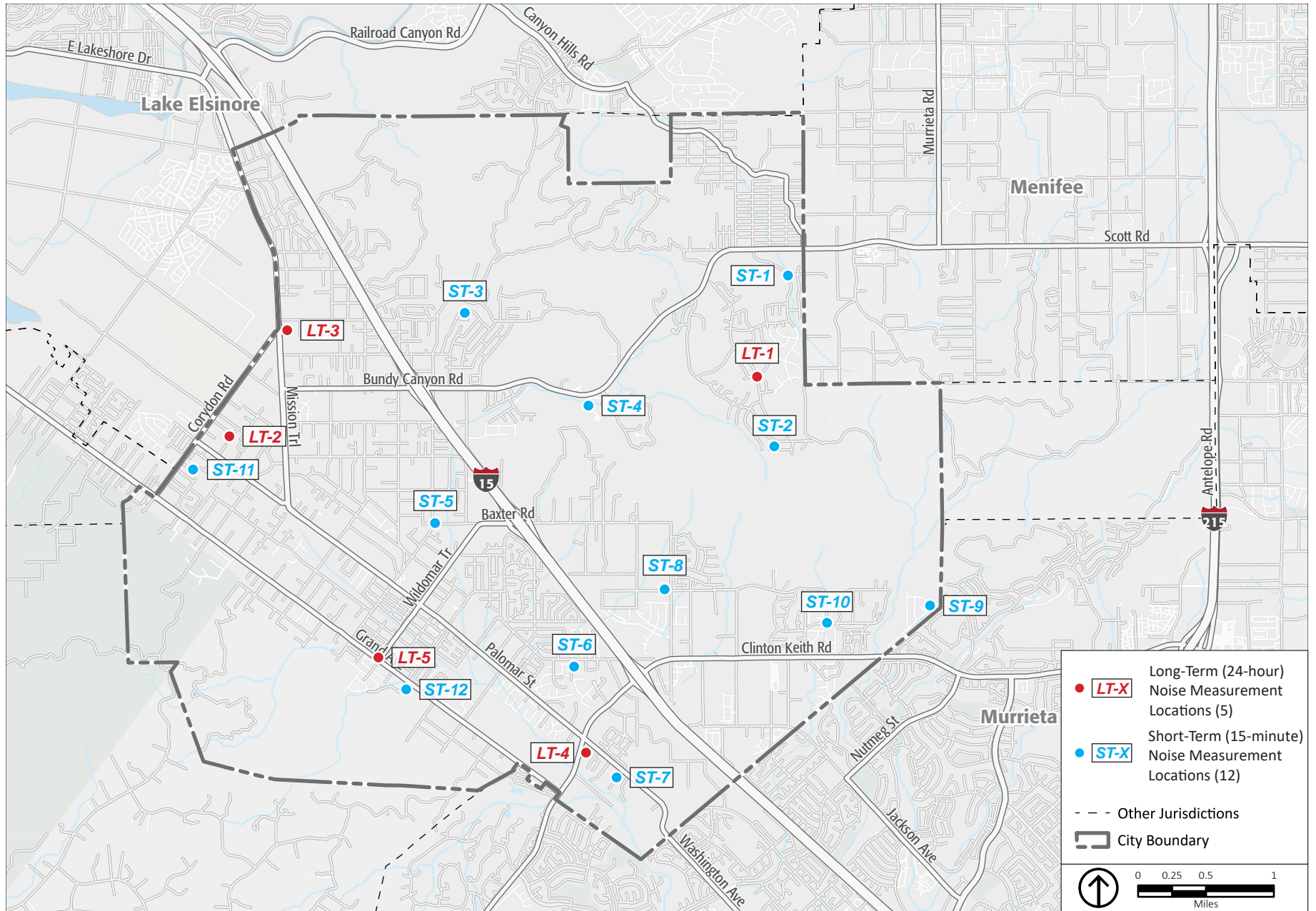
Generally, Wildomar is a quiet town, and most noise is associated with traffic. In a real sense, this means that noise levels are less during nights, weekends, and holidays when traffic is less than normal daily volumes. Tables 7-1 and 7-2 show the ambient noise measurements recorded during preparation of this element. Figure 7-1 shows the locations where measurements were recorded. Roadway noise and ambient noise are both important to understand because road noise helps guide land use decisions, and ambient noise provides a measurement against which future noise generating uses will be measured.

Table 7-1: Long-Term Measurement Summary

Monitoring Location	Description	24-Hour Noise Level, dBA		
		CNEL	Lowest L _{eq} (1hr)	Highest L _{eq} (1hr)
LT-1	Intersection of Harvest Way and Plowshare Road near 3392 Harvey Way (residence) 9/27/2023, 9:12 AM	67	30	84
LT-2	Corydon Road near 32885 Corydon Road (mixed-use area) 09/18/2023, 4:00 PM	74	56	70
LT-3	By Corydon Road and Mission Trail 09/18/2023, 3:35 PM	77	60	81
LT-4	Along Clinton Keith Road by 32450 Clinton Keith Road (commercial) 09/18/2023 2:40 PM	71	53	75
LT-5	Along Wildomar Trail by 32420 Wildomar Trail (commercial) 09/18/2023 3:04 PM	75	60	79

Source: General Plan EIR, Appendix 5.13-1.

FIG 7-1: SHORT AND LONG TERM NOISE MEASUREMENT LOCATIONS



Source: City of Wildomar, 2023; PlaceWorks, 2024

Table 7-2: Short-Term Noise Measurements Summary in A-weighted Sound Levels

Monitoring Location	Description	15-minute Noise Level, dBA						
		L _{eq}	L _{max}	L _{min}	L50	L25	L8	L2
ST-1	Intersection of Deep Wells Road and Hidden Hollow Road near 24960 Deep Well Road (Residence) 09/15/2023 12:38 PM	46.9	69.8	36.3	40.5	45.0	51.5	56.1
ST-2	Intersection of The Farm Road and Wheelbarrow Road near 34474 Wheelbarrow Lane (Residence) 09/15/2023 1:07 PM	40.9	54.2	35.4	38.7	41.4	44.3	47.5
ST-3	Intersection of Gafford Road and Great Falls Road, near 33514 Great Falls Road (Residence) 9/15/2023 2:03 PM	49.3	69.7	39.6	41.6	43.3	49.5	58.0
ST-4	Intersection of Oak Creek Road and Bundy Canyon Road, near 23541 Bundy Canyon Road (Church) 9/15/2023 1:33 PM.	63.6	74.3	42.2	62.4	65.0	67.3	69.7
ST-5	Intersection of Gruwell Street and Baxter Road near 22271 Baxter Road (Residence) 9/15/2023 3:00 PM	47.9	95.2	38.8	42.2	46.1	52.2	56.8
ST-6	Intersection of Avry Road and Catt Road near 35992 Avry Way (Residence) 9/15/2023 3:00 PM.	62.3	62.5	62.2	62.3	62.4	62.5	62.5
ST-7	Near Washington Avenue near Murrieta Springs Adventist Christian Academy near 32477 Starbucks Circle (Church) 9/15/23 3:25 PM	49.6	61.2	42.8	48.8	50.5	52.3	54.7
ST-8	Intersection of Brilliante Drive and El Diamante Drive near 5335 El Diamante Drive 9/18/23 12:02 PM	64.3	87.0	44.6	52.5	59.8	66.7	72.6
ST-9	Intersection of Seagrass Trail and Via Sarah, near 25934 Seagrass Trail (Residence) 9/18/2023 12:30 PM.	46.5	61.1	34.3	40.9	40.9	46.1	55.6

Table 7-2: Short-Term Noise Measurements Summary in A-weighted Sound Levels

Monitoring Location	Description	15-minute Noise Level, dBA						
		L _{eq}	L _{max}	L _{min}	L50	L25	L8	L2
ST-10	Intersection of Cassandra Street and Loring Road, near 25139 Loring Road (Residence) 9/18/2023 12:55 PM	51.9	70.0	38.1	42.1	45.0	52.7	63.1
ST-11	Intersection of Union Street and Trailwood Court, near 32755 Trailwood Court (Residence) 9/18/23 1:38 PM	64.0	64.2	64.0	64.0	64.1	64.1	64.2
ST-12	Intersection of Athea Way and Willow Road, near 21827 Athea Way (Residence) 9/18/23 2:09 PM	65.0	77.3	47.8	60.8	65.8	69.8	72.5

Source: General Plan EIR, Appendix 5.13-1.

7.7 Noise Standards

Interior Noise Standards

The State of California’s noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, California Building Code. These noise standards are applied to new construction for the purpose of providing suitable interior noise environments. Noise studies must be prepared when a project seeks to place people near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. A project must demonstrate that structures have been designed to limit interior noise in habitable rooms.

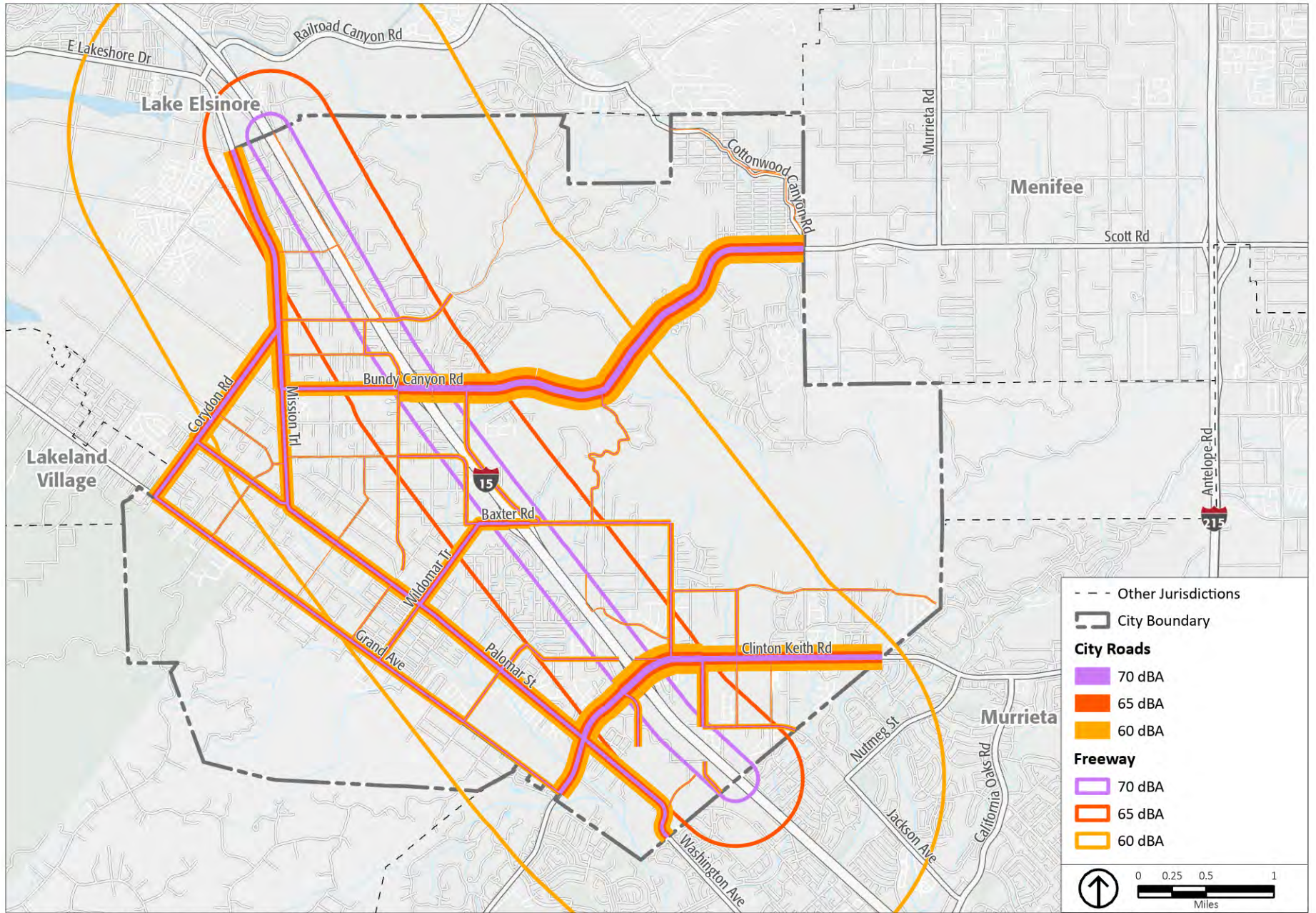
Exterior Noise Standards

Table 7-3 provides the City with a tool to gauge the compatibility of land uses relative to existing and future noise levels. The noise standards can be modified for areas that already have higher noise, and for activities like festivals, markets, and outdoor performances. Generally, there is more flexibility for outdoor noise than indoor, and design features such as berms, walls, windows, and setbacks will all be factored into review of the project.

7.8 Noise Contours

Figure 7-2 shows the projected noise following the roadways and potential segments of transportation based on the traffic analysis prepared for the land use diagram (Figure 2-2). The contours are calculated using predicted traffic data for the City roadways and do not factor in topography, other buildings, or noise attenuation. While the contours may not be able to precisely predict noise levels, they can be used as a general guide to consider noise levels for any future projects.

FIG 7-2: FUTURE NOISE CONTOURS



Source: City of Wildomar, 2023; PlaceWorks, 2024

Table 7-3: Noise Compatibility Standards for Land Uses

Land Use Category	Normally Acceptable (dBA CNEL)	Conditionally Acceptable (dBA CNEL)	Normally Unacceptable (dBA CNEL)	Conditionally Unacceptable (dBA CNEL)
Single Family Residential)	60	65	70	70+
Infill Single Family Residential	65	75	80	80+
Motels, Hotels, Transient Lodging	60	70	80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	60	70	80	80+
Amphitheater, Concert Hall, Auditorium, Meeting Hall	-	65	-	65+
Sports Arenas, Outdoor Spectator Sports	-	70	-	75+
Playgrounds, Neighborhood Parks	70	-	75	75+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	70	-	80	80+
Office Buildings, Business, Commercial, Professional	65	75	85+	-
Industrial, Manufacturing, and Utilities	70	80	85+	-
Freeway Adjacent Commercial Office, and Industrial Uses	65	80	85+	-

Aircraft Noise Levels

The closest airport to the City is the Skylark Airport (Skydive Elsinore), a private airstrip with minimal air traffic approximately 425 feet northwest of Wildomar’s western boundary. Air traffic is primarily from the 25 aircraft owned by Skydive Elsinore, which are used to provide skydiving and gliding services. The small aircraft and limited flight operations do not generate significant noise affecting the City. The nearest public airport is approximately 4.8 miles southeast of Wildomar and is known as the French Valley Airport.

Airport noise contours do not extend into the City’s sphere of influence, and airport noise does not significantly affect nearby sensitive receptors (i.e., all residences are outside of the 55 and 60 dBA Ldn noise contours. Therefore, while aircraft overflights will be heard, the noise generated does not result in the need to adjust land uses or activities in the City.

Roadway Noise Levels

Vehicular noise on roadways depends on speed, volume, and traffic conditions. Typically, vehicles moving slower in high traffic generate less noise than cars operating fast under low or no traffic conditions.

To establish the baseline noise conditions, traffic data representing annual average traffic volumes for existing conditions on major roadways were obtained from the regional traffic model to allow calculations for existing and projected traffic volumes. Distances from the centerlines of selected roadways to the 60, 65 and 70 dB CNEL contours are summa-

rized in Table 7-4. These distances should be treated as estimates; actual distances may vary due to factors such as road curvature, roadway grade, shielding by local topography or structures, and elevated roadway.

Table 7-4: Noise Contours from Centerline for Roadways

Roadway	Segment ¹	Existing CNEL			Buildout CNEL		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Almond Street	Lemon Street to Waite Street	-	-	-	14	31	67
Bayless Road	Wildomar Trail to Depasquale Road	-	-	-	6	13	28
Bryant Street	Corydon Street to Lorena Lane	-	-	-	9	20	43
Bryant Street	Lorena Lane to Palomar Street	-	-	-	7	15	32
Bryant Street	Grand Avenue to Palomar Street	-	-	-	10	21	46
Bundy Canyon Road	Mission Trail to Orange Street	56	120	259	61	130	281
Bundy Canyon Road	Orange Street to I-15 SB Ramps	92	198	427	113	243	523
Bundy Canyon Road	I-15 SB Ramps to I-15 NB Ramps	92	198	426	121	260	560
Bundy Canyon Road	I-15 NB Ramps to Monte Vista Road	85	183	395	122	263	567
Bundy Canyon Road	Monte Vista Road to The Farm Road	82	177	382	128	275	593
Bundy Canyon Road	The Farm Road to City Limit	72	155	335	116	250	539
Catt Road	McVicar Street to Clinton Keith Rd	-	-	-	22	48	104
Clinton Keith Road	Grand Avenue to Palomar Street	65	139	299	84	181	391

Table 7-4: Noise Contours from Centerline for Roadways

Roadway	Segment ¹	Existing CNEL			Buildout CNEL		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Clinton Keith Road	Palomar Street to Hidden Springs Road	93	201	434	111	238	513
Clinton Keith Road	Hidden Springs Road to I-15 SB Ramps	113	243	524	135	292	629
Clinton Keith Road	I-15 SB Ramps to I-15 NB Ramps	111	238	514	134	289	623
Clinton Keith Road	I-15 NB Ramps to Wildomar Trail	101	218	469	136	293	630
Clinton Keith Road	Wildomar Trail to Inland Valley Drive	97	209	451	126	272	586
Clinton Keith Road	Inland Valley Drive to City Limit	83	178	384	109	236	507
Corydon Road	Grand Avenue to Palomar Street	56	121	260	65	140	301
Corydon Road	Palomar Street to Mission Trail	61	131	282	80	172	370
Cottonwood Canyon Road	City Limit to Bundy Canyon Road	4	9	19	5	11	24
Depasquale Road	Bayless Road to Wildomar Trail	-	-	-	10	22	47
Elizabeth Lane	Clinton Keith Road to Preilipp Road	-	-	-	6	13	28
Gateway Drive	Inland Valley Drive to City Limit	-	-	-	16	34	72
Grand Avenue	Corydon Road to Sheila Lane	38	82	176	45	97	209
Grand Avenue	Sheila Lane to Gruwell Street	39	83	179	43	92	198
Grand Avenue	Gruwell Street to Wildomar Trail	38	83	178	45	97	209
Grand Avenue	Wildomar Trail to McVicar Street	27	58	124	40	87	186
Grand Avenue	McVicar Street to Clinton Keith Rd	23	51	109	24	52	111
Grape Street	City Limit to Olive Street	-	-	-	8	16	35

Table 7-4: Noise Contours from Centerline for Roadways

Roadway	Segment ¹	Existing CNEL			Buildout CNEL		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Grape Street	Olive Street to Lemon Street	-	-	-	11	23	50
Gruwell Street	Grand Avenue to Palomar Street	10	21	46	11	24	52
Hidden Springs Road	Clinton Keith Rd to South of Clinton Keith Rd	46	99	214	33	72	154
Inland Valley Drive	Clinton Keith Road to Preilipp Road	42	91	195	49	107	230
Inland Valley Drive	Gateway Drive to Palomar Street	-	-	-	10	22	47
Jefferson Avenue	Inland Valley Drive to City Limit	-	-	-	22	47	101
La Estrella Street	Wildomar Trail to Salida Del Sol	6	13	28	15	31	68
La Estrella Street	Salida Del Sol to City Limit	-	-	-	9	20	44
Lemon Street	Mission Trail to I-15	12	25	54	15	33	71
Lemon Street	I-15 to Lost Road	12	27	58	20	44	94
Lorena Lane	Bryant Street to Mission Trail	-	-	-	13	27	59
Lost Road	Grape Street to City Limit	-	-	-	3	6	13
McVicar Street	Palomar Street to Catt Road	-	-	-	27	58	124
McVicar Street	Grand Avenue to Palomar Street	10	21	45	18	40	85
Mission Trail	City Limit to Lemon Street	73	156	337	84	181	391
Mission Trail	Lemon Street to Corydon Road	75	162	350	80	172	371
Mission Trail	Corydon Road to Bundy Canyon Road	59	127	273	76	164	354
Mission Trail	Bundy Canyon Road to Palomar Street	40	86	186	56	121	260
Monte Vista Drive	Bundy Canyon Road to Wildomar Trail	18	39	84	26	55	120
Olive Street	Mission Trail to Grape Street	-	-	-	6	14	29

Table 7-4: Noise Contours from Centerline for Roadways

Roadway	Segment ¹	Existing CNEL			Buildout CNEL		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Orange Street	Bundy Canyon Road to Walnut Street	-	-	-	16	34	73
Orange Street	Walnut Street to Palomar Street	-	-	-	16	34	72
Palomar Street	Corydon Road to Mission Trail	23	50	108	45	96	207
Palomar Street	Mission Trail to Orange Street/Gruwell Street	42	89	193	55	118	255
Palomar Street	Orange Street/Gruwell Street to Wildomar Trail	51	110	237	62	134	289
Palomar Street	Wildomar Trail to McVicar Street	40	86	185	58	125	270
Palomar Street	McVicar Street to Clinton Keith Rd	44	95	205	68	147	317
Palomar Street	Clinton Keith Rd to Washington Ave	50	107	231	69	149	321
Prielipp Road	Inland Valley Drive to City Limit	19	42	90	22	48	104
Salida Del Sol	La Estrella Street to Clinton Keith Road	6	13	27	19	42	90
Sauer Road/Oak Circle Drive	Bundy Canyon Road to Wildomar Trail	-	-	-	14	29	63
Waite Street	Mission Trail to Almond Street	-	-	-	10	23	49
Waite Street	Almond Street to Bundy Canyon Road	-	-	-	20	42	91
Walnut Street	Mission Trail to Wesley Street	-	-	-	8	17	38
Walnut Street	Wesley Street to Orange Street	-	-	-	8	18	39
Walnut Street	Orange Street to Wildomar Trail	-	-	-	24	51	111
Washington Avenue	Inland Valley Drive to City Limit	-	-	-	27	58	126
Wesley Street	Walnut Street to Palomar Street	-	-	-	8	18	39
Wesley Street	Grand Avenue to Palomar Street	-	-	-	4	9	19

Table 7-4: Noise Contours from Centerline for Roadways

Roadway	Segment ¹	Existing CNEL			Buildout CNEL		
		70 dBA	65 dBA	60 dBA	70 dBA	65 dBA	60 dBA
Wildomar Trail	Grand Avenue to Palomar Street	30	64	138	30	65	140
Wildomar Trail	Palomar Street to I-15 SB Ramps	39	85	182	58	124	268
Wildomar Trail	I-15 SB Ramps to I-15 NB Ramps	33	72	154	46	99	212
Wildomar Trail	I-15 NB Ramps to Monte Vista Drive	16	34	72	28	59	128
Wildomar Trail	Bayless Road to Wildomar Trail	14	30	64	27	57	124
Wildomar Trail	Wildomar Trail to La Estrella Street	17	36	77	27	59	128
Wildomar Trail	La Estrella Street to Clinton Keith Road	30	64	138	33	71	153
Wildomar Trail	Monte Vista Drive to Bayless Road	39	85	182	24	52	112
Yamas Drive	Clinton Keith Road to Preilipp Road	-	-	-	9	20	43

Source: Chen Ryan Transportation 2023 in General Plan EIR Appendix 5.17-1.

Note: Distances are measured in feet from centerline.

1 Noise contours for I-15 used Caltrans 2021 data.

7.9 Stationary Noise

Primary stationary noise sources during operation in commercial and industrial zones could include loading docks, large mechanical equipment, and fabrication. Ideally these uses and activities are located away from sensitive receptors. Other noise sources that affect people include nightclubs, outdoor dining areas, gas stations, car washes, drive throughs, fire stations, air conditioning units, swimming pool pumps, school playgrounds, athletic and music events, and public parks.

While new noise should be minimized, placing new noise-sensitive land uses in areas subject to noise currently or in the future should also be discouraged. Noise-generating uses are often those that provide jobs, manufacture goods, and services. It is im-

portant to protect these types of land use because encroachment of people into existing noise environments often shortens the longevity of the noise-generating land use.

For future noise-generating uses, a project that cannot contain its noise within the property boundaries will need physical and operational features to address its noise. Ideally, these measures would be integrated with the overall project design and not added as an afterthought.

7.10 Construction Noise

Construction occurs as the City continues development and growth. Although beneficial to the City, the process generates temporary construction noise. Noise from construction depends on the size of the

project and how long it takes to build it, which could be several years. Methods to minimize the impacts of construction noise, such as setting reasonable construction times and ensuring that mufflers and noise suppression features of equipment are working, can help limit noise intrusion into adjacent areas. Engagement with the community is crucial for explaining noise and addressing noise concerns. Even though construction noise is considered temporary, it can still result in impacts to adjacent uses. The City's noise ordinance restricts certain activities to specific days and times, but construction noise may still disturb existing residents.

7.11 Vibration

Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., operating factory machinery) or transient (e.g., construction).

Usually vibration is a minor annoyance, but with fragile buildings or certain sensitive uses, vibration can cause damage or disrupt operations. Vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration, which shows the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used when monitoring transient and impact vibration and correlates well to the stresses experienced by buildings.

However, PPV is not always suitable for evaluating human response. It takes time for the human body to respond to vibration signals. The human body responds to average vibration amplitude. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB). The

typical background vibration velocity level in residential areas is approximately 50 VdB. Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels.

One of the impacts of construction is vibration that people can feel. Vibration can be a short-term sensation, like when a heavy truck passes, but if several trucks were to pass by or machinery nearby creates a constant vibration, the vibration can have negative effects on people. What starts as a minor irritation, over time turns into feelings of unease, disrupts sleep, and becomes a constant annoyance that reduces the enjoyment people have in their homes. Vibration can also disrupt delicate procedures such as surgery and manufacturing.

Vibrations generated by construction activity can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 7-5 describes the general human response to different ground vibration-velocity levels.

Table 7-5: Human Response to Different Levels of Ground Noise and Vibration

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

Source: Federal Transit Administration (FTA). 2018, September. *Transit Noise and Vibration Impact Assessment Manual*. US Department of Transportation

Note: VdB = vibration decibels referenced to 1 micro inch per second and based on the RMS velocity amplitude.

7.12 Goals and Policies

GOAL N 1

A City with appropriate noise and vibration levels that supports a range of places to promote the health, safety, and general welfare of the public and protects from adverse noise impacts.

Policy N 1.1

Sound Design. Require the use of integrated design-related noise reduction measures for interior and exterior areas prior to using noise barriers, buffers, or walls to reduce noise levels generated by or affected by new development.

Policy N 1.2

Noise Compliance. Continue to require developments to comply with local, regional, and state

building code regulations and standards, including but not limited to the City's municipal code; Title 24 of the California Code of Regulations, including the California Green Building Code; Occupational Safety and Health Administration, Federal Transit Administration, and Federal Highway Administration regulations; and subdivision and development codes.

Policy N 1.3

Noise Boundaries. Coordinate with the County of Riverside and the cities of Lake Elsinore, Menifee, and Murietta to minimize noise impacts from adjacent land uses along the City's boundaries, especially its rural edges.

Policy N 1.4

Noise Barriers. Discourage use of noise barriers and walls constructed exclusively for noise-attenuation purposes where possible. In instances where noise barriers cannot be avoided, consider the use of site planning and building material/design features in conjunction with barriers to mitigate visual impacts and reduce the size of barriers.

Policy N 1.5

Temporary Noise. Regulate temporary noise, such as party noise, live events, playground noise, construction during the day and night (including concrete slab pouring), and barking dogs, through the City's municipal code.

Policy N 1.6

Construction Noise. Require development to minimize the exposure of neighboring properties to excessive noise levels from construction-related activity during all phases of construction.

Policy N 1.7

Vibration Assessment. Restrict the placement of sensitive land uses in proximity to vibration-producing land uses.

Policy N 1.8

Vibration Velocity Level. Require new development to generate operational and/or construction vibration levels no greater than 75 VdB at the property line of a sensitive receptor where feasible, as indicated in Table 7-4.

GOAL N 2

Promote existing and future land compatibility with current and projected local and regional noise conditions.

Policy N 2.1

Land Use Compatibility. Require future developments to adhere to the land use compatibility standards in Table 7-3.

Policy N 2.2

Protect Noise-Sensitive Land Uses. Discourage noise-sensitive uses in areas in excess of the listed noise levels in Table 7-3.

Policy N 2.3

Guide Noise-Tolerant Use. Plan and promote noise-tolerant land uses in noise-generating areas such as transportation corridors adjacent to I-15.

Policy N 2.4

Secure Noise-Producing Areas and Noise-Sensitive Land Uses. Minimize nonresidential noise impacts on residential use and preserve areas of noise-generating uses by limiting the incursion of residential and noise-sensitive uses.

Policy N 2.5

Development Near Transportation Corridors. For development in infill areas; near Riverside Transit Agency Bus Lines (RTA bus); or along highways, arterials, and collectors, allow an exemption from exterior noise standards for secondary open space areas (such as front yards, parking lots, stoops, porches, or balconies) if noise standards can be met for primary open space.

GOAL N 3

Promote reduction of noise from non-transportation-related sources on sensitive receptors.

Policy N 3.1

Noise Compliance. Ensure compliance with standards and procedures for mitigating construction-related activities that introduce excessive noise levels.

Policy N 3.2

Non-transportation Operation. Continue to require future developments involving the use of stationary equipment to comply with standards for regulating noise levels for operation of the project and thresholds for any noise-sensitive receivers.

GOAL N 4

Curb traffic level noise increases near sensitive receivers and areas exceeding noise level standards by promoting safe and reasonable truck traffic routes, alternative modes of transportation, and adherence to regulations for existing and future transportation noise sources.

Policy N 4.1

Transportation Compliance. Require that future transportation noise sources comply with the City's exterior noise levels.

Policy N 4.2

Truck Delivery Transport. Require that commercial or industrial truck delivery hours be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits.



8. Housing





8. Housing Element

Wildomar's 6th Cycle Housing Element (2021-2029) was adopted on October 13, 2021. It will be incorporated into the final General Plan document.

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9. Safety





9. Safety Element

Wildomar's updated Safety Element was adopted on October 13, 2021. It will be incorporated into the final General Plan document.

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10. Implementation





10. Implementation

This section serves as a working checklist of implementation programs for city staff and local decision makers to ensure that the General Plan vision is realized. An implementation program is an action, procedure, program, or technique that carries out goals and policies. Implementation measures are comprehensive in nature, encompassing amendments of existing and preparation of new plans, ordinances, and development of design standards; administration of city procedures and development review and approval processes; and interagency coordination.

The following tables describe the relevant actions and programs to implement the Plan’s goals and policies and identifies the corresponding policies, responsible city departments, and the time frame for application. The latter are expressed in four general time periods: short refers to immediately following to within two years of the General Plan’s adoption, medium refers to three to five years, long to five years and longer, and ongoing to those actions that continue or are periodically implemented through the life of the General Plan.

The described programs and actions are intended to inform and guide the development of the city’s annual budget. During that time, city staff will review and prioritize the level of expenditure necessary to carry out the prescribed action and program. Completion of a recommended implementation program will depend on a number of factors such as citizen priorities, finances, and staff availability.

To enable Wildomar’s General Plan to serve its purpose effectively, the list of programs and actions need to be reviewed, maintained, and implemented in a systematic and consistent manner. At a minimum, the programs and timeframes described in this chapter should be comprehensively reviewed and updated at least once every five (5) years to reflect available fiscal resources, community needs, and priorities. Revisions to these shall not constitute an amendment of the General Plan, provided that they are consistent with the Vision Statement and carry out its goals and policies. As such, future revisions to this Implementation Plan will not necessitate environmental review to conform to California Environmental Quality Act (CEQA) requirements, as each item described in this Plan will require subsequent action and evaluation.

The table below provides guidance for reading and understanding the components of the implementation table.

Table 10-1: How to Read Implementation Actions

<p>Implementation Program describes, in general terms, the nature of the implementation action. Specifics of the action item will be developed as part of the budget process.</p>
<p>Relevant Policies list the General Plan policies for each Element that are implemented by this action.</p>
<p>Responsible Party specifies the city department with the primary responsibility for implementing the action, and in some cases may include an external agency or organization that has a secondary role with leadership provided by the City.</p>
<p>Timing indicates whether the action is an effort that should happen on an ongoing basis, or as a short-, medium-, or long-range priority.</p>

Implementation actions for the Housing and Safety Elements are included in the Housing and Safety Element documents, which were adopted by the City on October 13, 2021.

Implementation Programs	Relevant Policies	Responsibility	Timing
Land Use			
<p>LU-I1 Intergovernmental Coordination. Continue to collaborate and work in partnership with external governmental agencies responsible for providing services and/or responsible for improvements and programs that may impact or benefit Wildomar’s residents among which are Riverside County, Lake Elsinore Unified School District, Riverside Transit Agency, utility providers and adjoining cities.</p>	<p>LU-1.1, 3.2, 12.2, 12.4, 12.6</p>	<p>All applicable City Departments</p>	<p>Ongoing</p>
<p>LU-I2 Density Transfer and Clustering. Develop and implement processes, procedures, and standards enabling the transfer of density from open lands to promote infill and clustering within and adjoining existing urbanized areas. Identify candidate donor and receiver sites.</p>	<p>LU-1.3, 3.1</p>	<p>Planning Department</p>	<p>Short</p>
<p>LU-I3 Development Review and Entitlement. Review proposed development projects and applications for conformance with the General Plan Land Use and Circulation Plans, goals and policies specified for each Plan Element, and applicable regulatory codes and requirements including the Zoning Ordinance. Proposed projects shall be reviewed regarding conformance with permitted uses, development standards, and objective design guidelines and</p>	<p>LU-3.4, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 7.1, 8.1, 8.2, 8.3, 9.1, 9.2, 9.3, 10.1, 10.2, 10.3, 10.4, 11.1, 11.2, 11.3, 11.4,</p>	<p>Planning, Building and Safety, and Public Works/Engineering Departments; Riverside County Fire Department</p>	<p>Ongoing</p>

Implementation Programs	Relevant Policies	Responsibility	Timing
standards. Development applicants will be required to submit pertinent studies and analyses to enable review for compliance.	12.5, 13.1, 13.2		
LU-14 Service Adequacy Review. Review development projects for their impacts on, and the adequacy of, utility and municipal infrastructure to provide service. Require the assessment of fees and/or construction of improvements to mitigate deficiencies. Require development applicants to submit technical studies and analyses as necessary to enable review.	LU-2.1	Planning and Public Works/Engineering Departments; and EVMWD	Ongoing
LU-15 Development Fees. Periodically, review and update development impact fees to assure that costs for services and improvements are adequately funded consistent with City Council policy, consistent with requirements for the nexus of fees with development impacts.	LU-2.1, 12.3	Planning, Building & Safety, Public Works and Finance Departments	Ongoing
LU-16 Old Town Vision. Work with community members and property owners to update and implement the Wildomar Old Town Vision.	LU-3.3	Planning and Economic Development Departments	Long
LU-17 Wildomar Trail/I-15 Visioning. Undertake a coordinated advanced planning process to identify economic and community development objectives for the Wildomar Trail/I-15 opportunity zone.	LU-3.5	Planning, Economic Development and Public Works/Engineering Departments; City Manager’s Office	Medium
LU-18 Clinton Keith Corridor Planning. Undertake a coordinated advanced planning process to identify economic and community development objectives for the Clinton Keith Corridor, including the means and methods to discourage undesirable land uses and encourage land uses desired by the community.	LU-3.6, 4.4	Planning, Economic Development and Public Works/Engineering Departments; City Manager’s Office	Short
LU-19 Mission Trail Corridor Planning. Undertake a coordinated advanced planning process to identify economic and community development objectives for redevelopment of the Mission Trail Corridor.	LU-3.7	Planning, Economic Development and Public Works/Engineering	Long

Implementation Programs	Relevant Policies	Responsibility	Timing
		Departments; City Manager’s Office	
<p>LU-110 Development Code Update. Update the City’s current Zoning Ordinance for consistency with the General Plan’s provisions for the types, distribution, and density/intensity of permitted uses and objectives for their physical form, scale, and character of development through consideration of the following concepts:</p> <ul style="list-style-type: none"> a) Require that an appropriate landscape plan be submitted and implemented for development projects subject to discretionary review. b) Require that new development utilize drought tolerant landscaping and incorporate adequate drought-conscious irrigation systems. c) Pursue energy efficiency through street configuration, building orientation, and landscaping to capitalize on shading and facilitate solar energy, as provided for in Title 24 of the California Administrative Code. d) Incorporate water conservation techniques, such as use of porous pavement and drought tolerant landscaping. e) Encourage innovative and creative design concepts. f) Encourage the provision of public art. g) Include consistent and well-designed signage that is integrated with the building’s architectural character. h) Provide safe and convenient vehicular access and reciprocal access between adjacent commercial uses. i) Locate site entries and storage bays to minimize conflicts with adjacent residential neighborhoods. j) Mitigate noise, odor, lighting, and other impacts on surrounding properties. k) Provide and maintain landscaping in open spaces and parking lots. l) Include extensive landscaping, including robust initial plantings. 	<p>LU-5.1, 5.2, 5.4, 6.1, 6.2, 7.1, 8.1, 9.1, 9.2, 9.3, 9.4, 10.4, 11.1, 11.3, 11.4, 12.5, 13.2</p>	<p>Community Development Department</p>	<p>Short</p>

Implementation Programs	Relevant Policies	Responsibility	Timing
<ul style="list-style-type: none"> m) Preserve natural features, such as unique natural terrain, drainage ways, and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems. n) Ensure transitions in building height and bulk that are sensitive to the physical and visual character of adjoining uses. o) Use open space, greenways, recreational lands, and watercourses as buffers and transitions between use types. 			
<p>LU-I11 Industrial Design Standards. Prepare design standards and guidelines for industrial use types that ensure compatibility with adjacent uses and incorporate design features, such as screen walls, landscaping and setbacks, and include height and lighting restrictions, so as to minimize adverse impacts on adjacent uses and enhance the visual characteristics of the area.</p>	LU-5.3	Planning and Economic Development Departments	Short
<p>LU-I12 Mixed Use Design Standards. Prepare design standards and guidelines for mixed use developments that address the following objectives:</p> <ul style="list-style-type: none"> a) Locate along major roadways, trails and transit lines to enhance accessibility. b) Orient entrances to primary external or internal streets and provide parking in the rear and in shared parking facilities. c) Allow shared parking and reduced parking standards. d) Mitigate potential conflicts between uses, considering such issues as noise, lighting, security, trash, and truck, and automobile access. e) Provide wide sidewalks, plazas, and courtyards along building frontages for outdoor dining and gathering. f) Integrate pedestrian walkways connecting parking areas with buildings and public spaces that are well defined by paving materials, landscaping, lighting, and way-finding signage. g) Include landscaping that is sustainable and contributes to the aesthetic and economic value of 	LU-10.1	Planning and Economic Development Departments	Medium

Implementation Programs	Relevant Policies	Responsibility	Timing
the center and provides a tree canopy reducing the heat island effect and greenhouse gas emissions.			
LU-I13 Code Enforcement. Continue to maintain an active program to enforce the Municipal Code and other nuisance abatement programs that aim to keep the city’s neighborhoods attractive, safe, and free from public nuisances.	LU-6.3	Code Enforcement and Building and Safety Departments	Ongoing
LU-I14 Property Improvement Loans and Grants. Pursue and administer funding for loans and grants for the maintenance and enhancement of private commercial, industrial, and residential properties and buildings.	LU-6.3	City Manager’s Office, Economic Development and Community Services Departments	Medium
LU-I15 Capital Improvement Program. Review, update and expand the city’s Capital Improvement Program in order to schedule and identify funding sources to implement projects providing services for existing and future residents and businesses including maintenance of existing projects and acquisition, construction, rehabilitation and replacement of public buildings, facilities and infrastructure.	LU-3.2, 12.1, 12.2, 12.6	Public Works Department	Ongoing
Circulation			
CI-I1 Roadway Design Standards and Streets Design Manual. Develop updated Roadway Design Standards and a Streets Design Manual that incorporate and provide detailed guidelines and specifications for the integration of Complete Streets principles into typical roadway cross-sections and designs. This manual will serve as a comprehensive resource for engineers, designers, and other stakeholders involved in the construction of roadway infrastructure in the City and will ensure the consistent application of Complete Streets principles.	CI-1.2	Public Works and Engineering Department	Short
CI-I2 Traffic Calming Guidelines. Update the City’s Neighborhood Traffic Calming Guidelines/Manual to guide the strategic implementation of traffic calming tools on local residential and/or collector roadways consistent with the Complete Streets framework and policy objectives. This manual will enhance the standardized approach to improve safety and create more pedestrian-friendly environments.	CI-1.5	Public Works and Engineering Department	Medium

Implementation Programs	Relevant Policies	Responsibility	Timing
<p>CI-I3 Transportation Impact Analysis (TIA) Guidelines. Develop and adopt guidelines for assessing the traffic and circulation impacts of proposed projects.</p>	CI-5.4	Public Works and Engineering Department	Medium
<p>CI-I4 Utilize Transportation System Management. Develop an Intelligent Traffic Systems (ITS) Master Plan that outlines the vision, goals, and strategies for deploying and integrating intelligent transportation systems within the City. The plan will serve as a roadmap for leveraging technology to improve transportation operations and services.</p>	CI-5.13	Public Works and Engineering Department	Medium
<p>CI-I5 Trail Design. Develop Trail Design Standards and/or a Trail Design Manual to guide the creation of trails that cater to a wide range of users, promote connectivity, respect environmental considerations, and ensure a consistent and high-quality trail network throughout the community.</p>	CI-7.5	Public Works and Engineering Department	Short
<p>Economic Development</p>			
<p>ED-I1 Economic Development Strategic Action Plan. Adopt, periodically update, and implement an economic development strategic action plan with objectives for the time frame of the plan (generally 3 to 5 years) and with strategies and action plans, which may complement or supplant these implementation measures.</p>	ED-1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5	Economic Development and Planning Departments	Short and Ongoing
<p>ED-I2 Economic Development Training. Ensure that key staff have the opportunity for economic development training through the California Association for Local Economic Development or similar organizations; provide in-house economic development training for other city staff and for elected and appointed officials.</p>	ED-2.3	Economic Development Department	Ongoing
<p>ED-I3 Business Visitation. Establish and undertake a program to regularly meet with existing businesses to maintain an understanding of local market conditions, the potential for existing businesses to expand or contract, and to identify opportunities to connect local businesses with regional economic development service providers.</p>	ED-1.1, 2.2, 2.4,	Economic Development Department	Ongoing

Implementation Programs	Relevant Policies	Responsibility	Timing
<p>ED-I4 Entrepreneurship Training. Collaborate with the Inland Empire Small Business Development Center, the Inland Empire Center for Entrepreneurship, the Inland Empire Women’s Business Center, and the Murrieta/Wildomar Chamber of Commerce to offer periodic local informational workshops for residents who might be interested in starting a new business and to improve access of residents to business training classes and services on an ongoing basis.</p>	<p>ED-1.2, 1.5, 2.3</p>	<p>Economic Development Department</p>	<p>Ongoing</p>
<p>ED-I5 Marketing and Communications Strategy. In conjunction with the economic development strategic action plan, develop, periodically update, and implement a marketing and communications strategy to promote Wildomar as a lucrative location to operate a business; include attendance/sponsorships at industry conferences for target economic sectors and business types and a buy-local program.</p>	<p>ED-1.3, 2.2, 2.5</p>	<p>Economic Development Department</p>	<p>Ongoing</p>
<p>ED-I6 Development Review. Review proposed development applications to ensure projects conform to the vision and policies for economic activity centers described in the General Plan.</p>	<p>ED-3.1, 3.2, 3.3, 3.4</p>	<p>Planning, Economic Development, Public Works/Engineering and Economic Development Departments; RCFD</p>	<p>Ongoing</p>
<p>ED-I7 Funding and Financing Districts Policy. Prepare a policy guide that explains when and how the city supports the establishment of business improvement districts, landscape and lighting maintenance districts, enhanced infrastructure financing districts, and similar programs to support enhanced public realm improvements, public facilities, and expanded services in focus areas.</p>	<p>ED-4.2</p>	<p>City Manager, Public Works/Engineering and Administrative Services Departments</p>	<p>Short</p>
<p>ED-I8 Fiscal Analysis Policy. Prepare a policy guide that explains when and how the city requires a fiscal impact analysis for general plan amendments and changes in zoning</p>	<p>ED-4.3</p>	<p>City Manager and Administrative Services Department</p>	<p>Short</p>

Implementation Programs	Relevant Policies	Responsibility	Timing
Open Space and Conservation			
<p>OS-I1 Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Develop educational resources to educate and equip city staff with the skills and knowledge to continue enforcing provisions of the MSHCP.</p>	OS-1.1, 1.3	Community Development Department	Short
<p>OS-I2 Development Review. Review proposed development applications to ensure that projects:</p> <ul style="list-style-type: none"> • Protect habitats for critical and endangered species, conserve superior examples of native trees/vegetation and forest land, maintain wildlife corridors, preserve productive agricultural lands, and are compatible with their surrounding natural environment. • Conform with all applicable standards for criteria air pollutants, including requiring relevant studies and analyses to demonstrate compliance. <ul style="list-style-type: none"> - Do not degrade surface water or groundwater quality. - Preserve open spaces so that they continue to form landscape links, reduce vegetation in open spaces as a fuel management best practice, and provide easements to access open spaces where possible. <p>Protect and preserve paleontological and archaeological resources from destruction</p>	OS-1.2, 1.5, 1.6, 1.7, 2.1, 2.3, 3.2, 4.3, 5.1	Planning, Economic Development, Public Works/Engineering and Economic Development Departments; RCFD	Ongoing
<p>OS-I3 Habitat Restoration and Rewilding Opportunities. Prepare a study to evaluate opportunities to restore habitats for sensitive species and areas that could be returned to their natural state.</p>	OS-1.4	Community Development Department	Long
<p>OS-I4 Wildlife Displacement. Coordinate with partners like Animal Friends of the Valleys to provide educational resources to residents in proximity to large scale development projects that may disturb animal habitats, prior to significant construction activity.</p>	OS-1.5	Planning and Building and Safety Departments	Ongoing
<p>OS-I5 Wildlife Corridor Management Plan. Prepare a Wildlife Corridor Management Plan, including identification of existing corridors and methods to protect them.</p>	OS-1.5	Community Development Department, Public Works	Long

Implementation Programs	Relevant Policies	Responsibility	Timing
		Department, Western Riverside County Regional Conservation Authority	
<p>OS-I6 Tree Preservation Ordinance. Draft and adopt a tree preservation ordinance that provides protections for mature and historic examples of native trees.</p>	OS-1.6	Community Development Department, Public Works Department	Medium
<p>OS-I7 Ridgelines. Develop a map of the city’s ridgelines that need to be protected from development and identify any recommended updates to Development Code standards to protect ridgelines. Require new development projects to conduct studies to evaluate for conformance to the standards. Review development projects to ensure new projects use contour grading to conform to the natural configuration of hilly topography.</p>	OS-1.8, 1.9	Community Development Department	Medium
<p>OS-I8 Collaboration with Air Quality Management Agencies. On an ongoing basis, attend meetings with air quality management agencies such as South Coast AQMD, SCAG, and CARB to coordinate programs to reduce or minimize air pollutants.</p>	OS-2.1	Community Development Department	Ongoing
<p>OS-I9 Construction Site Evaluation. Conduct field visits of construction sites to check for compliance with measures and strategies to reduce fugitive dust during construction.</p>	OS-2.2	Public Works/Engineering Departments	Ongoing
<p>OS-I10 Zero-emission Landscaping and Construction Equipment. Collaborate with local construction and landscape service providers to develop a strategy, timeline, and incentives for the phasing out of gasoline- or diesel-powered equipment that considers the availability and costs of zero-emission equipment, community health benefits, and potential regulatory and enforcement mechanisms.</p>	OS-2.4	Public Works/Engineering Departments	Short
<p>OS-I11 Zero-emission Equipment Incentives. Work with the South Coast AQMD to provide education about available grants and loans to support the transition to zero-emission equipment.</p>	OS-2.4	Public Works/Engineering Departments	Short

Implementation Programs	Relevant Policies	Responsibility	Timing
<p>OS-I12 Collaboration with Elsinore Valley Municipal Water District (EVMWD). On an ongoing basis, attend meetings with EVMWD to coordinate programs to conserve and protect water quality and supply.</p>	OS-3.1	Public Works/Engineering and Planning Departments	Ongoing
<p>OS-I13 Water-Efficient Municipal Codes. Explore potential amendments to the Wildomar Municipal Code to enable and promote water conservation strategies such as stormwater capture systems, graywater systems, recycled water systems, and drought-tolerant landscape planting in existing and new developments.</p>	OS-3.3, 3.4, 3.5	Community Development Department	Short
<p>OS-I14 Adaptive Reuse Education Program. Develop educational materials to inform landowners with buildings or structures of historical significance of the processes and funding opportunities available to preserve, maintain, and enhance the structures.</p>	OS-4.1	Community Development Department	Short
<p>OS-I15 Tribal Consultation Procedures. Educate new planning staff about the tribal consultation procedures as a part of the onboarding process.</p>	OS-4.2	Community Development Department	Ongoing
<p>OS-I16 Murrieta Creek. Create a multi-agency task force with the cities of Lake Elsinore, Temecula, and Murrieta to advance the planning and design process for the Murrieta Creek Regional Trail plan and protect the creek as a critical riparian area.</p>	OS-5.2	Community Development and Public Works/Engineering Departments	Medium
<p>OS-I17 Energy Efficiency Partnerships. Collaborate with SCE and the Southern California Regional Energy Network (SoCalREN) to promote, conduct, and provide incentives for energy efficiency audits and retrofits.</p>	OS-6.1	Community Development and Public Works/Engineering Departments	Medium
<p>OS-I18 Electrification Partnerships. Collaborate with SCE and SoCalREN to promote, conduct, and provide incentives to electrify existing buildings.</p>	OS-6.2	Community Development Department	Medium
<p>OS-I19 Energy Contractors. Work with the local builder and developer community to ensure that builders and developers understand new electrification opportunities and to promote efficiency in the electrification process.</p>	OS-6.2	Community Development Department	Medium

Implementation Programs	Relevant Policies	Responsibility	Timing
<p>OS-I20 Renewable Energy Partnerships. Collaborate with SCE and local solar energy installers to promote, conduct, and provide incentives and opportunities to expand renewable energy generation and storage.</p>	OS-6.4, 6.5	Community Development Department	Medium
<p>OS-I21 Tree Inventory. Conduct an inventory of Wildomar’s existing tree cover, identifying areas that are currently underserved and trees that should be replaced.</p>	OS-6.7	Public Works/Engineering and Planning Departments	Short
<p>OS-I22 Urban Heat Assessment. Identify areas of Wildomar that are particularly susceptible to the effects of extreme heat, which may be priority areas for the installation of trees, cool or green roofs, and other cooling elements.</p>	OS-6.7, 6.8, 6.9	Community Development and Public Works Departments	Short
<p>OS-I23 Cool Design. Provide development incentives for new development that integrates passive solar and wind design, cool roofs, and other cooling building features. Consider financial assistance for major renovations that install these features in existing buildings.</p>	OS-6.8, 6.9	Community Development and Economic Development Departments	Medium
<p>OS-I24 Waste Education and Outreach. Support efforts led by the City’s waste hauler and other community partners to provide education and outreach regarding waste sorting and local recycling requirements, and pursue the establishment of convenient public drop-off locations for electronic waste.</p>	OS-7.1, 7.2	Public Works Department	Ongoing
<p>OS-I25 Design for Waste Collection. Modify the residential and commercial design standards to ensure that all new developments and renovations provide adequate space for required garbage, recycling, and organic waste bins.</p>	OS-7.1	Community Development Department	Short
<p>OS-I26 Climate Action Plan. Prepare a Climate Action Plan or equivalent approach that builds on and makes use of regional and subregional tools such as the WRCOG Subregional Climate Action Plan Toolkit and related SCAG initiatives.</p>	OS-8.1, 8.2	Community Development and Public Works/Engineering Departments	Medium

Implementation Programs	Relevant Policies	Responsibility	Timing
Recreation and Community Services			
<p>RC-I1 Parks Master Plan. Update the City’s Parks Master Plan to include the following:</p> <ul style="list-style-type: none"> • New standards for park design for topics such as sustainable design, water features, shade structures, and safety through design. • Recreational programs and community services • Reference the policies in the General Plan. <p>Conduct a thorough evaluation of the plan to ensure that implementation measures meet the goals of the General Plan, and update if necessary.</p> <p>Periodically review and update the plan to enable attainment of the standard of 3 acres per 1,000 residents.</p>	<p>RC-1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 4.1, 4.2, 4.4</p>	<p>Community Development, Community Services and Public Works/Engineering Departments</p>	<p>Medium</p>
<p>RC-I2 Development Impact Fees. Periodically, review and update development fees to assure that costs for parkland development and maintenance are sufficient.</p>	<p>RC-1.5</p>	<p>Public Works/Engineering, Planning and Administrative Services Departments</p>	<p>Ongoing</p>
<p>RC-I3 Parkland Acquisition, Development, and Maintenance. Implement and expand existing programs for financing, development, and/or maintenance of new parklands including collaborating with municipal agencies for joint-uses, encouraging gift and land dedications, and working with new developments to be annexed into the Community Facilities District.</p>	<p>RC-1.6, 1.7, 1.8</p>	<p>City Manager’s Office, Administrative Services Department, Economic Development Department, Community Development Department, Public Works Department</p>	<p>Ongoing</p>
<p>RC-I4 Trails Master Plan. Develop a Trails Master Plan that contains a Master Trails map, standards for trail design, wayfinding and signage, and equestrian trails. The Master Trails map should contain a network of trails that connect to current and planned bike infrastructure within the City, as identified in the Active</p>	<p>RC-3.1, 3.2, 3.3, 3.4, 3.5</p>	<p>Community Development Department, Community Services Department, Public</p>	<p>Medium</p>

Implementation Programs	Relevant Policies	Responsibility	Timing
Transportation Plan, as well as to adjoining communities.		Works Department.	
RC-I5 Trails Development and Funding. Implement the Trails Master Plan through the capital budgeting procedures and seek funding from federal, state, and regional funding opportunities.	RC-3.1, 3.2	City Manager’s Office, Administrative Services Department, Community Development Department, Public Works Department	Ongoing
RC-I6 Fire Protection and Emergency Medical Service Review. Work with Riverside County Fire Department (RCFD) and the California Department of Forestry and Fire Protection (CAL FIRE), which make up the Wildomar Fire Department (WFD), to periodically study service area coverage and population density to identify and address service gaps.	RC-4.7	Community Development, Community Services and Public Works/Engineering Departments	Ongoing
Noise			
<p>N-I1 Noise Ordinance Update. Update the noise ordinance to:</p> <ul style="list-style-type: none"> Require that residential projects demonstrate they can meet both interior and exterior noise standards prior to issuance of a building permit. Require acoustical analysis for noise-sensitive land uses proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table N-1 and N-2 to determine mitigation for inclusion in the project design. Single-family dwellings on existing lots are excluded from this review. 	N-1.2, 2.1	Community Development Department	Short



11. Appendix





Appendix A: POLICIES ADDRESSING ENVIRONMENTAL JUSTICE TOPICS

Wildomar does not include any disadvantaged community census tracts as identified by CalEPA via CalEnviroScreen 4.0, nor any Disadvantaged Unincorporated Communities (DUCs) inside or near its boundaries, and thus, is not required to produce a separate Environmental Justice Element or DUC analysis per Senate Bill 1000. However, Gov. Code § 65302(h)(1) requires that environmental justice goals, policies, and objectives integrated in other elements shall address the following:

- a. Identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities by means that include, but are not limited to, the reduction of pollution exposure, including the improvement of air quality, and the promotion of public facilities, food access, safe and sanitary homes, and physical activity.
- b. Identify objectives and policies to promote civic engagement in the public decision-making process.
- c. Identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities.

The table below identifies policies in each element of Wildomar’s 2040 General Plan addressing the Environmental Justice topics identified in the Government Code referenced above. (Note: there are additional policies that address environmental justice in the previously adopted 2021-2029 Housing Element.)

Statutory Citation	Topic	Relevant Policies
Gov. Code § 65302(h)(1)(A)	Identify objectives and policies to reduce exposure to pollution including improving air quality in disadvantaged communities	Open Space and Conservation Element Policy OS-2.1: Air Quality Coordination. Policy OS-2.2: New Construction. Policy OS-2.3: Compatible Development Siting. Policy OS-2.4: Landscaping and Construction Equipment. Policy OS-2.5: Vehicle Charging Infrastructure. Policy OS-2.6: City Vehicles.
Gov. Code § 65302 (h)(1)(A)	Identify objectives and policies to promote public facilities in disadvantaged communities	Land Use Element Policy LU-12.1: Services Supporting Residents. Policy LU-12.6: Equitable Access. Circulation Element Policy CI-2.2, 3.2: Close Connectivity Gaps.

Statutory Citation	Topic	Relevant Policies
		<p>Policy CI-2.3, 3.3: Local Roadway Safety Plan.</p> <p>Recreation and Community Services Element</p> <p>Policy RC-1.1: Parks Master Plan.</p> <p>Policy RC-1.2: Service Level Goal.</p> <p>Policy RC-1.4: Park Equity.</p> <p>Policy RC-4.1: Diversity of Community Services.</p> <p>Policy RC-4.2: Inclusive Recreation.</p> <p>Policy RC-4.4: Library Resources.</p> <p>Policy RC-4.7: Police, Fire and Emergency Medical Services.</p>
Gov. Code § 65302(h)(1)(A)	Identify objectives and policies to promote food access in disadvantaged communities	<p>Recreation and Community Services Element</p> <p>Policy RC-4.5: Healthy Food Options.</p>
Gov. Code § 65302(h)(1)(A)	Identify objectives and policies to promote safe and sanitary homes in disadvantaged communities	<p>Land Use Element</p> <p>Policy LU-6.2: Design for Safety.</p> <p>Policy LU-8.1: Variety of Housing Types.</p> <p>Policy LU-11.1: Protect from Incompatible Uses.</p> <p>Policy LU-11.2: Concentrate Near Transportation and Utilities.</p> <p>Policy LU-11.3: Integration of Complimentary Uses.</p>
Gov. Code § 65302(h)(1)(A)	Identify objectives and policies to promote physical activity in disadvantaged communities	<p>Circulation Element</p> <p>Policy CI-2.2, 3.2: Close Connectivity Gaps.</p> <p>Policy CI-2.9: Walking to School.</p> <p>Policy CI-3.4: Include Bicycle Facilities in Projects.</p> <p>Policy CI-3.8: Biking to Schools.</p> <p>Policy CI-3.9: Bicycle Parking.</p> <p>Recreation and Community Services Element</p> <p>Policy RC-1.4: Park Equity.</p> <p>Policy RC-2.3: Design For Inclusiveness.</p> <p>Policy RC-4.2: Inclusive Recreation.</p>

Appendix: Policies Addressing Environmental Justice Topics

Statutory Citation	Topic	Relevant Policies
Gov. Code § 65302(h)(1)(A)	Identify objectives and policies to reduce any unique or compounded health risks in disadvantaged communities not otherwise addressed above	<p>Land Use Element Policy LU-11.4: Distribution Centers and Warehouses.</p>
Gov. Code § 65302(h)(1)(B)	Identify objectives and policies to promote civic engagement in the public decision-making process in disadvantaged communities	<p>Land Use Element Policy LU-3.1: Cottonwood Canyon. Policy LU-3.2: Sedco. Policy LU-3.3: Old Town. Policy LU-3.4: Hidden Springs/Wyman Road Specific Plan Area. Policy LU-3.5: Wildomar Trail/I-15 Project Area. Policy LU-3.6: Clinton Keith Corridor. Policy LU-3.7: Mission Trail Corridor.</p>
Gov. Code § 65302(h)(1)(C)	Identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities	<p>Circulation Element Policy CI-1.1: Complete Streets. Policy CI-1.3: Local Context. Policy CI-1.5: Traffic Calming. Policy CI-2.2, 3.2: Close Connectivity Gaps. Policy CI-2.3, 3.3: Local Roadway Safety Plan. Policy CI-4.2: Station Amenities.</p> <p>Economic Development Element Policy ED-1.4: Workforce Housing Policy ED-1.5: Employment Opportunities for Residents Policy ED-1.6: Local Preferences Policy ED-4.2: Funding and Financing Districts.</p> <p>Recreation and Community Services Element Policy RC-1.5: Developer Fee Contribution.</p>

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TO: Jason Farag, PE; Director of Public Works, City of Wildomar
FROM: Jonathan Sanchez, PE, TE, PTOE; CR Associates
DATE: December 13, 2023
RE: Wildomar GPU – Goods Movement Memorandum

BACKGROUND

The goods movement sector plays a critical role in the local economy with 1 out of 7 jobs in Southern California involved in international trade. The Southern California Association of Governments (SCAG) region which encompasses the counties of: Los Angeles, Orange, Riverside, San Bernardino, and Ventura, is highly competitive in goods movement with its extensive network of seaports, airports, roadways, railways and intermodal transfer facilities. One of the most prevalent ways to transport goods is in the form of freight trucks, which typically navigate the transportation network of cities and counties via goods movements routes.

Goods movement routes hold significant importance due to several key factors:

Economic Vitality: Truck routes ensure the smooth flow of goods and services, which is crucial for maintaining a thriving local economy. These routes facilitate the movement of products to and from businesses, industries, and distribution centers, supporting commerce, trade, and job creation.

Transportation Efficiency: Designated truck routes are strategically planned to accommodate the larger size and weight of commercial vehicles. By guiding trucks along specific routes, traffic congestion can be minimized, preventing bottlenecks and delays. This leads to more efficient and reliable transportation of goods, reducing the time and costs associated with shipping and delivery.

Infrastructure Preservation: Heavy trucks can exert significant wear and tear on roads and infrastructure. By directing trucks to designated routes, cities can better manage and maintain their roadways. This helps prevent premature deterioration of streets and reduces the need for frequent repairs, ultimately saving taxpayer money.

Safety: Truck routes are designed with safety considerations in mind. These routes often avoid densely populated residential areas and prioritize roads with wider lanes and suitable turning radii for larger vehicles. This reduces the risk of collisions, ensures safer road conditions for both truck drivers and other motorists, and minimizes the impact on local communities.

Environmental Impact: Properly planned truck routes can help mitigate the environmental effects of heavy vehicle traffic. By guiding trucks away from sensitive areas and residential neighborhoods, air quality can be preserved, noise pollution can be minimized, and the overall environmental impact of goods movement can be reduced.

Quality of Life: Effective truck route planning enhances the quality of life for residents by minimizing the negative impacts of commercial traffic. Reducing congestion, noise, and pollution improves the overall living conditions in cities, making it a more desirable place to live and work.

Emergency Response: Clearly designated truck routes assist emergency responders by providing them with reliable pathways during crises. Unobstructed truck routes enable quicker responses to accidents, natural disasters, and other emergencies, ensuring the safety and well-being of residents.

In summary, truck routes play a pivotal role in maintaining economic vitality, ensuring efficient transportation, preserving infrastructure, enhancing safety, minimizing environmental impact, improving quality of life, and supporting emergency response efforts. Proper planning and management of these routes contribute to the cities' overall functionality and well-being.

PURPOSE

Currently, the City of Wildomar does not have designated goods movement routes. Therefore, the purpose of this technical memorandum is to present a review of goods movement patterns for the City of Wildomar, to inform the technical analysis and planning process to identify and recommend goods movement routes.

LITERATURE REVIEW

The Literature Review discusses the following sources:

- *City of Wildomar, California Municipal Code*
- *City of Wildomar, California Pavement Management Plan*
- *City of Wildomar, California Pavement Management Report (2019)*
- *City of Wildomar, California Pavement Management Program Update (2021)*
- *California Vehicle Code (current)*
- *California Manual of Uniform Traffic Control Devices 2014 (revised March 30, 2021)*
- *Design and Access Management Guidelines for Truck Routes: Planning and Design (2020)*

City of Wildomar, California Municipal Code (as of 4/12/2023) – This document contains two sections relevant to trucking activities on City roads: Regulations of Oversize and Overweight Vehicles (Title 10), and regulations of noise in the City (Title 9). Oversize and Overweight Vehicles are a subset of the trucking population that would utilize truck routes. 10.08.010 establishes that oversize and overweight vehicles require permits to move a load “along or across any City road.” 10.08.080 establishes that the Road Commissioner shall prepare regulations for the purpose of protecting the public, road surfaces, and overhead utilities “within a City road or adjacent thereto,” as well as protecting private and public property, that repairs be made by the permittee for any damages, and that fees be collected. 10.08.110 requires permittee to protect road facilities to the satisfaction of their owners and at permittee’s expense.

Public Peace and Welfare Chapter 9.48 Noise Regulation establishes maximum decibel levels for the times 7:00am – 10:00pm (daytime), and 10:00pm – 7:00am (overnight). The City’s noise ordinance focuses on sounds coming from properties. Maximum daytime decibels depend on the General Plan foundation component (community developments of various densities, as well as rural settings), and range from 55 to 75 decibels. The community developments with the highest permitted decibel

levels are light and heavy industrial areas, while the lowest maximums are for residential areas. Typically, overnight decibels levels are between 10 and 20 decibels less than daytime levels. However, "Sound emanating from. . . motor vehicles" is exempt from the City's noise ordinance (with the exceptions of off-highway vehicles and motor vehicle sound systems).

City of Wildomar, California Pavement Management Plan – This document establishes processes for the maintenance of the City's transportation system. It is a multi-year work plan that contains methods for guiding the determination of maintenance priorities, and in relation to funding availabilities.

City of Wildomar, California Pavement Management Report (2019) – This document presents a "Pavement Condition Index" (PCI), which supplies the framework for evaluating the condition of road surfaces in the City (and is used throughout the state of California). A new road surface would score 100 on the PCI, while a failed road surface would score 15 or less. The City of Wildomar's average PCI is 68, which is slightly higher than the State's average of 65. The City and all of Riverside County share an average PCI score of 68. This scoring suggests an overall need for "preventative maintenance" that pavement surfaces are "in need of surface sealing or thin overlay." This document also assesses the condition of particular streets throughout the City of Wildomar and presents that data graphically in the form of useful maps. The document also presents five-year budget scenario plans that identify the prioritization of street treatments.

City of Wildomar, California Pavement Management Program Update (2021) – This document presents an update to the 2019 Pavement Management Report and supplies new pavement condition assessments (as of November 2021), as well as five-year budget scenarios plans identifying the prioritization of street treatments.

California Vehicle Code (website accessed 4/15/2023 and 4/17/2023) – The California Vehicle Code (CVC) provides the following 3-Step Guide for determining routes a truck may legally use are:

Step 1: Determining the truck category -- "Green" Surface Transportation Assistance Act (STAA) trucks, and "Black" California Legal trucks. There are two categories of truck tractor-semitrailers in California: (1) "Green" trucks, which are Interstate "STAA" (Surface Transportation Assistance Act) trucks; and (2) "Black" California Legal trucks. Maximum lengths of the trucks and their trailers are specified.

Step 2: Determine the state routes one can use. The Guide states the "California Truck Network Map" for State highways is the official government source for truck route information.

Step 3: Determine the local roads one can use based on destination, local terminal access and truck route maps, local truck routes, local terminal access routes, local contacts, and signs. About Local Truck Routes, the CVC states "Most cities and counties allow only the "black" California Legal trucks, and only on certain "truck routes" which are posted with "truck route" signs."

The CVC also presents California Truck Network Map and a District 8 Map. The CVC also specifies Special Route Restrictions. Two route restrictions are within District 8; both are in Upland, California.

Finally, the CVC discusses the legal basis for truck restrictions. The CVC notes that “most truck ban requests arise from noise complaints.” However, given the fact that “overland trucking is a primary means for moving goods in the United States” and that “commerce and trade have state and federal legal protection,” truck bans require “substantial supporting evidence such as accident data and a reasonable alternate route.” The same conclusion is presented in the CVC’s discussion of “Peak-hour Truck Restrictions.”

California Manual of Uniform Traffic Control Devices 2014 (revised March 10, 2023) – This document (hereafter CAMUTCD) contains seven sections (six specifying signage, one specifying a plaque) related to trucks. They are:

- Section 2b.61 Truck Route Signs (and related)
- Section 2c.49 Truck Crossing Warning Sign
- Section 2d.16 Alternative Route Signs including Truck Routes
 - Section 2d.16 Auxiliary Signs for Alternative Routes (M4 Series)
 - Section 2d.20 Truck Auxiliary Sign
- Section 2I.03 General Service Signs for Freeways and Expressways
- Section 6f.36 Motorized Traffic Signs
- Section 2B.13 Speed Limit Sign (R2-1)
- Section 2B.14 Truck Speed Limit Plaque (R2-2P)

Of these CAMUTCD regulations, the first, Truck Route Signs (and related), warrants specific mention. It states that Caltrans is not unilaterally authorized to prohibit truck travel on State highways, that local ordinances cannot apply to State highways, and that any local ordinance restricting or banning trucks must supply an unrestricted alternate route.

Design and Access Management Guidelines for Truck Routes: Planning and Design (2020) (National Cooperative Highway Research Program) – This guide (hereafter “Guide”) presents “a broad ranges of issues related to access management and design for truck routes and site layout” (Foreword). The Guide’s intended readers are planners and engineers in transportation agencies and consulting firms.

The Guide addresses truck route access and design through four chapters (plus an introduction). These chapters cover: Truck Operational Challenges and Needs, Truck Routes, Geometric Design and Access Management, and Balancing Truck Considerations with Other Modes. Issues addressed include land use and zoning impacts on truck movement, strategies for goods movement, assessment of benefit-cost differentials for accommodation of trucks, guidelines and strategies for truck routes and networks, and design and operations policies and practices.

The Guide provides guidelines on the following aspects of truck routes design and implementation:

- Defining a truck route as routes that carry ‘a substantial number of trucks’
- Design of roadways intended to serve as truck routes including storage lengths, bridge clearances, and truck turning movements.

- Limiting truck routes through residential areas whenever possible
- Other topics discussed in the Guide include enforcement, violations, weigh stations, roadway maintenance, permits, and routing considerations (such as bridges (and their weight limits), overhead structures, cross-section widths, overhead traffic signals, roundabouts, route continuity, intersection design, and truck parking (including loading zones).
- The final chapter of the Guide discusses the interaction between trucks and other modes, with the focus on pedestrians, bicyclists, and transit users.

Study Area

A total of 11 roadways were identified as the main truck traffic corridors within the City. This was based on a combination of historical vehicular traffic counts (year 2019), big data¹ from the Replica² platform, as well as coordination with City staff.

Functional Classifications

Bundy Canyon Road currently functions as a 2-Lane Collector with a speed limit of 45 miles per hour (mph) west of I-15 and as a 4-Lane Arterial with turn lanes and a speed limit of 40 mph from I-15 to Oak Canyon Drive. East of Oak Canyon Drive Bundy Canyon Road functions as a 2-Lane Collector with a speed limit of 40 to 50 mph. According to the Mobility Element, the ultimate classification for Bundy Canyon Road is a 4-Lane Major Arterial from Mission Trail to Orange Street and a 6-lane primary arterial east of Orange Street.

Clinton Keith Road currently functions primarily as a 4-Lane to 6-Lane Primary Arterial, with some 2-Lane segments throughout the study area with a speed limit of 35 mph. According to the Mobility Element, the ultimate classification for Clinton Keith Road is a 4-Lane Major Arterial from Grand Avenue to Palomar Street. East of Palomar Street, the ultimate classification for Clinton Keith Road is a 6-Lane Primary Arterial.

Corydon Road currently functions as a 2-Lane Collector with a speed limit of 45 mph along the study area. According to the Mobility Element, the ultimate classification for Corydon Road is a 4-Lane Major Arterial between Grand Avenue and Mission Trail.

Grand Avenue currently functions as a 2-Lane Collector with a speed limit of 50 mph along the studied area. According to the Mobility Element, the ultimate classification for Grand Avenue is a 2-Lane Collector between Corydon Road and Clinton Keith Road.

Mission Trail currently functions as a 4-Lane Arterial with a speed limit of 50 mph along the study area. According to the Mobility Element, the ultimate classification for Mission Trail is a 4-Lane Major Arterial between the city limits and Palomar Street.

¹ Big Data – Describes the collection of complex and large data sets that is difficult to capture, process, store, search, and analyze using conventional data base systems.

² Replica is a data provider that produces large-scale models to represent mobility throughout the United States. For more information, please visit the following: <https://replicahq.com/>.

Palomar Street currently functions as a 2-Lane Collector with a speed limit of 35 mph between Corydon Road and Mission Trail and 50 mph between Mission Trail and Clinton Keith Road. According to the Mobility Element, the ultimate classification for Palomar Street is a 2-Lane Collector between Corydon Road and Mission Trail and a 4-Lane Major Arterial east of Mission Trail.

Prielipp Road currently functions as a 2-Lane Arterial with a speed limit of 40 mph along the studied area. According to the Mobility Element, the ultimate classification for Prielipp Road is a 4-Lane Minor Arterial between Inland Valley Drive and the city limits.

Wildomar Trail currently functions as a 2-Lane Collector with a speed limit of 40 mph along the study area. According to the Mobility Element, the ultimate classification for Wildomar Trail is a 2-Lane Collector from Grand Avenue to Palomar Street and from Bayless Road to Clinton Keith Road. Between Palomar Street and Monte Vista Drive, the ultimate classification for Wildomar Trail is a 4-Lane Major Arterial and a 4-Lane Minor Arterial between Monte Vista Drive and Bayless Road.

Figure 1 shows the map of the studied segments.

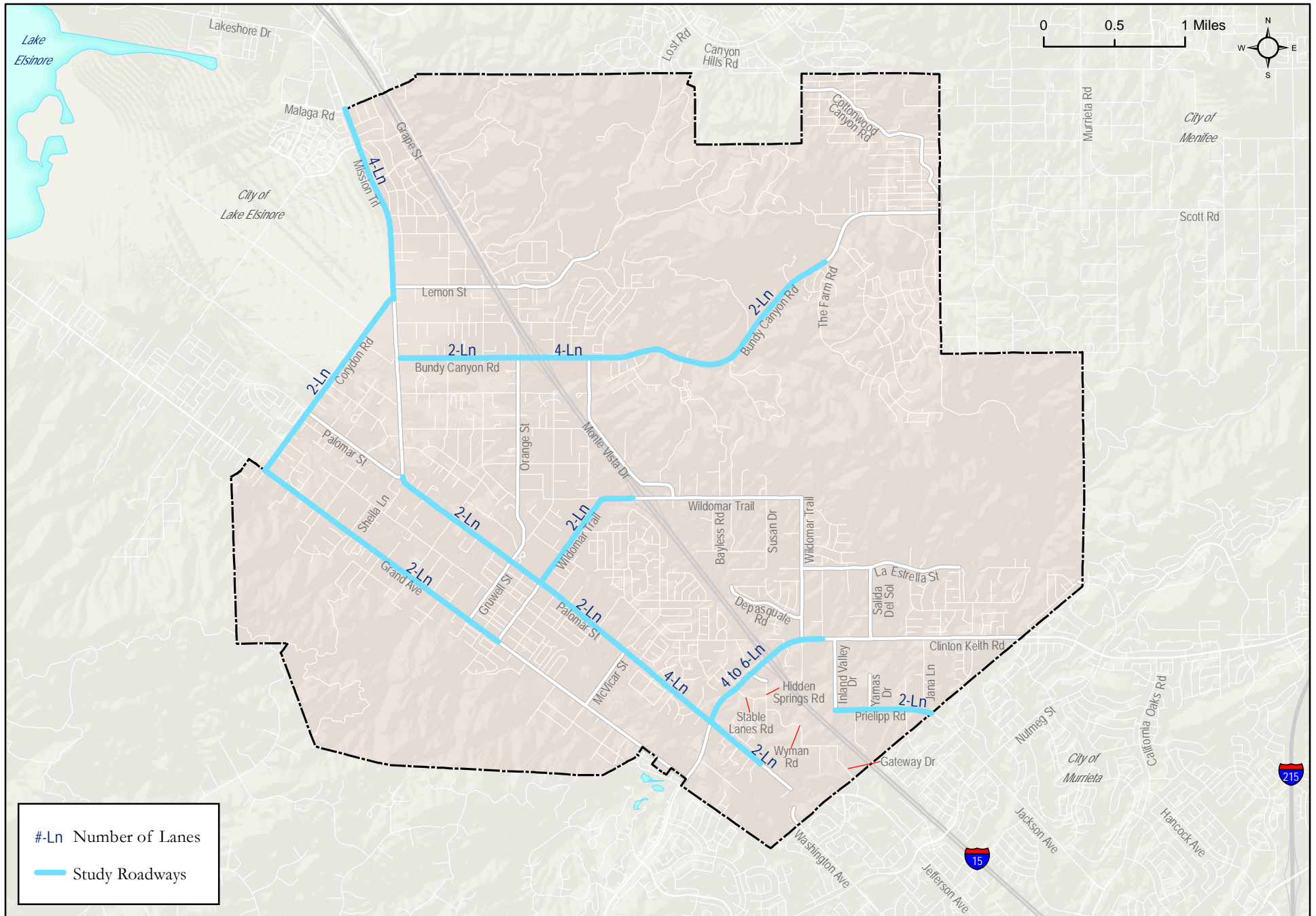


Figure 1
 Studied Segment Locations

Data Collection

Vehicle classification traffic counts were conducted at the thirteen (13) locations throughout the City. Data was collected between May 19th and May 25th, 2023 except for Bundy Canyon Road between Monte Vista Drive and Oak Canyon Drive. Data for this segment was partially collected during the aforementioned dates and partially between July 22nd and July 25th due to rupture of the equipment³. The new data was analyzed and compared to the May 2023 data as well as 2019 data. The results of this validation effort concluded that the traffic counts were deemed appropriate as there was a difference of roughly 4 percent. Full traffic count data can be provided on request by City staff.

Classification counts were collected at the following locations:

- Bundy Canyon Road between Mission Trail and I-15 SB Ramps
- Bundy Canyon Road between I-15 NB Ramps and Monte Vista Drive
- Bundy Canyon Road between Monte Vista Drive and Oak Canyon Drive
- Bundy Canyon Road east of Oak Canyon Drive
- Clinton Keith Road between Palomar Street and I-15 SB Ramps
- Clinton Keith Road between I-15 NB Ramps and Wildomar Trail
- Corydon Road between Grand Avenue and Mission Trail
- Grand Avenue between Wildomar Trail and Corydon Road
- Mission Trail between Corydon Road and City Limits
- Palomar Street between Mission Trail and Clinton Keith Road
- Palomar Street south of Clinton Keith Road
- Prielipp Road between Inland Valley Drive and Jackson Avenue
- Wildomar Trail between Palomar Street and I-15 SB Ramps

³ This occurrence is not uncommon as the equipment used can be fragile (pneumatic tubes made of polyurethane).

Roadway Analysis

Based on the seven-day counts collected, an average daily traffic volume was calculated for each of the study roadway segments. A roadway segment analysis was conducted using level of service (LOS) thresholds and **Table 1** shows the LOS results for the studied roadway segments.

Table 1 – Existing Roadway Segment LOS

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS
Bundy Canyon Road	Mission Trail to I-15 SB Ramps	2-Lane Collector	10,629	13,000	0.818	D
Bundy Canyon Road	I-15 NB Ramps to Monte Vista Drive	6-Lane Urban Arterial	15,462	53,900	0.287	A
Bundy Canyon Road	Monte Vista Drive to Oak Canyon Drive	4-Lane Major Arterial	15,462	35,900	0.431	B
Bundy Canyon Road	East of Oak Canyon Drive	2-Lane Collector	15,462	13,000	1.189	F
Clinton Keith Road	Palomar Street to I-15 SB Ramps	6-Lane Urban Arterial	37,786	53,900	0.701	C
Clinton Keith Road	I-15 NB Ramps to Wildomar Trail	6-Lane Urban Arterial	30,545	53,900	0.567	B
Corydon Road	Grand Avenue to Mission Trail	2-Lane Collector	17,084	13,000	1.314	F
Grand Avenue	Wildomar Trail to Corydon Road	2-Lane Arterial	9,582	18,000	0.532	B
Mission Trail	Corydon Road to City Limits	4-Lane Arterial	19,190	35,900	0.534	B
Palomar Street	Mission Trail to Clinton Keith Road	2-Lane Collector	8,282	13,000	0.637	C
Palomar Street	South of Clinton Keith Road	2-Lane Collector	10,453	13,000	0.804	D
Prielipp Road	Inland Valley Drive to Jackson Avenue	2-Lane Collector	6,066	13,000	0.467	A
Wildomar Trail	Palomar Street to I-15 SB Ramps	2-Lane Collector	15,058	13,000	1.158	F

Source: Counts Unlimited, CR Associates (November 2023)

As shown in Table 1, all roadway segments operate at LOS D or better except for the following:

- Bundy Canyon Road – East of Oak Canyon Drive
- Wildomar Trail – Palomar Street to I-15 SB Ramps
- Corydon Road – Grand Avenue to Mission Trail

Additionally, based on the data provided in the traffic counts a percentage of truck traffic along each roadway segment was calculated. **Table 2** shows the average truck percentage across the studied days. For the purposes of this analysis, “trucks” were only considered anything 3 axle and above.

Table 2 – Existing Truck Percentage

Roadway	Segment	ADT	Average Truck Volume	Average Truck Percentage ¹
Bundy Canyon Road	Mission Trail to I-15 SB Ramps	10,629	180	1.69%
Bundy Canyon Road	I-15 NB Ramps to Monte Vista Drive	15,462	296	1.49%
Bundy Canyon Road	Monte Vista Drive to Oak Canyon Drive	15,462	296	1.49%
Bundy Canyon Road	East of Oak Canyon Drive	15,462	296	1.49%
Clinton Keith Road	Palomar Street to I-15 SB Ramps	37,786	182	0.48%
Clinton Keith Road	I-15 NB Ramps to Wildomar Trail	30,545	253	0.83%
Corydon Road	Grand Avenue to Mission Trail	17,084	175	1.03%
Grand Avenue	Wildomar Trail to Corydon Road	9,582	126	1.32%
Mission Trail	Corydon Road to City Limits	19,190	351	1.83%
Palomar Street	Mission Trail to Clinton Keith Road	8,282	31	0.38%
Palomar Street	South of Clinton Keith Road	10,453	105	1.00%
Prielipp Road	Inland Valley Drive to Jackson Avenue	6,066	62	1.03%
Wildomar Trail	Palomar Street to I-15 SB Ramps	15,058	101	0.67%

Source: CR Associates (November 2023)

Notes:

¹ Truck Percentage was calculated by subtracting bikes, cars, 2 axle long vehicles, buses, and 2 axle 6 tire vehicles from the total ADT.

Figure 2 displays the study area roadway segments and their respective heavy truck utilization.

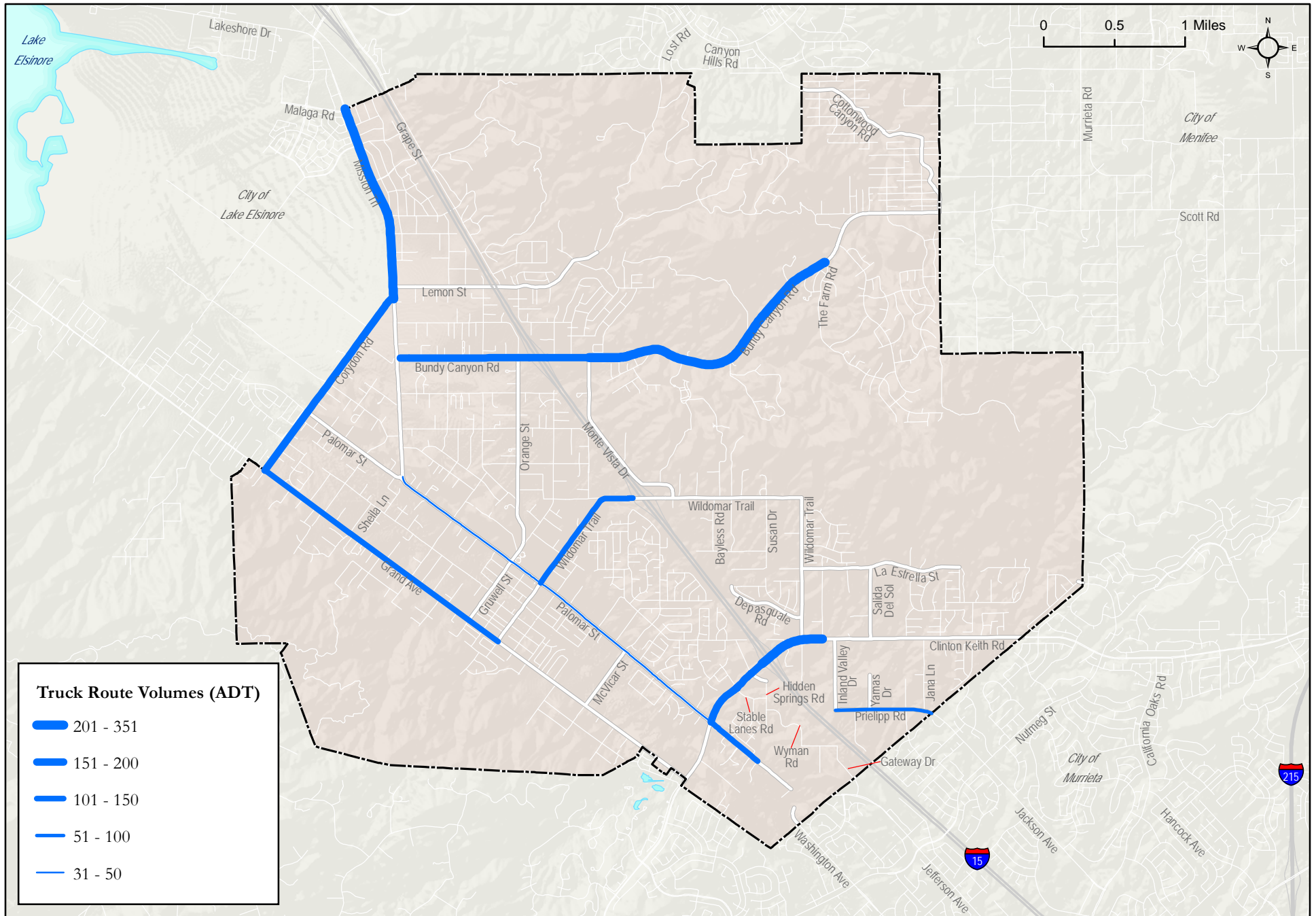


Figure 2
 Truck Volumes (ADT)

Safety

Collision data can be used to identify potential deficiencies or safety issues related to vehicular travel. The collision review draws from five years of data (2018-2023) obtained from the SWITRS. Additionally, data from the city’s Crossroads database was included in the analysis. For the purpose of determining goods movement routes, only collisions involving heavy vehicles were examined.

Figure 3 displays locations of collisions involving heavy vehicles. As shown, this type of collision has primarily occurred on Bundy Canyon Road and Mission Trail over the past five years.

Table 3 shows the top corridors in terms of number of heavy vehicle collisions.

Table 3 – Top Corridors – Heavy Vehicle Collisions

Locations	Number of Collisions
Bundy Canyon Road	12
Mission Trail	3
Clinton Keith Road	2
Corydon Road	1

Source: SWITRS, City of Wildomar (Crossroads database), CR Associates (November 2023)

Table 4 summarizes the heavy vehicular collisions by the type of collisions. As shown, “Rear End” (44.4%) and “Broadside” (22.2%) were reported as the most frequent collision types during the five-year period.

Table 4 – Heavy Vehicle Collision Type

Collision Type	Number of Collisions	Percent
Rear End	8	44.4%
Broadside	4	22.2%
Sideswipe	2	11.1%
Head On	2	11.1%
Hit Object	1	5.6%
Vehicle/Pedestrian	1	5.6%

Source: SWITRS, City of Wildomar (Crossroads database), CR Associates (November 2023)

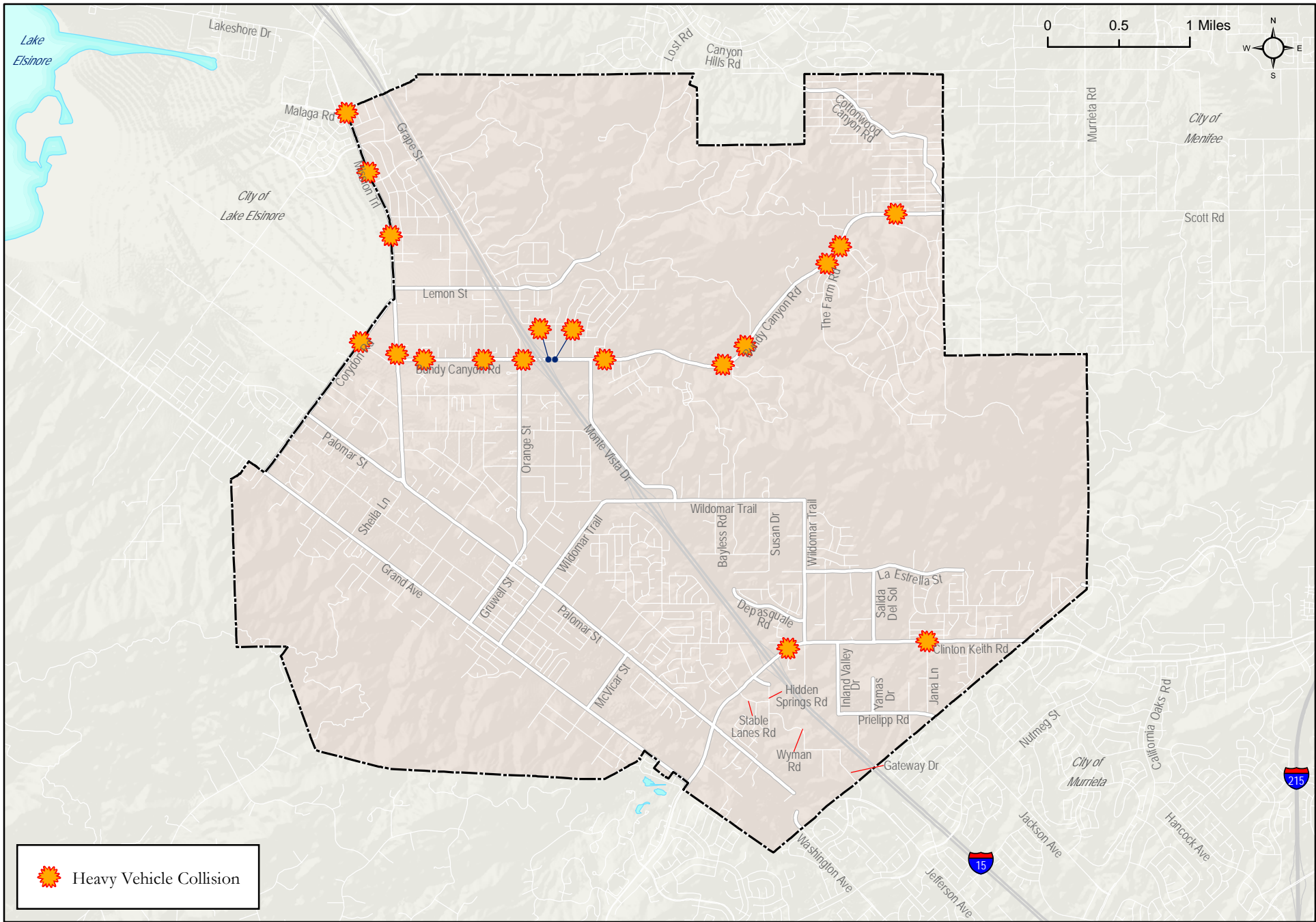


Figure 3
 Wildomar Heavy Vehicle Collision Locations

Table 5 summarizes the primary collision factor for heavy vehicle collisions reported in Wildomar in the past five years. As depicted, the most common primary collision factor violations were “Unsafe Speed” and DUI.

Table 5 – Primary Collision Factor

Primary Collision Factor	Number of Collisions	Heavy Vehicle was party at Fault?
Unsafe Speed	8	4
Improper Turning	2	2
Driving under the influence (DUI)	2	1
Following Too Closely	2	1
Unsafe Starting or Backing	1	1
Unsafe Lane Change	1	0
Automobile right of way	1	0
Pedestrian Violation	1	0

Source: SWITRS, City of Wildomar (Crossroads database), CR Associates (November 2023)

Based on the collected collision data, the largest percentage of collisions were caused by unsafe speeds and mostly along Bundy Canyon Road. This may be due to the lack of friction elements (i.e., sidewalks, bike lanes, medians, on-street parking, etc.) along the roadway which tends to give drivers an “open road” feeling, hence, creating an environment for speeding. Additionally, a significant portion of Bundy Canyon Road heading westbound is on a downgrade and could also contribute to unsafe speeds.

Bundy Canyon Road is identified as a 6-Lane Primary Arterial roadway with a Raised Median in the City of Wildomar Mobility Element (2021). Additionally, sidewalks and a Class I multi-use path are planned along Bundy Canyon Road which will add friction elements to the roadway and accompanied with appropriate signage and striping, should create an environment prone to less speeding occurrences.

Currently, Bundy Canyon Road has been widened and improved from Cherry St to approximately 1600’ east of Oak Canyon Drive from a 2-Lane roadway to a 4-Lane roadway with turn lanes where the bike lanes will be connected to a planned Class 1 pedestrian/bike trail, as part of the Bundy Canyon Road Improvement Project, Segment 1 (CIP 026-1).

Adjacent Cities

An important aspect of planning for goods movement routes is not only to ensure connectivity within Wildomar but also with other cities in the region. Therefore, the goods movement routes for the neighboring cities of Lake Elsinore, Murrieta and Menifee were also taken into consideration to ensure that any recommendations of potential Wildomar goods movement routes were consistent

with currently existing routes. Currently, Mission Trail is designated as a goods movement route by the City of Lake Elsinore and the same is true about Bundy Canyon Road in the City of Menifee (in the City of Menifee Bundy Canyon Road changes to Scott Road). Truck routes for the surrounding cities can be found in **Attachment A**.

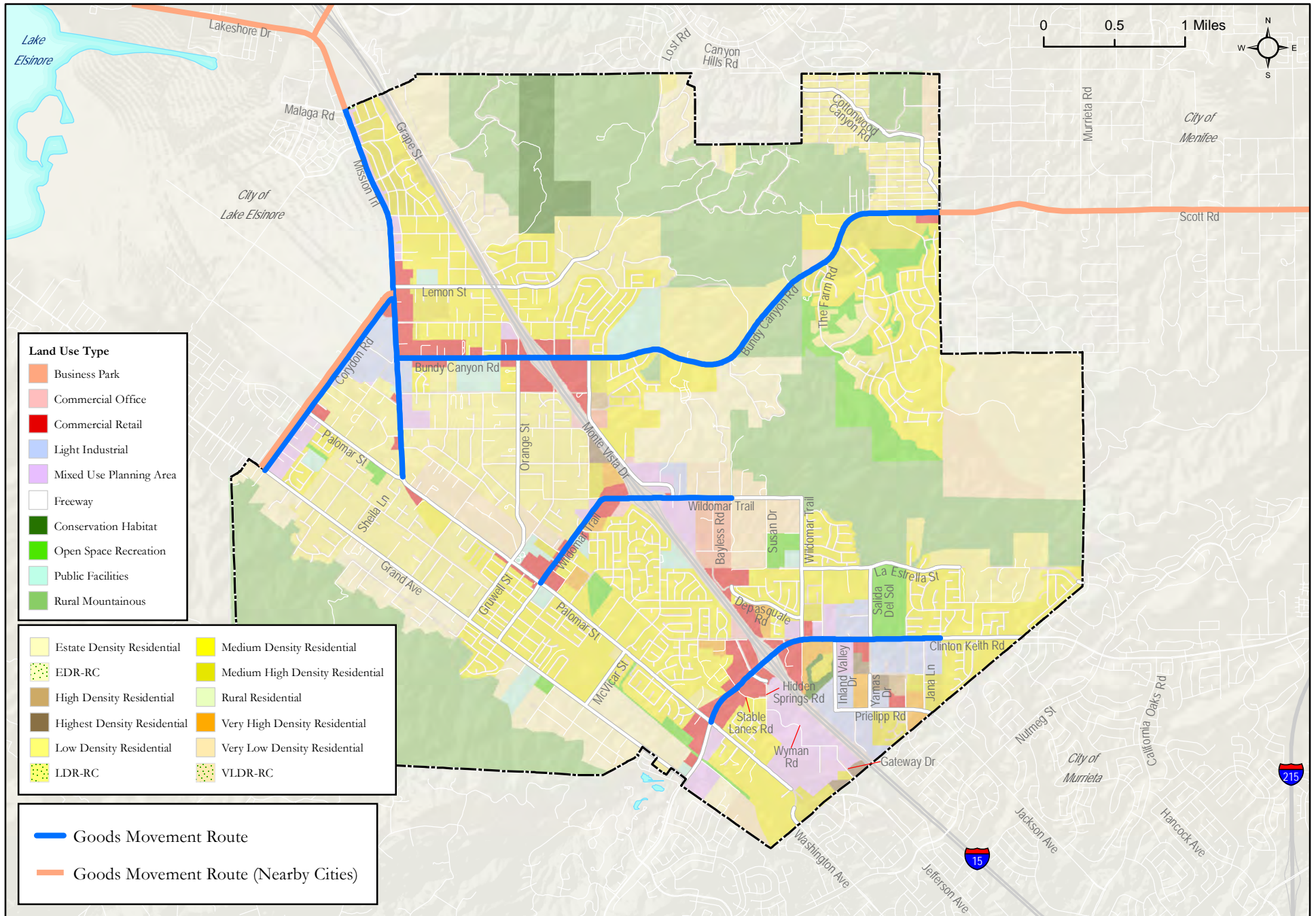
Summary

The proposed goods movement routes were developed based on a variety of factors including collected data, the calculated truck volume percentages, a desire for connectivity within the region, surrounding cities truck routes, and a desire to increase roadway safety. Once implemented, these routes will allow for the consolidation and increased efficiency of goods movement throughout the city.

Figure 4 displays the recommended goods movement routes within the City of Wildomar, proposed land uses, as well as truck routes from adjacent cities. While currently both Wildomar Trail and Clinton Keith Road do not currently have significant heavy vehicle traffic both were included in the recommendation because of their connectivity (both to nearby cities as well as regional networks) and their anticipated future cross sections. Based on preferred future land uses these roadways are also anticipated to be adjacent to industrial, retail, and construction land uses.

It is important to note that a roadway not being designated a goods movement route does not mean that trucks or other heavy vehicles making deliveries/pick-ups to specific locations on a roadway are prohibited as that would be in violation of the California Vehicle Code. However, cut-through or pass-through traffic from trucks or other heavy vehicles would be prohibited along the proposed routes.

These recommendations (Figure 4) are consistent with the City of Wildomar Municipal Code section 10.20.150 subsection C regarding commercial vehicles.



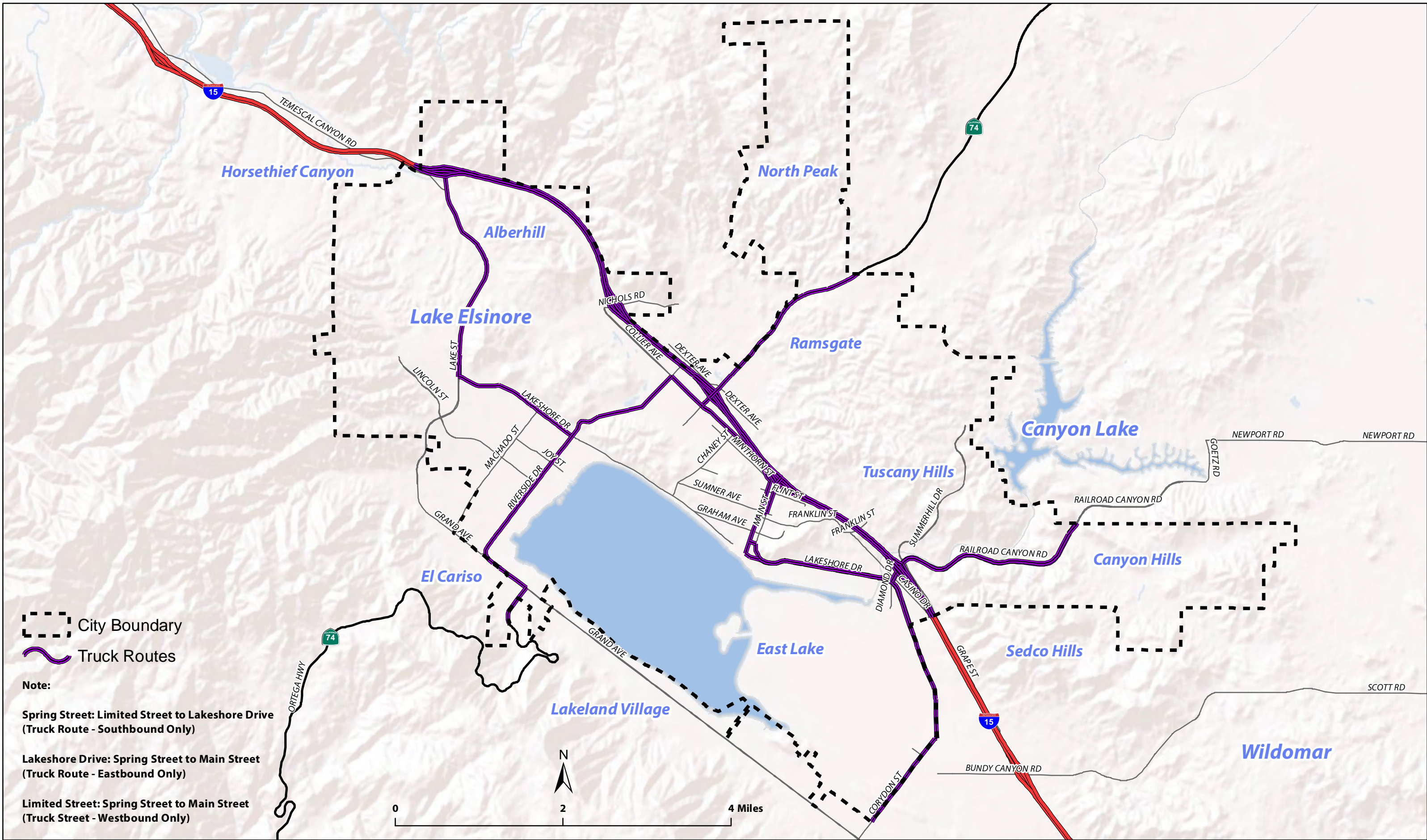
Recommendations/Next Steps



The following recommendations and next steps are consistent with Policy 6.1 of the city's Mobility Element.

1. Include the recommended Goods Movement Route as part of the city's Mobility Element for adoption by City Council.
2. Public Outreach and Education
 - Create a public information campaign to inform residents, businesses, and other stakeholders about the goods movement routes.
3. Adopt ordinance to establish the goods movement routes in the city's municipal code.
4. Design and Engineering
 - Goods movement routes shall be designed in conformance with the design guidelines identified in the Mobility Element and any applicable existing or future Roadway Standards and Design Guidelines and shall be subject to the approval of the City.
5. Signage
 - Installation of appropriate signage and roadway markings to guide commercial vehicles along the designated goods movement route network.
6. Enforcement and Compliance
 - Collaborate with local law enforcement agencies to ensure that commercial vehicles adhere to the designated goods movement route network.



Attachment A - Neighboring Cities (Lake Elsinore, Menifee, Murrieta) Truck Routes



-  City Boundary
-  Truck Routes

Note:

**Spring Street: Limited Street to Lakeshore Drive
(Truck Route - Southbound Only)**

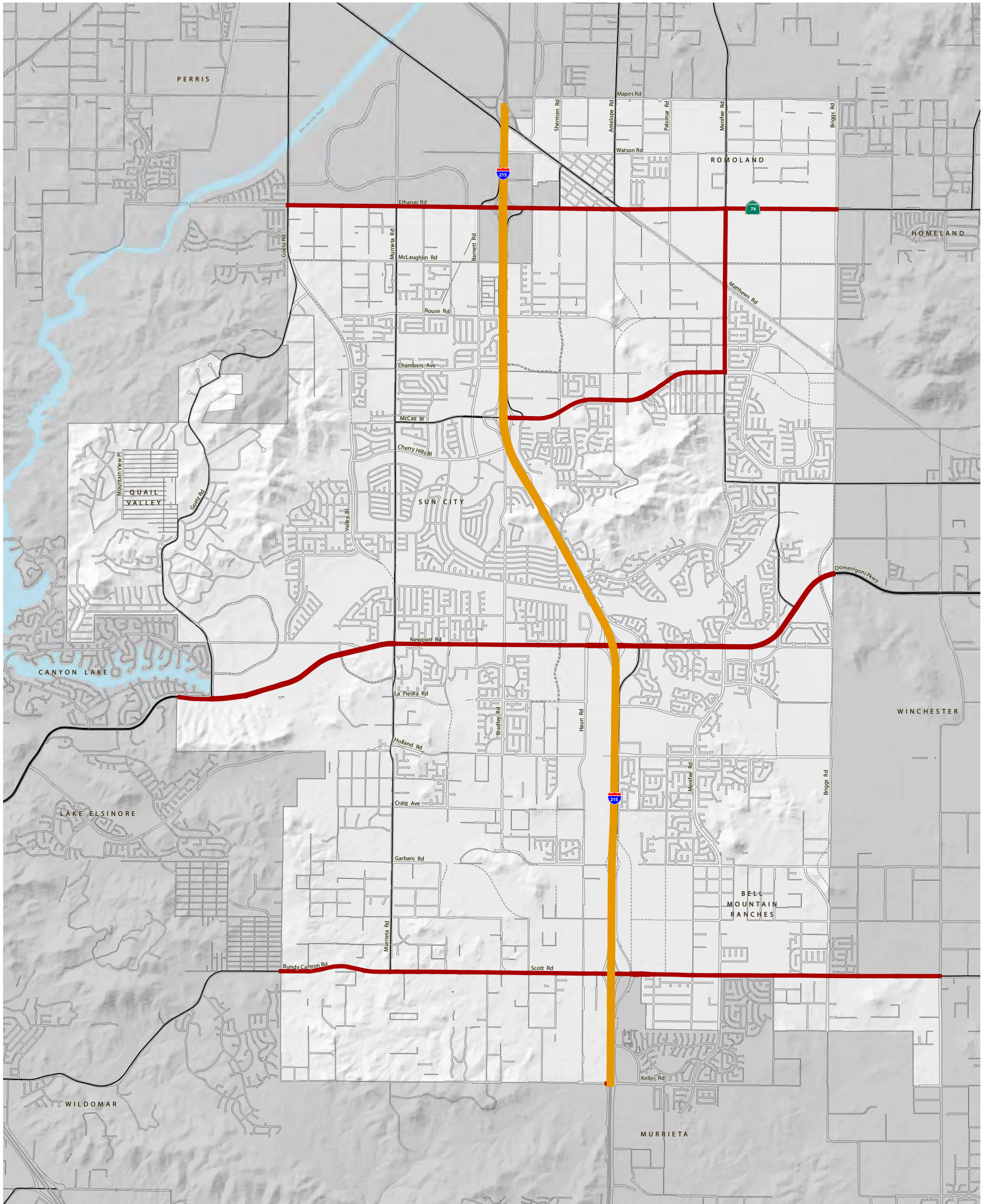
**Lakeshore Drive: Spring Street to Main Street
(Truck Route - Eastbound Only)**

**Limited Street: Spring Street to Main Street
(Truck Street - Westbound Only)**



TRUCK ROUTES

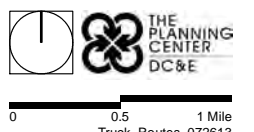
EXHIBIT C-7 POTENTIAL TRUCK ROUTES



Source: Urban Crossroads, 2012

- Truck Route
- I-215 Freeway Corridor

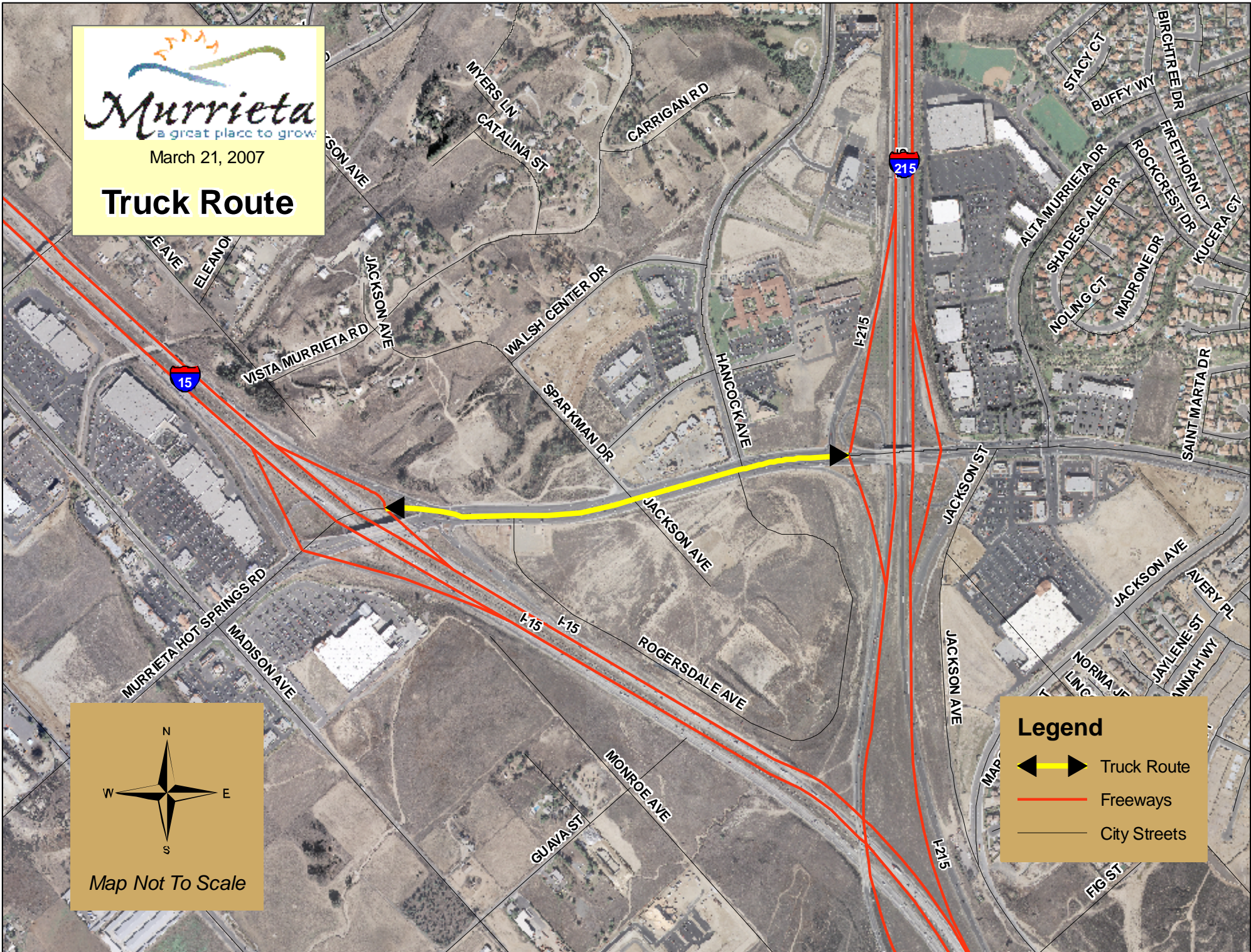
The designated truck routes within the City have been selected because of their accessibility to the freeway and key industrial/commercial areas. The designation of truck routes does not prevent trucks from using other roads or streets to make deliveries to individual addresses, or for other reasons as defined in the State of California *Motor Vehicle Code*.



Murrieta
a great place to grow

March 21, 2007

Truck Route



Map Not To Scale

Legend

- Truck Route
- Freeways
- City Streets





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Appendix 5.3-1 Air Quality and Greenhouse Gas Modeling

Appendices

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Land Use Statistics - City of Wildomar

	Existing Conditions	No Project (Current GP)	Buildout Estimates	Change from Existing Conditions		Change from the Current GP	
	2019	2045	2045	2019-2045	%	2019-2045	%
Housing Units	11,988	19,284	20,980	8,992	75%	1,696	9%
Non-residential SF	2,992,377	4,252,115	5,957,915	2,965,538	99%	1,705,800	40%
Population	37,326	60,045	65,325	27,999	75%	5,280	9%
Employment	5,841	9,516	12,115	6,274	107%	2,599	27%
Service Population	43,167	69,561	77,440	34,273	79%	7,879	11%

AQMP Consistency Analysis

Comparison of the Change in Population and VMT in Wildomar (O-D Method)

Category	Existing	2045 Current GP	2045 Proposed Project	Change from Existing		Change from the Current GP	
				Change	Percent	Change	Percent
Population	37,326	60,045	65,325	27,999	75%	5,280	9%
Employment	5,841	9,516	12,115	6,274	107%	2,599	27%
SP	43,167	69,561	77,440	34,273	79%	7,879	11%
VMT per Day	904,100	1,321,564	1,451,849	547,749	61%	130,285	10%
VMT/person	24.2	22.0	22.2	-2.0	-8%	0.2	1%
VMT/SP	20.9	19.0	18.7	-2.2	-10%	-0.3	-1%

Notes:

Origin-Destination (O-D) Methodology is not the same methodology for SB 743, which considers only commute-trip VMT.

Modeling of vehicle miles traveled (VMT) is provided by Chen Ryan Transportation is based on the RIVCOM Model. VMT from passenger vehicles and trucks that have an origin or destination in the City using a transportation origin-destination methodology. Accounting of VMT is based on the recommendations of CARB's Regional Targets Advisory Committee (RTAC) created under Senate Bill 375 (SB 375). For accounting purposes, there are two types of trips:

- » Internal OD VMT include vehicle trips that originated and terminated within the City boundary.
- » External OD VMT includes vehicle trips that either originated or terminated (but not both) within the City.

Wildomar Community GHG Emissions Inventory and Forecast

Category	Existing		2045		Change from Existing (2045)	
	TOTAL		TOTAL		TOTAL	
On-Road Transportation	136,705	61%	150,397	56%	13,692	10%
Building Electricity	32,266	14%	28,988	11%	-3,278	-10%
Building Natural Gas	26,582	12%	47,313	17%	20,730	78%
Off-Road Vehicles and Equipment	5,557	2%	6,187	2%	630	11%
Solid Waste/Landfills	2,320	1%	4,163	2%	1,842	79%
Refrigerants	17,690	8%	30,960	11%	13,270	75%
Water Use	2,255	1%	2,063	1%	-192	-8%
Wastewater Treatment	572	0%	726	0%	154	27%
Total Community Emissions	223,947	100%	270,796	100%	46,849	21%
Service Population (SP)	43,167		77,440		34,273	79%
MTCO ₂ e/SP	5.2		3.5		-1.7	-33%
Trajectory to AB 32, SB 32 and AB 1279	33,592	-85%	No	Achieve Target?		

Notes:

Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC Fifth Assessment Report (AR5).

The emissions inventory and forecast is based on activity data for Riverside County. This emissions inventory methodology identifies GHG emissions produced within a jurisdiction and captures direct and indirect emissions generated by land uses in a community. The activity data methodology allows a direct comparison between a community's GHG emissions and that identified by CARB in the SB 32 and AB 1279 inventory and forecast prepared for the scoping plan. Unlike a "consumption-based" GHG emissions inventory, an activity-based emissions inventory does not capture lifecycle emissions associated with consumptions of goods. While a consumption-based emissions inventory approach may document GHG emissions associated with the final demand (regardless of where they were generated), a consumption-based emissions inventory excludes emissions associated with products produced within the jurisdiction but consumed elsewhere. For these reasons, an activity-based emissions inventory was determined to be most applicable for determining significant impacts under CEQA.

Excludes GHG emissions natural gas use from Permitted Sources within the City

Wildomar Community Criteria Air Pollutant Emissions Inventory and Forecast

Sources

¹ Source: Chen Ryan Transportation 2023; EMFAC2021 Version 1.0.2 Emissions Database (Sub-Area Riverside (SC))

² Sources: SoCalGas 2023. CalEEMod 2022 User's Guide for natural gas criteria air pollutant emission rates. Excludes criteria air pollutant emissions natural gas use from Permitted Sources within the City.

³ Source: OFFROAD 2021 Version 1.0.5

⁴ Source: CalEEMod 2022 User's Guide

EXISTING (2019)

Phase	Existing Criteria Air Pollutant Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Transportation ¹	70	780	2,559	8	61	28
Energy ²	7	127	61	1	10	10
Offroad Equipment ³	115	219	1,793	0	11	10
Consumer Products ⁴	496					
Total	688	1,125	4,413	9	82	48

EXISTING LAND USES (2045 Emission Rates)

Phase	Existing (2045) Criteria Air Pollutant Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Transportation ¹	11	167	930	6	51	18
Energy ²	7	127	61	1	10	10
Offroad Equipment ³	115	219	1,793	0	11	10
Consumer Products ⁴	496					
Total	629	512	2,784	7	72	38

Proposed General Plan Update 2045

Phase	Project (2045) Criteria Air Pollutant Emissions(lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Transportation ¹	18	268	1,493	9	82	29
Energy ²	13	227	110	1	18	18
Offroad Equipment ³	185	225	3,205	0	11	10
Consumer Products ⁴	931					
Total	1,148	719	4,808	11	111	57

Wildomar Community Criteria Air Pollutant Emissions Inventory and Forecast

Net Change (No Project)

Phase	Net Change (2045-2045 No Project) Criteria Air Pollutant Emissions (lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Transportation ¹	7	101	563	3	31	11
Energy ²	6	99	49	1	8	8
Offroad Equipment ³	71	7	1,412	0	0	0
Consumer Products ⁴	436					
Total	519	207	2,024	4	39	19
South Coast AQMD Threshold	55	55	550	150	150	55
Increase from Baseline?	Yes	Yes	Yes	No	No	No

NET CHANGE (from Existing Conditions)

Phase	Net Change (2045-Existing) Criteria Air Pollutant Emissions(lbs/day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Transportation ¹	-52	-512	-1,066	1	21	1
Energy ²	6	99	49	1	8	8
Offroad Equipment ³	71	7	1,412	0	0	0
Consumer Products ⁴	436	0	0	0	0	0
Total	461	-406	395	2	29	9
South Coast AQMD Threshold	55	55	550	150	150	55
Increase from Existing	Yes	No	No	No	No	No

Area Sources - Residential Consumer Product Use^a

Emissions = EF x Building Area

Statewide (2008)	EF =	2.14E-05	lbs/sqft/day
South Coast AQMD Rule 1143	EF =	1.98E-05	lbs/sqft/day

Sources/Notes:

California Air Pollution Control Officer's Association (CAPCOA). 2022, April. California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. <https://www.caleemod.com/user-guide>. Appendix D3 - Consumer Products Use.

AVERAGE HOUSING SQFT ASSUMPTIONS

Year Structure was Built	Percent of Housing Stock ^a	Average Square Feet of New Single Family Homes ^b	Average Square Feet (Weighted)
2020 or Later	0.2%	2,448	5
2010 to 2019	7.3%	2,524	184
2000 to 2009	33.0%	2,404	793
1990 to 1999	15.9%	2,116	337
1980 to 1989	23.6%	1,819	429
1979 or earlier	20.0%	1,699	340
	100%		2,088

Sources/Notes:

<https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/>

a. United States Census Bureau, Selected Housing Characteristics, Wildomar City, 2021. Table DP04. American Community Survey 5-Year Estimates, Year structure built.

<https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2019/>

b. United States Census Bureau, Characteristics of New Housing, Characteristics of New Single-Family Houses Completed, Median and Average Square Feet by Location.

<https://www.census.gov/construction/chars/completed.html>

	2019 Existing	2045 Proposed	2045 Current GP
Housing Units	11,988	20,980	19,284
Residential SQFT	25,031,803	47,039,723	42,888,763
lbs VOC per day	496	931	849

Criteria Air Pollutants from Natural Gas

Rate	lbs/MMBTU					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Natural Gas						
Residential	0.0054	0.0922	0.0392	0.0006	0.0075	0.0075
Non-Residential	0.0054	0.0980	0.0824	0.0006	0.0075	0.0075

Source: California Air Pollution Control Officer's Association (CAPCOA). 2022, April. California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. <https://www.caleemod.com/user-guide>. Table G-4, Natural Gas Emissions Factors (pounds per MMBTU).

Wildomar	Existing	Year 2045
	Therms	
Residential	4,378,058	7,661,967
Nonresidential	617,081	1,228,627
Total	4,995,139	8,890,594

Natural Gas	Existing lbs/year					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Residential	6	111	47	1	9	9
Nonresidential	1	17	14	0	1	1
TOTAL	7	127	61	1	10	10

Natural Gas	2045 lbs/year					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Residential	11	194	82	1	16	16
Nonresidential	2	33	28	0	3	3
TOTAL	13	227	110	1	18	18

Energy Data Requests to SCE and SoCalGas

Southern California Edison (SCE). 2023, October 10. Energy Report for Wildomar. **Request ID SCE31129554** (2018 through 2022)

May exclude natural gas use from Industrial (Permitted) Sources within the City.

Category	Annual Kwh ¹				
	2018	2019	2020	2021	2022
Residential	94,688,993	91,443,491	104,912,130	101,267,244	105,189,672
Non-Residential ¹	41,644,454	41,771,803	41,057,502	43,462,389	44,287,425
Total kwh	136,333,447	133,215,294	145,969,632	144,729,633	149,477,097

Notes:

¹ Non-Residential includes agricultural, commercial, and industrial land use.

SoCalGas. 2023, November 2. Natural Gas Use in Wildomar (2018-2022). **Request ID 709**

Category	Annual Therms ¹				
	2018	2019	2020	2021	2022
Commercial	450,047	617,081	473,990	552,406	465,206
Industrial	0	0	0	0	0
Single-Family Residential	3,434,505	4,141,488	4,089,999	3,786,626	3,712,013
Multi-Family Residential	217,432	236,570	228,103	224,239	224,011
Total Therms	4,101,984	4,995,139	4,792,092	4,563,271	4,401,230

City of Wildomar: GHG Emissions from Energy Use

Southern California Edison (SCE) and SoCalGas Emission Factors				
	lbs/MMBTU	lbs/MMBTU	lbs/MMBTU	lbs/MMBTU
	CO ₂	CH ₄	N ₂ O	CO ₂ e
All Years	117	0.01040	0.00020	117.3
	MT/Therm	MT/Therm	MT/Therm	MT/Therm
	CO ₂	CH ₄	N ₂ O	CO ₂ e
All Years	0.00531	4.72E-07	9.07E-09	0.005

Source: California Air Pollution Control Officer's Association (CAPCOA). 2022, April. California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. <https://www.caleemod.com/user-guide>. Table G-4, Natural Gas Emissions Factors (pounds per MMBTU).

SCE				
	Intensity factor (lbs/MWH)			CO ₂ e
	CO ₂ lbs/MWH	CH ₄ lbs/MWH	N ₂ O lbs/MWH	lbs/MWh
2019	531.983	0.033	0.004	534.0
2045	260.788	0.033	0.004	262.8
	Intensity factor (MTons/MWH)			CO ₂ e
	CO ₂ MTons/MWH	CH ₄ MTons/MWH	N ₂ O MTons/MWH	MTons/MWh
2019	0.241	1.50E-05	1.81E-06	0.242
2045	0.118	1.50E-05	1.81E-06	0.119

Source: California Air Pollution Control Officer's Association (CAPCOA). 2022, April. California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. <https://www.caleemod.com/user-guide>. Table G-3, Electricity Utility Greenhouse Gas Emissions Factors

Notes:

In 2018, SB 100 (de León, 2018) was signed into law, which again increases the RPS to 60% by 2030 and encourages the state's electricity to come from carbon-free resources by 2050.

GHG Emissions from Energy Use

Actual Energy Use - Year 2019	SCE	SoCalGas
	MWH/YR	Therms
Commercial	NA	617,081
Industrial	NA	0
Residential	91,443	4,378,058
Non-Residential	41,772	NA
City Total	133,215	4,995,139

Notes:

¹ Non-Residential includes agricultural, commercial, and industrial land use.

	MTCO ₂ e/Yr	
Commercial	NA	3,284
Industrial	NA	0
Residential	22,148	23,299
Non-Residential	10,117	NA
City Total	32,266	26,582

Forecast Methodology	Existing	Proposed Project	Current GP
Residential - Dwelling Units	11,988	20,980	19,284
Nonresidential - Square footage	2,992,377	5,957,915	4,252,115

MWH per Unit per year	7.6	Therms per Unit per year	365
MWH per SQFT per year	0.01	Therms per SQFT per year	0.2

	Existing	Proposed Project	Current GP
Electricity		MWH	
Nonresidential	41,772	83,169	59,357
Residential	91,443	160,034	147,097
Total	133,215	243,203	206,454

	Existing	Proposed Project	Current GP
Electricity		MTCO2e	
Nonresidential	10,117	9,913	7,075
Residential	22,148	19,075	17,533
Total MTCO2e Electricity	32,266	28,988	24,608

	Existing	Proposed Project	Current GP
Natural Gas		Therms	
Nonresidential	617,081	1,228,627	876,861
Residential	4,378,058	7,661,967	7,042,582
Total	4,995,139	8,890,594	7,919,443

	Existing	Proposed Project	Current GP
Natural Gas		MTCO2e	
Nonresidential	3,284	6,538	4,666
Residential	23,299	40,774	37,478
Total MTCO2e Natural Gas	26,582	47,313	42,145

Solid Waste Disposal

Source: CalRecycle Recycling and Disposal Reporting System Report (Overall Jurisdiction Tons For Disposal and Disposal Related Uses)

Waste Generated Within Wildomar¹

Year	Quarter	Landfill
2021	1	7,549
2021	2	7,176
2021	3	7,249
2021	4	7,048
Total 2021		29,022

Service Population in Wildomar

Existing	Proposed GP 2045	% Increase
43,167	77,440	79%

Percent of Disposal	2021	
El Sobrante Landfill	80%	primary disposal facility

Notes:

Source: CalRecycle. 2023, September (accessed). RDRS Report 1: Overall Jurisdiction Tons for Disposal and Disposal Related Uses.
<https://www2.calrecycle.ca.gov/RecyclingDisposalReporting/Reports/OverallJurisdictionTonsForDisposal>.
<https://www2.calrecycle.ca.gov/RecyclingDisposalReporting/Reports/JurisdictionDisposalAndBeneficial>.

¹ Year 2021 Q1-4 waste was used as proxy for year 2019

Landfill Emission Tool (version 1.9.2021) CH₄ Model Results.

Based on the El Sobrante Landfill K-Factor

	EXISTING		GENERAL PLAN	
	CH ₄ Tons	MTCO ₂ e w/LFG Capture Existing TOTAL	CH ₄ Tons	MTCO ₂ e w/LFG Capture 2045 TOTAL
Year 1	79	501	141	898
Year 2	547	3,476	982	6,235
Year 3 (PEAK)	614	3,901	1,102	6,998
Year 4	602	3,824	1,080	6,859
Year 5	590	3,748	1,059	6,724
Year 6	579	3,674	1,038	6,590
Year 7	567	3,601	1,017	6,460
Year 8	556	3,530	997	6,332
Year 9	545	3,460	977	6,207
Year 10	534	3,391	958	6,084
Year 11	523	3,324	939	5,963
Year 12	513	3,258	920	5,845
Year 13	503	3,194	902	5,729
Year 14	493	3,130	884	5,616
Year 15	483	3,068	867	5,505
Year 16	474	3,008	850	5,396
Year 17	464	2,948	833	5,289
Year 18	455	2,890	816	5,184
Year 19	446	2,833	800	5,082
Year 20	437	2,776	784	4,981
Year 21	429	2,722	769	4,882
Year 22	420	2,668	754	4,786
Year 23	412	2,615	739	4,691
Year 24	404	2,563	724	4,598
Year 25	396	2,512	710	4,507
Year 26	388	2,463	696	4,418
Year 27	380	2,414	682	4,330
Year 28	373	2,366	668	4,244
Year 29	365	2,319	655	4,160
Year 30	358	2,273	642	4,078
Year 31	351	2,228	629	3,997
Year 32	344	2,184	617	3,918
Year 33	337	2,141	605	3,841
Year 34	330	2,098	593	3,764
Year 35	324	2,057	581	3,690
Year 36	317	2,016	570	3,617
Year 37	311	1,976	558	3,545
Year 38	305	1,937	547	3,475
Year 39	299	1,899	536	3,406
Year 40	293	1,861	526	3,339
Year 41	287	1,824	515	3,273
Year 42	282	1,788	505	3,208
Year 43	276	1,753	495	3,144
Year 44	271	1,718	485	3,082
Year 45	265	1,684	476	3,021
Year 46	260	1,651	466	2,961
Year 47	255	1,618	457	2,903
Year 48	250	1,586	448	2,845
Year 49	245	1,555	439	2,789
Year 50	240	1,524	430	2,734

Year 51	235	1,494	422	2,679
Year 52	231	1,464	414	2,626
Year 53	226	1,435	405	2,574
Year 54	222	1,407	397	2,523
Year 55	217	1,379	390	2,473
Year 56	213	1,351	382	2,424
Year 57	209	1,325	374	2,376
Year 58	204	1,298	367	2,329
Year 59	200	1,273	360	2,283
Year 60	196	1,248	352	2,238
60 YR Avg (Average Annual)	365	2,320	655	4,163

Waste. Landfill Emissions Tool Version 1.9.2021 and CalRecycle. Biogenic CO₂ emissions are not included.

Notes:

LFG capture Efficiency 0.75 AR5 CH₄ GWP 28 Tons to metric Tons 0.9071847

Waste generation based on three year average waste commitment for Wildomar obtained from CalRecycle.

Significant CH₄ production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. Consequently, the highest CH₄ emissions from waste disposal in a given year are reported.

Decomposition based on the anaerobic decomposition factor (k) of 0.02 based on rainfall for the El Sobrante LF.

The Landfill Gas Estimator only includes the landfill gas (LFG) capture in the landfill gas heat output and therefore the reduction and emissions from landfill gas capture are calculated separately. Assumes 75 percent of fugitive GHG emissions are captured within the landfill's Landfill Gas Capture System with a landfill gas capture efficiency of 75%. The Landfill gas capture efficiency is based on the California Air Resources Board's (CARB) Local Government Operations Protocol (LGOP), Version 1.3.

Biogenic CO₂ emissions are not included.

Water and Wastewater

Water Demand for Wildomar calculated by PlaceWorks

Water	Existing ¹	Proposed Project ²	Wastewater		
			Existing ³	Proposed Project ⁴	
			MGD	2.5	4.50
Acre Feet Per Year	5,384	10,011	AFY	2,800	5,041
MGY TOTAL	1,754	3,262	MGY TOTAL	913	1,643

Notes:

¹ Based on existing water demand from 2020 Urban Water Management Plans (UWMP).

² See Chapter 5.10, *Hydrology*, for calculated proposed water and wastewater generation estimates.

³ Based on existing sewer demand from Wildomar's 2016 Sewer Master Plan.

Direct Emissions from Wastewater Treatment

Wastewater Treatment Type	BIOGENIC CO ₂		Non-Biogenic CO ₂ e	
	MT/Gallon	CH ₄ MT/Gallon	N ₂ O MT/Gallon	MT/Gallon
Aerobic	3.90E-07	1.34E-09	8.52E-10	2.63E-07
Anaerobic (Facultative Lagoons)	3.90E-07	4.01E-07	8.52E-10	1.15E-05
Septic	0.00E+00	2.50E-07	8.52E-10	7.23E-06

Source: California Air Pollution Control Officer's Association (CAPCOA), 2022, April, California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. <https://www.caleemod.com/user-guide>. Table G-35, Annual Wastewater Treatment Direct Emission Factors (short ton per gallon)

Aerobic	Existing	Proposed Project
Non-Biogenic CO₂e TOTAL=	240	432

Energy for Water Conveyance, Treatment, Distribution, and Wastewater Treatment

Location	Supply (Water Conveyance)	Water Treatment	Water Distribution	Total Water	Wastewater Treatment
	kWhr/million gallons				
South Coast	3,044	725	1,537	5,306	1,501
San Francisco Bay	1,182	754	2,998	4,934	1,542
Central Coast	1,577	754	1,537	3,868	1,542
Tulare Lake	1,506	748	166	2,420	1,519
North Coast	620	754	1,537	2,911	1,542
San Joaquin River	827	748	166	1,741	1,519
Colorado River	2,304	748	166	3,218	1,519
Sacramento River	698	748	166	1,612	1,519
South Lahontan	1,953	748	1,537	4,238	1,519
North Lahontan	541	748	166	1,455	1,519

Source: California Air Pollution Control Officer's Association (CAPCOA), 2022, April, California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. <https://www.caleemod.com/user-guide>. Table G-32, Water Energy Intensity Factors by Hydrologic Region and Process (kWh per million gallon)

Southern California Edison

	Intensity factor			CO ₂ e
	CO ₂ lbs/MWH	CH ₄ lbs/MWH	N ₂ O lbs/MWH	lbs/MWh
2019	531.983	0.033	0.004	534.0
2045	260.788	0.033	0.004	262.8

	Intensity factor			CO ₂ e
	CO ₂ MTons/MWH	CH ₄ MTons/MWH	N ₂ O MTons/MWH	MTons/MWh
2019	0.241	1.50E-05	1.81E-06	0.242
2045	0.118	1.50E-05	1.81E-06	0.119

Source: California Air Pollution Control Officer's Association (CAPCOA), 2022, April, California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. <https://www.caleemod.com/user-guide>. Table G-3, Electricity Utility Greenhouse Gas Emissions Factors

GHG Emissions from Energy Associated with Water/Wastewater

Energy Associated with Water Use	Existing Mwh	Proposed Project Mwh
TOTAL Water Use	9,309	17,309
TOTAL Wastewater Generation	1,370	2,465
Total Water/Wastewater	10,678	19,774

GHG Emissions from Energy Associated with Water Use/Wastewater Generation	Existing MTCO ₂ e	Proposed Project MTCO ₂ e
TOTAL Water Use	2,255	2,063
TOTAL Wastewater Generation	332	294
Total Water/Wastewater	2,586	2,357

Total GHG Emissions

GHG Emissions from Water/Wastewater Use	Existing MTCO ₂ e	Proposed Project MTCO ₂ e
TOTAL Water Use	2,255	2,063
TOTAL Wastewater Generation	572	726
Total Water/Wastewater	2,827	2,789

Refrigerants

Refrigerants		
2019 Statewide Refrigerant Use (AR4)	MTCO ₂ e	18,618,116
2019 California Population	People	39,283,497
	MT/person	0.47

	Existing	Proposed Project
Population	37,326	65,325
MTCO₂e	17,690	30,960

Source: CARB. Greenhouse Gas Emissions Inventory Query Tool for years 2000 to 2020 (15th Edition) - Query Results. Main Activity: Use of substitutes for ozone depleting substances Activity Subset: Refrigeration and Air Conditioning. AR 4.
<https://ww2.arb.ca.gov/applications/greenhouse-gas-emission-inventory-0>

U.S. Census Bureau. 2023. Table DP05: ACS Demographic and Housing Estimates.
<https://data.census.gov/table?g=040XX00U506&tid=ACSDP5Y2019.DP05>.

Area Sources

Source: OFFROAD2021 . <https://arb.ca.gov/emfac/emissions-inventory/2f6c8fa1b8ec8bd9f8a4f23b3d84c74a77f77161>

OFFROAD2021 Estimate based on:

Agricultural Equipment	Based on agricultural acreage within Riverside County and City of Wildomar
Construction Equipment	Based on housing permits in Riverside County and City of Wildomar
Light Commercial and Industrial Equipment	Based on employment in Riverside County and City of Wildomar
Lawn & Garden	Based on housing units in Riverside County and City of Wildomar

Sources:

Farmland Acreage

Source: County of Riverside, 2019. 2019 Agricultural Production Report.
<https://storymaps.arcgis.com/stories/e2126e2424af49ec9406a0e7ffdb9de7>.

Source: California Department of Conservation (CDC). 2018. Farmland Mapping and Monitoring Program.
<https://www.conservation.ca.gov/dlrp/fmmp>.

Existing Farmland	1,733
Farmland Acreage at Buildout at 2045	0
Percent Reduction	-100%

Construction (Housing Permits)

Source: Housing and Urban Development (HUD). 2019. Accessed September 18, 2023. SOCDs Building Permits Database.
<https://socds.huduser.gov/permits/>

Construction (Housing Units)

Source: U.S. Census Bureau. 2019. Accessed September 18, 2023. Table DP04:ACS 5-Year Estimates Data Profiles.
https://data.census.gov/table?g=050XX00US06065_040XX00US06&tid=ACSDP5Y2019.DP04.

Employment

Source: U.S. Census Bureau. Longitudinal Employer-Household Dynamics. 2019 Q4. <http://lehd.ces.census.gov/>
 Source: Chen Ryan Transportation, 2023

2019 Existing	ROG Exhaust	NO _x Exhaust	CO Exhaust	SO ₂ Exhaust	PM ₁₀ Exhaust	PM _{2.5} Exhaust*	CO ₂
	lbs/year						MT/yr
Agricultural	4	23	23	0	1	1	470
Construction Equipment	18	165	198	0	8	8	3,927
Lawn & Garden	73	9	784	0	1	1	448
Light Commercial / Industrial Equipment	19	21	788	0	1	0	711
TOTAL	115	219	1793	0	11	10	5,557

2045	ROG Exhaust	NO _x Exhaust	CO Exhaust	SO ₂ Exhaust	PM ₁₀ Exhaust	PM _{2.5} Exhaust*	CO ₂
	lbs/year						MT/yr
Agricultural	Forecast Adjusted for: Based on a reduction in Agricultural land in the City						
	0	0	0	0	0	0	0
Construction Equipment	Similar to historic						
	18	165	198	0	8	8	3,927
Lawn & Garden	Proportional to housing growth						
	127	17	1,372	0	2	1	785
Light Commercial / Industrial Equipment	Proportional to employment growth						
	40	44	1,635	0	1	1	1,474
TOTAL	185	225	3,205	0	11	10	6,187

Wildomar OFFROAD2021

Source: <https://arb.ca.gov/emfac/emissions-inventory/2f6c8fa1b8ec8bd9f8a4f23b3d84c74a77f77161>

Construction includes: Over 25 horsepower, self-propelled, diesel equipment only subjected to In-Use Regulation; AND Under 25 horsepower equipment not subject to the In-Use Regulation

Model Output: OFFROAD2021 (v1.0.5) Emissions Inventory

Region Type: County

Region: Riverside

Calendar Year: 2019

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2021 Equipment Types

Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Agriculture

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	Fuel Consumption (g/yr)	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2.5_tpd	CO2_tpd	CO2e_MTY
Riverside	2019	Agricultural - Agricultural Tractors	Aggregate	Aggregate	Gasoline	337.302	0.000	0.000	0.001	0.000	0.000	0.000	0.010	3
Riverside	2019	Agricultural - Agricultural Tractors	Aggregate	Aggregate	Diesel	4,396,631.977	0.190	1.113	0.836	0.001	0.070	0.064	135.170	44,758
Riverside	2019	Agricultural - ATVs	Aggregate	Aggregate	Gasoline	136,324.641	0.034	0.018	0.349	0.000	0.001	0.001	4.206	1,393
Riverside	2019	Agricultural - ATVs	Aggregate	Aggregate	Diesel	76,658.009	0.003	0.016	0.016	0.000	0.001	0.001	2.357	780
Riverside	2019	Agricultural - ATVs	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Agricultural - Bale Wagons (Self Propelled)	Aggregate	Aggregate	Diesel	12,760.678	0.000	0.003	0.002	0.000	0.000	0.000	0.392	130
Riverside	2019	Agricultural - Balers (Self Propelled)	Aggregate	Aggregate	Diesel	1,023.376	0.000	0.000	0.000	0.000	0.000	0.000	0.031	10
Riverside	2019	Agricultural - Combine Harvesters	Aggregate	Aggregate	Diesel	86,373.194	0.002	0.019	0.013	0.000	0.001	0.001	2.655	879
Riverside	2019	Agricultural - Construction Equipment	Aggregate	Aggregate	Diesel	110,059.771	0.003	0.030	0.019	0.000	0.001	0.001	3.384	1,120
Riverside	2019	Agricultural - Cotton Pickers	Aggregate	Aggregate	Diesel	3,838.593	0.000	0.001	0.001	0.000	0.000	0.000	0.118	39
Riverside	2019	Agricultural - Forage & Silage Harvesters	Aggregate	Aggregate	Diesel	56,999.804	0.001	0.014	0.010	0.000	0.001	0.001	1.752	580
Riverside	2019	Agricultural - Forklifts	Aggregate	Aggregate	Diesel	76,725.066	0.003	0.021	0.016	0.000	0.001	0.001	2.359	781
Riverside	2019	Agricultural - Hay Squeeze/Stack Retriever	Aggregate	Aggregate	Diesel	14,277.675	0.000	0.003	0.002	0.000	0.000	0.000	0.439	145
Riverside	2019	Agricultural - Nut Harvester	Aggregate	Aggregate	Diesel	155,621.952	0.006	0.043	0.030	0.000	0.003	0.002	4.784	1,584
Riverside	2019	Agricultural - Other Harvesters	Aggregate	Aggregate	Diesel	130,427.340	0.004	0.031	0.021	0.000	0.002	0.001	4.010	1,328
Riverside	2019	Agricultural - Sprayers/Spray Rigs	Aggregate	Aggregate	Diesel	270,200.180	0.011	0.079	0.053	0.000	0.005	0.005	8.307	2,751
Riverside	2019	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	Aggregate	Diesel	47,918.978	0.002	0.012	0.008	0.000	0.001	0.001	1.473	488
TOTAL AGRICULTURAL OFFROAD (tons/yr)						5,576,178.535	0.261	1.403	1.378	0.002	0.086	0.079	171	56,771
ESTIMATED City of Wildomar (tons/year)							0.002	0.012	0.011	0.000	0.001	0.001	1.4	470
ESTIMATED City of Wildomar (lbs/year)							4.3	23.2	22.8	0.0	1.4	1.3		

AGRICULTURAL ACREAGE: https://storymaps.arcgis.com/stories/e2126e2424af49ec9406a0e7ffdb9de7	2019
Farmland Acreage in Riverside County	209,338
Farmland Acreage in City of Wildomar	1,733
Percent in the unincorporated County	0.8%

Construction and Mining

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	Fuel Consumption (g/yr)	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2.5_tpd	CO2_tpd	CO2e_MTY
Riverside	2019	Construction and Mining - Bore/Drill Rigs	Aggregate	Aggregate	Diesel	352,197.712	0.003	0.044	0.032	0.000	0.002	0.001	10.828	3,585
Riverside	2019	Construction and Mining - Cranes	Aggregate	Aggregate	Diesel	838,157.668	0.021	0.241	0.138	0.000	0.011	0.010	25.768	8,532
Riverside	2019	Construction and Mining - Crawler Tractors	Aggregate	Aggregate	Diesel	2,071,537.349	0.050	0.557	0.291	0.001	0.027	0.025	63.687	21,088
Riverside	2019	Construction and Mining - Excavators	Aggregate	Aggregate	Diesel	3,727,411.094	0.049	0.506	0.412	0.001	0.021	0.019	114.595	37,945
Riverside	2019	Construction and Mining - Graders	Aggregate	Aggregate	Diesel	1,402,246.096	0.037	0.415	0.177	0.000	0.018	0.017	43.111	14,275
Riverside	2019	Construction and Mining - Misc - Asphalt Pavers	Aggregate	Aggregate	Gasoline	9,007.373	0.001	0.001	0.053	0.000	0.001	0.000	0.151	50
Riverside	2019	Construction and Mining - Misc - Bore/Drill Rigs	Aggregate	Aggregate	Gasoline	5,943.895	0.000	0.001	0.015	0.000	0.000	0.000	0.134	44
Riverside	2019	Construction and Mining - Misc - Bore/Drill Rigs	Aggregate	Aggregate	Diesel	36.849	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0
Riverside	2019	Construction and Mining - Misc - Cement And Mortar Mixers	Aggregate	Aggregate	Gasoline	33,364.669	0.019	0.011	0.526	0.000	0.005	0.004	0.000	0
Riverside	2019	Construction and Mining - Misc - Cement And Mortar Mixers	Aggregate	Aggregate	Diesel	53.705	0.000	0.001	0.001	0.000	0.000	0.000	0.002	1
Riverside	2019	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregate	Aggregate	Gasoline	42,286.745	0.014	0.010	0.459	0.000	0.006	0.004	0.357	118
Riverside	2019	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregate	Aggregate	Diesel	2,079.145	0.000	0.001	0.001	0.000	0.000	0.000	0.064	21
Riverside	2019	Construction and Mining - Misc - Cranes	Aggregate	Aggregate	Gasoline	4,956.700	0.000	0.000	0.008	0.000	0.000	0.000	0.119	39
Riverside	2019	Construction and Mining - Misc - Crushing/Proc. Equipment	Aggregate	Aggregate	Gasoline	206.984	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0
Riverside	2019	Construction and Mining - Misc - Dumpers/Tenders	Aggregate	Aggregate	Gasoline	3,462.401	0.002	0.001	0.050	0.000	0.001	0.000	0.008	3
Riverside	2019	Construction and Mining - Misc - Dumpers/Tenders	Aggregate	Aggregate	Diesel	4.301	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Construction and Mining - Misc - Excavators	Aggregate	Aggregate	Diesel	30.782	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0
Riverside	2019	Construction and Mining - Misc - Other	Aggregate	Aggregate	Gasoline	7,595.650	0.000	0.000	0.006	0.000	0.000	0.000	0.191	63
Riverside	2019	Construction and Mining - Misc - Other	Aggregate	Aggregate	Diesel	113.687	0.000	0.002	0.001	0.000	0.000	0.000	0.003	1
Riverside	2019	Construction and Mining - Misc - Pavers	Aggregate	Aggregate	Diesel	8.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Construction and Mining - Misc - Paving Equipment	Aggregate	Aggregate	Gasoline	60,821.357	0.030	0.021	0.883	0.000	0.010	0.008	0.136	45
Riverside	2019	Construction and Mining - Misc - Paving Equipment	Aggregate	Aggregate	Diesel	13.748	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Construction and Mining - Misc - Plate Compactors	Aggregate	Aggregate	Gasoline	21,707.893	0.013	0.008	0.343	0.000	0.003	0.003	0.000	0
Riverside	2019	Construction and Mining - Misc - Plate Compactors	Aggregate	Aggregate	Diesel	38.414	0.000	0.001	0.001	0.000	0.000	0.000	0.001	0
Riverside	2019	Construction and Mining - Misc - Rollers	Aggregate	Aggregate	Gasoline	30,299.855	0.007	0.006	0.225	0.000	0.002	0.002	0.429	142
Riverside	2019	Construction and Mining - Misc - Rollers	Aggregate	Aggregate	Diesel	236.288	0.001	0.004	0.003	0.000	0.000	0.000	0.007	2
Riverside	2019	Construction and Mining - Misc - Rough Terrain Forklifts	Aggregate	Aggregate	Gasoline	35,120.300	0.001	0.004	0.042	0.000	0.000	0.000	0.861	285
Riverside	2019	Construction and Mining - Misc - Rubber Tired Loaders	Aggregate	Aggregate	Gasoline	18,523.750	0.001	0.002	0.026	0.000	0.000	0.000	0.448	148
Riverside	2019	Construction and Mining - Misc - Rubber Tired Loaders	Aggregate	Aggregate	Diesel	5.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Construction and Mining - Misc - Signal Boards	Aggregate	Aggregate	Gasoline	620.931	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0

Riverside 2019	Construction and Mining - Misc - Signal Boards	Aggregate	Aggregate	Diesel	1,498.505	0.002	0.010	0.008	0.000	0.000	0.000	0.046	15
Riverside 2019	Construction and Mining - Misc - Skid Steer Loaders	Aggregate	Aggregate	Gasoline	67,052.857	0.010	0.008	0.327	0.000	0.003	0.003	1.229	407
Riverside 2019	Construction and Mining - Misc - Skid Steer Loaders	Aggregate	Aggregate	Diesel	1,625.831	0.006	0.034	0.019	0.000	0.001	0.001	0.050	17
Riverside 2019	Construction and Mining - Misc - Surfacing Equipment	Aggregate	Aggregate	Gasoline	26,642.784	0.016	0.012	0.418	0.000	0.005	0.004	0.000	0
Riverside 2019	Construction and Mining - Misc - Tampers/Rammers	Aggregate	Aggregate	Gasoline	1,185.066	0.001	0.000	0.019	0.000	0.000	0.000	0.000	0
Riverside 2019	Construction and Mining - Misc - Tractors/Loaders/Backhoes	Aggregate	Aggregate	Gasoline	11,935.500	0.000	0.001	0.016	0.000	0.000	0.000	0.289	96
Riverside 2019	Construction and Mining - Misc - Tractors/Loaders/Backhoes	Aggregate	Aggregate	Diesel	146.673	0.000	0.003	0.002	0.000	0.000	0.000	0.005	1
Riverside 2019	Construction and Mining - Misc - Trenchers	Aggregate	Aggregate	Gasoline	55,750.816	0.012	0.010	0.414	0.000	0.004	0.003	0.788	261
Riverside 2019	Construction and Mining - Misc - Trenchers	Aggregate	Aggregate	Diesel	198.402	0.001	0.004	0.002	0.000	0.000	0.000	0.006	2
Riverside 2019	Construction and Mining - Off-Highway Tractors	Aggregate	Aggregate	Diesel	788,037.372	0.016	0.137	0.110	0.000	0.007	0.007	24.227	8,022
Riverside 2019	Construction and Mining - Off-Highway Trucks	Aggregate	Aggregate	Diesel	4,727,477.494	0.080	0.897	0.455	0.001	0.031	0.028	145.341	48,126
Riverside 2019	Construction and Mining - Other	Aggregate	Aggregate	Diesel	1,055,176.870	0.021	0.220	0.136	0.000	0.011	0.010	32.440	10,742
Riverside 2019	Construction and Mining - Pavers	Aggregate	Aggregate	Diesel	248,540.831	0.005	0.051	0.037	0.000	0.003	0.003	7.641	2,530
Riverside 2019	Construction and Mining - Paving Equipment	Aggregate	Aggregate	Diesel	144,595.739	0.003	0.028	0.021	0.000	0.001	0.001	4.445	1,472
Riverside 2019	Construction and Mining - Rollers	Aggregate	Aggregate	Diesel	644,404.032	0.016	0.133	0.124	0.000	0.008	0.007	19.811	6,560
Riverside 2019	Construction and Mining - Rough Terrain Forklifts	Aggregate	Aggregate	Diesel	699,558.284	0.008	0.103	0.129	0.000	0.005	0.004	21.507	7,122
Riverside 2019	Construction and Mining - Rubber Tired Dozers	Aggregate	Aggregate	Diesel	413,545.087	0.015	0.151	0.104	0.000	0.008	0.007	12.714	4,210
Riverside 2019	Construction and Mining - Rubber Tired Loaders	Aggregate	Aggregate	Diesel	5,682,738.453	0.118	1.238	0.705	0.002	0.055	0.051	174.710	57,850
Riverside 2019	Construction and Mining - Scrapers	Aggregate	Aggregate	Diesel	3,701,229.216	0.077	0.916	0.543	0.001	0.037	0.034	113.790	37,679
Riverside 2019	Construction and Mining - Skid Steer Loaders	Aggregate	Aggregate	Diesel	677,635.501	0.009	0.109	0.129	0.000	0.005	0.004	20.833	6,898
Riverside 2019	Construction and Mining - Surfacing Equipment	Aggregate	Aggregate	Diesel	77,767.195	0.001	0.012	0.007	0.000	0.000	0.000	2.391	792
Riverside 2019	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	Aggregate	Diesel	5,178,014.872	0.105	1.040	0.954	0.001	0.062	0.057	159.192	52,712
Riverside 2019	Construction and Mining - Trenchers	Aggregate	Aggregate	Diesel	213,999.682	0.007	0.054	0.041	0.000	0.004	0.003	6.579	2,179
TOTAL CONSTRUCTION OFFROAD (tons/yr)					33,086,845.494	0.779	7.010	8.426	0.009	0.360	0.324	1,009	334,083
ESTIMATED City of Wildomar (tons/year)						0.009	0.082	0.099	0.000	0.004	0.004	11.9	3,927
ESTIMATED City of Wildomar (lbs/year)						18.3	164.8	198.1	0.2	8.5	7.6		

TOTAL PERMITS: https://socds.huduser.gov/permits/	2015	2016	2017	2018	2019	Average
Housing Permits in Riverside County	6158	6996	8,001	9,232	8,992	7,876
Housing Permits in the City of Wildomar	113	173	83	42	7	84
Percent in Wildomar	2%	2%	1%	0%	0%	1.2%

Industrial and Light Commercial

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	Fuel Consumption (g/yr)	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2.5_tpd	CO2_tpd	CO2e_MTY
Riverside	2019	Industrial - Aerial Lifts	Aggregate	Aggregate	Diesel	89,533.409	0.001	0.012	0.016	0.000	0.000	0.000	2.753	911
Riverside	2019	Industrial - Forklifts	Aggregate	Aggregate	Diesel	376,971.777	0.011	0.096	0.080	0.000	0.007	0.006	11.590	3,838
Riverside	2019	Industrial - Misc - Aerial Lifts	Aggregate	Aggregate	Gasoline	39,596.500	0.003	0.003	0.112	0.000	0.001	0.001	0.862	285
Riverside	2019	Industrial - Misc - Aerial Lifts	Aggregate	Aggregate	Diesel	62.492	0.000	0.001	0.001	0.000	0.000	0.000	0.002	1
Riverside	2019	Industrial - Misc - Aerial Lifts	Aggregate	Aggregate	Electric	851.780	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0
Riverside	2019	Industrial - Misc - Forklifts	Aggregate	Aggregate	Gasoline	1,252,425.843	0.027	0.123	2.903	0.000	0.002	0.001	28.431	9,414
Riverside	2019	Industrial - Misc - Forklifts	Aggregate	Aggregate	Electric	94.191	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0
Riverside	2019	Industrial - Misc - Forklifts	Aggregate	Aggregate	Nat Gas	3,125,027.800	0.000	0.246	2.275	0.000	0.005	0.000	56.587	18,737
Riverside	2019	Industrial - Misc - Other General Industrial Equipment	Aggregate	Aggregate	Gasoline	21,252.843	0.001	0.002	0.106	0.000	0.000	0.000	0.392	130
Riverside	2019	Industrial - Misc - Other General Industrial Equipment	Aggregate	Aggregate	Diesel	48.347	0.000	0.001	0.001	0.000	0.000	0.000	0.001	0
Riverside	2019	Industrial - Misc - Other Material Handling Equipment	Aggregate	Aggregate	Gasoline	9,344.000	0.000	0.001	0.010	0.000	0.000	0.000	0.232	77
Riverside	2019	Industrial - Misc - Sweepers/Scrubbers	Aggregate	Aggregate	Gasoline	71,145.527	0.002	0.005	0.152	0.000	0.000	0.000	1.635	542
Riverside	2019	Industrial - Misc - Sweepers/Scrubbers	Aggregate	Aggregate	Diesel	12.385	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Industrial - Other General Industrial Equipment	Aggregate	Aggregate	Diesel	182,066.552	0.005	0.037	0.032	0.000	0.002	0.002	5.597	1,853
Riverside	2019	Industrial - Other Material Handling Equipment	Aggregate	Aggregate	Diesel	106,746.068	0.002	0.021	0.014	0.000	0.001	0.001	3.282	1,087
Riverside	2019	Light Commercial - Misc - Air Compressors	Aggregate	Aggregate	Gasoline	1,452,824.057	0.179	0.111	9.570	0.000	0.001	0.001	23.246	7,697
Riverside	2019	Light Commercial - Misc - Air Compressors	Aggregate	Aggregate	Diesel	35,122.978	0.002	0.008	0.009	0.000	0.000	0.000	1.080	358
Riverside	2019	Light Commercial - Misc - Air Compressors	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Light Commercial - Misc - Gas Compressors	Aggregate	Aggregate	Nat Gas	418,322.850	0.000	0.024	0.279	0.000	0.000	0.000	7.618	2,523
Riverside	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Gasoline	2,348,513.615	0.516	0.198	13.972	0.001	0.002	0.003	39.148	12,963
Riverside	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Diesel	195,211.229	0.007	0.046	0.036	0.000	0.002	0.002	6.002	1,987
Riverside	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Nat Gas	13,399.150	0.000	0.001	0.007	0.000	0.000	0.000	0.248	82
Riverside	2019	Light Commercial - Misc - Pressure Washers	Aggregate	Aggregate	Gasoline	1,031,221.333	0.129	0.058	7.043	0.000	0.000	0.001	16.133	5,342
Riverside	2019	Light Commercial - Misc - Pressure Washers	Aggregate	Aggregate	Diesel	1,009.237	0.000	0.000	0.000	0.000	0.000	0.000	0.031	10
Riverside	2019	Light Commercial - Misc - Pressure Washers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Light Commercial - Misc - Pumps	Aggregate	Aggregate	Gasoline	299,063.097	0.041	0.021	1.391	0.000	0.000	0.000	5.653	1,872
Riverside	2019	Light Commercial - Misc - Pumps	Aggregate	Aggregate	Diesel	106,426.074	0.004	0.025	0.021	0.000	0.001	0.001	3.272	1,083
Riverside	2019	Light Commercial - Misc - Pumps	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Light Commercial - Misc - Welders	Aggregate	Aggregate	Gasoline	634,769.228	0.089	0.043	4.110	0.000	0.000	0.001	10.212	3,381
Riverside	2019	Light Commercial - Misc - Welders	Aggregate	Aggregate	Diesel	191,680.943	0.008	0.045	0.044	0.000	0.002	0.002	5.893	1,951
Riverside	2019	Light Commercial - Misc - Welders	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
TOTAL LIGHT COMMERCIAL + INDUSTRIAL OFFROAD (tons/yr)						12,002,743.306	1.027	1.128	42.201	0.002	0.029	0.023	230	76,125
ESTIMATED City of Wildomar (tons/year)							0.010	0.011	0.394	0.000	0.000	0.000	2.147	711
ESTIMATED City of Wildomar (lbs/year)							19.18	21.07	788.15	0.04	0.54	0.43		

EMPLOYMENT https://ledextract.ces.census.gov/qwi/all		2019
Employment in Riverside County		625,513
Employment in City of Wildomar		5,841
Percent in Wildomar		0.9%

Lawn and Garden

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	Fuel Consumption (g/yr)	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2.5_tpd	CO2_tpd	CO2e_MTY
Riverside	2019	Lawn and Garden - Misc - Chainsaws	Aggregate	Aggregate	Gasoline	397,507.116	0.457	0.014	1.343	0.000	0.006	0.004	6.966	2,307
Riverside	2019	Lawn and Garden - Misc - Chainsaws	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Chainsaws Preempt	Aggregate	Aggregate	Gasoline	233,465.996	0.397	0.014	0.723	0.000	0.003	0.002	3.751	1,242
Riverside	2019	Lawn and Garden - Misc - Chainsaws Preempt	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	Aggregate	Gasoline	4,008.751	0.001	0.000	0.026	0.000	0.000	0.000	0.064	21
Riverside	2019	Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	Aggregate	Diesel	253.346	0.000	0.000	0.000	0.000	0.000	0.000	0.008	3
Riverside	2019	Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Lawn Mowers	Aggregate	Aggregate	Gasoline	941,131.400	0.138	0.075	5.386	0.000	0.004	0.003	16.292	5,395
Riverside	2019	Lawn and Garden - Misc - Lawn Mowers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	Aggregate	Gasoline	1,031,375.810	0.754	0.026	3.687	0.000	0.011	0.008	19.254	6,375
Riverside	2019	Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Other	Aggregate	Aggregate	Gasoline	19,207.485	0.002	0.001	0.122	0.000	0.000	0.000	0.316	105
Riverside	2019	Lawn and Garden - Misc - Other	Aggregate	Aggregate	Diesel	127.075	0.000	0.000	0.000	0.000	0.000	0.000	0.004	1
Riverside	2019	Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	Aggregate	Gasoline	1,770,410.541	0.276	0.135	12.174	0.000	0.002	0.002	27.382	9,067
Riverside	2019	Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	Aggregate	Diesel	101,805.255	0.004	0.023	0.014	0.000	0.001	0.001	3.130	1,036
Riverside	2019	Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Snowblowers	Aggregate	Aggregate	Gasoline	637.636	0.000	0.000	0.005	0.000	0.000	0.000	0.010	3
Riverside	2019	Lawn and Garden - Misc - Snowblowers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Tillers	Aggregate	Aggregate	Gasoline	18,007.264	0.006	0.001	0.100	0.000	0.000	0.000	0.306	101
Riverside	2019	Lawn and Garden - Misc - Tillers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	Aggregate	Gasoline	779,515.845	0.485	0.029	2.848	0.000	0.004	0.003	14.748	4,883
Riverside	2019	Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
Riverside	2019	Lawn and Garden - Misc - Wood Splitters	Aggregate	Aggregate	Gasoline	166,539.216	0.029	0.012	1.054	0.000	0.000	0.000	2.708	897
TOTAL LAWN & GARDEN (tons/yr)						5,463,992.735	2.550	0.331	27.483	0.001	0.032	0.024	95	31,436
ESTIMATED City of Wildomar (tons/year)							0.036	0.005	0.392	0.000	0.000	0.000	1.354	448
ESTIMATED City of Wildomar (lbs/day)							73	9	784	0	1	1		

HOUSING UNITS https://data.census.gov/tables?q=050XX00US06065_040XX00US06&tid=ACSDP5Y2019.DP04	2019
Housing Units in Riverside County (2019)	840,501
Housing Units in City of Wildomar	11,988
Percent in Wildomar	1.4%

Wildomar VMT

Source: Chen Ryan Transportation 2023.

	Daily VMT		Total Daily VMT	Total with RTAC	Residents	Jobs	Service Population	VMT/SP	VMT/SP w RTAC
	Wildomar Internal OD VMT	Wildomar External OD VMT							
Existing	360,111	1,087,978	1,448,089	904,100	37,326	5,841	43,167	33.5	20.9
Current General Plan	584,371	1,474,386	2,058,757	1,321,564	60,045	9,516	69,561	29.6	19.0
2045	607,229	1,689,240	2,296,469	1,451,849	65,325	12,115	77,440	29.7	18.7

Notes: Total may not add to 100% due to rounding.

Modeling of vehicle miles traveled (VMT) is provided by Chen Ryan Transportation is based on the RIVCOM Model. VMT from passenger vehicles and trucks that have an origin or destination in the City using a transportation origin-destination methodology. Accounting of VMT is based on the recommendations of CARB's Regional Targets Advisory Committee (RTAC) created under Senate Bill 375 (SB 375). For accounting purposes, there are two types of trips:

- » Internal OD VMT include vehicle trips that originated and terminated within the City boundary.
- » External OD VMT includes vehicle trips that either originated or terminated (but not both) within the City.

Percent VMT from Housing assumes trip lengths for residential and non-residential land uses are similar.

Wildomar — TRANSPORTATION SECTOR

Source: EMFAC2021 V. 1.0.2. , Web Database - Emissions Rates. Sub-Area Riverside (SC). Based on the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) Global Warming Potentials (GWPs)

Note: MTons = metric tons; CO₂e = carbon dioxide-equivalent.

Criteria Air Pollutant Emissions						
	lbs/day					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
Existing	70	780	2,559	8	61	28
Existing in year 2045	11	167	930	6	51	18
Proposed GP 2045	18	268	1,493	9	82	29
Change from Existing Land Uses (2045 Emission Rates)	-7	-101	-563	-3	-31	-11
Change from Existing Conditions (2019-2045)	-52	-512	-1,066	1	21	1
Current General Plan (2045)	17	244	1,359	8	74	27
Change from Current General Plan	2	24	134	1	7	3

GHG EMISSIONS				
	MTons/year			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Existing	134,650	3	7	136,705
Current GP	134,971	1	7	136,901
Proposed GP 2045	148,277	1	8	150,397
Change from Existing	13,627	-1	0	13,692
Change from Current GP	13,306	0	1	13,496

Note: MTons = metric tons; CO₂e = carbon dioxide-equivalent.

Year 2019 Existing: Criteria Air Pollutants

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Sub-Area, Average Speed, Average Fleet

Daily VMT		904,100		lbs/day					
Vehicle Type	Fuel Type	Percent of VMT	Adjusted Percent VMT	ROG	NOx	CO	SOx	PM10	PM2.5
All Other Buses	Diesel	0.02%	0.02%	0.26	3.86	0.75	0.00	0.19	0.17
All Other Buses	Natural Gas	0.00%	0.00%	0.00	0.01	0.14	0.00	0.00	0.00
LDA	Gasoline	49.79%	49.79%	14.81	63.56	991.66	2.98	16.27	5.73
LDA	Diesel	0.19%	0.19%	0.11	0.97	1.23	0.01	0.13	0.08
LDA	Electricity	0.37%	0.37%	0.00	0.00	0.00	0.00	0.09	0.03
LDA	Plug-in Hybrid	0.89%	0.89%	0.03	0.06	4.27	0.03	0.22	0.07
LDT1	Gasoline	4.08%	4.08%	5.58	24.16	242.06	0.29	1.59	0.63
LDT1	Diesel	0.00%	0.00%	0.01	0.05	0.06	0.00	0.01	0.01
LDT1	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Plug-in Hybrid	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Gasoline	18.07%	18.07%	7.54	46.62	465.36	1.37	6.33	2.25
LDT2	Diesel	0.05%	0.05%	0.02	0.10	0.16	0.00	0.03	0.02
LDT2	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Plug-in Hybrid	0.03%	0.03%	0.00	0.00	0.13	0.00	0.01	0.00
LHD1	Gasoline	1.63%	1.63%	1.29	8.88	43.83	0.23	2.83	0.99
LHD1	Diesel	1.47%	1.47%	4.04	79.88	14.25	0.14	3.65	1.86
LHD2	Gasoline	0.23%	0.23%	0.11	0.98	4.33	0.03	0.46	0.16
LHD2	Diesel	0.64%	0.64%	1.51	25.58	4.46	0.07	1.71	0.82
MCY	Gasoline	0.38%	0.38%	9.68	4.83	113.52	0.01	0.13	0.05
MDV	Gasoline	15.77%	15.77%	11.31	64.00	534.13	1.46	5.63	2.01
MDV	Diesel	0.27%	0.27%	0.11	1.30	1.60	0.02	0.15	0.09
MDV	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
MDV	Plug-in Hybrid	0.06%	0.06%	0.00	0.00	0.29	0.00	0.02	0.01
MH	Gasoline	0.14%	0.14%	0.22	1.32	7.19	0.05	0.16	0.05
MH	Diesel	0.05%	0.05%	0.07	4.46	0.34	0.01	0.21	0.16
Motor Coach	Diesel	0.01%	0.01%	0.04	1.04	0.16	0.00	0.05	0.03
OBUS	Gasoline	0.04%	0.04%	0.06	0.49	1.50	0.01	0.04	0.01
PTO	Diesel	0.11%	0.11%	0.65	12.80	2.27	0.05	0.21	0.20
SBUS	Gasoline	0.04%	0.04%	0.15	0.47	3.19	0.01	0.04	0.02
SBUS	Diesel	0.03%	0.03%	0.09	5.10	0.22	0.01	0.07	0.04
SBUS	Natural Gas	0.02%	0.02%	0.03	0.47	8.37	0.00	0.03	0.01
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.03	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.03	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.10	0.01	0.00	0.01	0.00
T6 CAIRP Class 7	Diesel	0.01%	0.01%	0.02	0.66	0.09	0.00	0.04	0.02
T6 CAIRP Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.03%	0.03%	0.19	4.16	0.68	0.01	0.18	0.15
T6 Instate Delivery Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 5	Diesel	0.03%	0.03%	0.09	1.99	0.34	0.01	0.11	0.08
T6 Instate Delivery Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 6	Diesel	0.09%	0.09%	0.37	8.38	1.32	0.02	0.39	0.31
T6 Instate Delivery Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Instate Delivery Class 7	Diesel	0.02%	0.02%	0.06	2.09	0.21	0.00	0.07	0.05
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.14%	0.14%	0.75	16.27	2.71	0.03	0.75	0.62
T6 Instate Other Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Other Class 5	Diesel	0.36%	0.36%	0.71	15.60	2.80	0.08	1.02	0.73
T6 Instate Other Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 Instate Other Class 6	Diesel	0.25%	0.25%	0.89	19.15	3.28	0.05	1.00	0.79
T6 Instate Other Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 Instate Other Class 7	Diesel	0.13%	0.13%	0.46	11.06	1.42	0.03	0.47	0.36
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.01	0.10	0.00	0.00	0.00
T6 Instate Tractor Class 6	Diesel	0.00%	0.00%	0.01	0.22	0.03	0.00	0.01	0.01
T6 Instate Tractor Class 7	Diesel	0.06%	0.06%	0.16	4.82	0.55	0.01	0.18	0.13
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.02	0.00	0.00	0.00	0.00

T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.02	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.06	0.01	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.02	0.46	0.06	0.00	0.02	0.02
T6 Public Class 4	Diesel	0.01%	0.01%	0.01	1.18	0.02	0.00	0.01	0.01
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.01	0.87	0.02	0.00	0.02	0.01
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.08	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.02%	0.02%	0.02	2.82	0.06	0.00	0.03	0.02
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.03%	0.03%	0.06	6.54	0.15	0.01	0.08	0.05
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.02%	0.02%	0.00	0.37	0.02	0.00	0.02	0.01
T6 Utility Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Diesel	0.00%	0.00%	0.00	0.11	0.00	0.00	0.00	0.00
T6 Utility Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.00%	0.00%	0.00	0.14	0.01	0.00	0.01	0.00
T6 Utility Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.13%	0.13%	0.35	2.30	9.55	0.04	0.14	0.05
T7 CAIRP Class 8	Diesel	0.81%	0.81%	1.31	56.28	4.95	0.24	2.88	1.59
T7 CAIRP Class 8	Natural Gas	0.00%	0.00%	0.00	0.02	0.47	0.00	0.01	0.00
T7 NNOOS Class 8	Diesel	0.97%	0.97%	2.57	71.96	10.58	0.29	4.26	2.67
T7 NOOS Class 8	Diesel	0.35%	0.35%	0.66	25.46	2.49	0.10	1.30	0.74
T7 POLA Class 8	Diesel	0.56%	0.56%	0.85	50.34	2.57	0.17	1.72	0.80
T7 POLA Class 8	Natural Gas	0.03%	0.03%	0.01	0.26	4.97	0.00	0.06	0.02
T7 Public Class 8	Diesel	0.07%	0.07%	0.12	17.48	0.50	0.02	0.29	0.17
T7 Public Class 8	Natural Gas	0.01%	0.01%	0.00	0.10	1.93	0.00	0.03	0.01
T7 Single Concrete/Transit Mix Class 8	Diesel	0.22%	0.22%	0.30	10.13	1.42	0.07	0.85	0.50
T7 Single Concrete/Transit Mix Class 8	Natural Gas	0.01%	0.01%	0.00	0.09	1.58	0.00	0.03	0.01
T7 Single Dump Class 8	Diesel	0.17%	0.17%	0.37	14.36	1.46	0.05	0.67	0.39
T7 Single Dump Class 8	Natural Gas	0.01%	0.01%	0.00	0.08	1.38	0.00	0.03	0.01
T7 Single Other Class 8	Diesel	0.15%	0.15%	0.50	15.20	2.00	0.05	0.74	0.48
T7 Single Other Class 8	Natural Gas	0.01%	0.01%	0.00	0.06	1.18	0.00	0.02	0.01
T7 SWCV Class 8	Diesel	0.02%	0.02%	0.00	5.00	0.00	0.01	0.08	0.03
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	0.03	0.71	2.00	0.00	0.06	0.02
T7 Tractor Class 8	Diesel	0.66%	0.66%	1.51	59.60	5.78	0.20	2.62	1.53
T7 Tractor Class 8	Natural Gas	0.02%	0.02%	0.00	0.11	2.06	0.00	0.03	0.01
T7 Utility Class 8	Diesel	0.01%	0.01%	0.01	0.56	0.02	0.00	0.04	0.01
T7IS	Gasoline	0.00%	0.00%	0.08	0.36	3.18	0.00	0.00	0.00
UBUS	Gasoline	0.04%	0.04%	0.01	0.13	0.36	0.01	0.10	0.04
UBUS	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Natural Gas	0.08%	0.08%	0.03	0.99	39.13	0.00	0.21	0.07
	TOTAL	100%	100%	70	780	2,559	8	61	28

Year 2019 Existing: Greenhouse Gas Emissions

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Sub-Area, Average Speed, Average Fleet

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the 2008 Climate Change Scoping Plan Measure Documentation Supplement.

				CO ₂ (Pavley)	CH ₄	N ₂ O	
Daily VMT	904,100			AR5 GWP	AR5 GWP	AR5 GWP	
Annual VMT	313,722,700			1	28	265	
Vehicle Type	Fuel Type	Percent of VMT	Adjusted Percent VMT	CO ₂	CH ₄	N ₂ O	CO ₂ e
All Other Buses	Diesel	0.02%	0.02%	83	0.00	0.01	87
All Other Buses	Natural Gas	0.00%	0.00%	8	0.00	0.00	9
LDA	Gasoline	49.79%	49.79%	47,389	0.58	0.95	47,657
LDA	Diesel	0.19%	0.19%	143	0.00	0.02	149
LDA	Electricity	0.37%	0.37%	0	0.00	0.00	0
LDA	Plug-in Hybrid	0.89%	0.89%	413	0.00	0.00	413
LDT1	Gasoline	4.08%	4.08%	4,651	0.19	0.24	4,721
LDT1	Diesel	0.00%	0.00%	2	0.00	0.00	2
LDT1	Electricity	0.00%	0.00%	0	0.00	0.00	0
LDT1	Plug-in Hybrid	0.00%	0.00%	0	0.00	0.00	0
LDT2	Gasoline	18.07%	18.07%	21,869	0.28	0.53	22,018
LDT2	Diesel	0.05%	0.05%	53	0.00	0.01	55
LDT2	Electricity	0.00%	0.00%	0	0.00	0.00	0
LDT2	Plug-in Hybrid	0.03%	0.03%	13	0.00	0.00	13
LHD1	Gasoline	1.63%	1.63%	3,600	0.04	0.08	3,623
LHD1	Diesel	1.47%	1.47%	2,296	0.03	0.36	2,393
LHD2	Gasoline	0.23%	0.23%	552	0.00	0.01	554
LHD2	Diesel	0.64%	0.64%	1,218	0.01	0.19	1,270
MCY	Gasoline	0.38%	0.38%	227	0.22	0.05	247
MDV	Gasoline	15.77%	15.77%	23,177	0.38	0.66	23,362
MDV	Diesel	0.27%	0.27%	387	0.00	0.06	403
MDV	Electricity	0.00%	0.00%	0	0.00	0.00	0
MDV	Plug-in Hybrid	0.06%	0.06%	28	0.00	0.00	28
MH	Gasoline	0.14%	0.14%	790	0.01	0.01	793
MH	Diesel	0.05%	0.05%	150	0.00	0.02	157
Motor Coach	Diesel	0.01%	0.01%	68	0.00	0.01	70
OBUS	Gasoline	0.04%	0.04%	218	0.00	0.00	219
PTO	Diesel	0.11%	0.11%	773	0.00	0.12	805
SBUS	Gasoline	0.04%	0.04%	113	0.00	0.00	114
SBUS	Diesel	0.03%	0.03%	115	0.00	0.02	119
SBUS	Natural Gas	0.02%	0.02%	131	0.37	0.03	148
T6 CAIRP Class 4	Diesel	0.00%	0.00%	2	0.00	0.00	2
T6 CAIRP Class 5	Diesel	0.00%	0.00%	3	0.00	0.00	3
T6 CAIRP Class 6	Diesel	0.00%	0.00%	8	0.00	0.00	8
T6 CAIRP Class 7	Diesel	0.01%	0.01%	48	0.00	0.01	50
T6 CAIRP Class 7	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Instate Delivery Class 4	Diesel	0.03%	0.03%	115	0.00	0.02	119
T6 Instate Delivery Class 4	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Instate Delivery Class 5	Diesel	0.03%	0.03%	112	0.00	0.02	117
T6 Instate Delivery Class 5	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Instate Delivery Class 6	Diesel	0.09%	0.09%	311	0.00	0.05	325
T6 Instate Delivery Class 6	Natural Gas	0.00%	0.00%	1	0.00	0.00	1
T6 Instate Delivery Class 7	Diesel	0.02%	0.02%	71	0.00	0.01	74
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	1	0.00	0.00	1
T6 Instate Other Class 4	Diesel	0.14%	0.14%	488	0.01	0.08	508
T6 Instate Other Class 4	Natural Gas	0.00%	0.00%	0	0.00	0.00	1
T6 Instate Other Class 5	Diesel	0.36%	0.36%	1,253	0.01	0.20	1,306
T6 Instate Other Class 5	Natural Gas	0.00%	0.00%	2	0.00	0.00	2
T6 Instate Other Class 6	Diesel	0.25%	0.25%	859	0.01	0.14	895
T6 Instate Other Class 6	Natural Gas	0.00%	0.00%	1	0.00	0.00	2
T6 Instate Other Class 7	Diesel	0.13%	0.13%	455	0.00	0.07	474
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	6	0.00	0.00	7
T6 Instate Tractor Class 6	Diesel	0.00%	0.00%	6	0.00	0.00	7
T6 Instate Tractor Class 7	Diesel	0.06%	0.06%	183	0.00	0.03	191
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	2	0.00	0.00	2
T6 OOS Class 4	Diesel	0.00%	0.00%	1	0.00	0.00	1
T6 OOS Class 5	Diesel	0.00%	0.00%	2	0.00	0.00	2

T6 OOS Class 6	Diesel	0.00%	0.00%	5	0.00	0.00	5
T6 OOS Class 7	Diesel	0.01%	0.01%	32	0.00	0.01	34
T6 Public Class 4	Diesel	0.01%	0.01%	23	0.00	0.00	24
T6 Public Class 4	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Public Class 5	Diesel	0.01%	0.01%	36	0.00	0.01	38
T6 Public Class 5	Natural Gas	0.00%	0.00%	4	0.00	0.00	5
T6 Public Class 6	Diesel	0.02%	0.02%	53	0.00	0.01	55
T6 Public Class 6	Natural Gas	0.00%	0.00%	2	0.00	0.00	2
T6 Public Class 7	Diesel	0.03%	0.03%	115	0.00	0.02	120
T6 Public Class 7	Natural Gas	0.00%	0.00%	3	0.00	0.00	3
T6 Utility Class 5	Diesel	0.02%	0.02%	57	0.00	0.01	60
T6 Utility Class 5	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 6	Diesel	0.00%	0.00%	11	0.00	0.00	11
T6 Utility Class 6	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 7	Diesel	0.00%	0.00%	15	0.00	0.00	16
T6 Utility Class 7	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6TS	Gasoline	0.13%	0.13%	678	0.01	0.02	682
T7 CAIRP Class 8	Diesel	0.81%	0.81%	4,040	0.01	0.64	4,209
T7 CAIRP Class 8	Natural Gas	0.00%	0.00%	12	0.01	0.00	13
T7 NNOOS Class 8	Diesel	0.97%	0.97%	4,836	0.02	0.76	5,039
T7 NOOS Class 8	Diesel	0.35%	0.35%	1,744	0.00	0.27	1,817
T7 POLA Class 8	Diesel	0.56%	0.56%	2,851	0.01	0.45	2,970
T7 POLA Class 8	Natural Gas	0.03%	0.03%	106	0.07	0.02	114
T7 Public Class 8	Diesel	0.07%	0.07%	375	0.00	0.06	391
T7 Public Class 8	Natural Gas	0.01%	0.01%	47	0.03	0.01	51
T7 Single Concrete/Transit Mix Cl	Diesel	0.22%	0.22%	1,120	0.00	0.18	1,166
T7 Single Concrete/Transit Mix Cl	Natural Gas	0.01%	0.01%	50	0.04	0.01	54
T7 Single Dump Class 8	Diesel	0.17%	0.17%	862	0.00	0.14	898
T7 Single Dump Class 8	Natural Gas	0.01%	0.01%	43	0.03	0.01	47
T7 Single Other Class 8	Diesel	0.15%	0.15%	790	0.00	0.12	823
T7 Single Other Class 8	Natural Gas	0.01%	0.01%	36	0.03	0.01	39
T7 SWCV Class 8	Diesel	0.02%	0.02%	188	0.00	0.03	196
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	45	0.08	0.01	49
T7 Tractor Class 8	Diesel	0.66%	0.66%	3,244	0.01	0.51	3,380
T7 Tractor Class 8	Natural Gas	0.02%	0.02%	58	0.04	0.01	62
T7 Utility Class 8	Diesel	0.01%	0.01%	71	0.00	0.01	73
T7IS	Gasoline	0.00%	0.00%	13	0.00	0.00	13
UBUS	Gasoline	0.04%	0.04%	214	0.00	0.00	215
UBUS	Diesel	0.00%	0.00%	0	0.00	0.00	0
UBUS	Electricity	0.00%	0.00%	0	0.00	0.00	0
UBUS	Natural Gas	0.08%	0.08%	471	0.35	0.10	506
		100%	100%	134650.18	2.93	7.44	136704.82

Source: EMFAC2021 (v1.0.2) Emission Rates

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2019

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Vehicle Category	Fuel	g/mile																	VMT Total	% of VMT
		ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	W	PM10_PMBW	PM10_TOTAL	X	PM2.5_RUNEX	PM2.5_PM	PM2.5_PMB	W	W	PM 2.5 Total	CO2_RUNEX	CH4_RUNEX		
All Other Buses	Diesel	0.5145982	7.7868259	1.5046591	0.0100653	0.3314315	0.012	0.0420527	0.3854842	0.3170939	0.003	0.0147184	0.3348123	1063.8816	0.0239018	0.1674643	10137.17451	0.02%		
All Other Buses	Natural Gas	0.0055372	0.1330656	2.1890906	0	0.000482	0.012	0.0420527	0.0545347	0.0004432	0.003	0.0147184	0.0181616	785.12487	0.3875387	0.1600528	1316.989021	0.00%		
LDA	Gasoline	0.014926	0.0640451	0.9992264	0.0030021	0.0014596	0.008	0.0069336	0.0163932	0.0013421	0.002	0.0024268	0.0057689	303.3751	0.0036949	0.0060895	20289766.96	49.79%		
LDA	Diesel	0.0291454	0.2587594	0.328023	0.0022976	0.0184631	0.008	0.0069415	0.0334045	0.0176644	0.002	0.0024295	0.0220939	242.69564	0.0013537	0.0382024	76593.90777	0.19%		
LDA	Electricity	0	0	0	0	0	0.008	0.00436	0.01236	0	0.002	0.001526	0.003526	0	0	0	149964.7737	0.37%		
LDA	Plug-in Hybrid	0.0014303	0.0032458	0.2409384	0.0014639	0.0009185	0.008	0.0037304	0.0126489	0.0008446	0.002	0.0013056	0.0041502	147.93607	0.0004671	0.000625	362225.3813	0.89%		
LDT1	Gasoline	0.0687321	0.2973746	2.9792592	0.003599	0.0030994	0.008	0.0084622	0.0195616	0.0028505	0.002	0.0029618	0.0078122	363.69535	0.014924	0.0191102	1661078.377	4.08%		
LDT1	Diesel	0.3167927	1.574759	2.0815786	0.0039291	0.2426005	0.008	0.0096111	0.2602116	0.2321057	0.002	0.0033639	0.2374696	415.03135	0.0147144	0.0653296	628.0422794	0.00%		
LDT1	Electricity	0	0	0	0	0	0.008	0.0044058	0.0124058	0	0.002	0.001542	0.003542	0	0	0	469.8365772	0.00%		
LDT1	Plug-in Hybrid	0.0014357	0.0032581	0.2421906	0.0014701	0.0010674	0.008	0.0037257	0.0127931	0.0009814	0.002	0.001304	0.0042854	148.5624	0.0004703	0.000631	14.26208366	0.00%		
LDT2	Gasoline	0.0209287	0.1294635	1.2923877	0.0038184	0.0015655	0.008	0.0080163	0.0175818	0.0014397	0.002	0.0028057	0.0062454	385.87018	0.0049732	0.0093482	7361640.798	18.07%		
LDT2	Diesel	0.0221931	0.1039474	0.1588355	0.0031888	0.0119847	0.008	0.0076248	0.0276095	0.0114662	0.002	0.0026687	0.0161349	336.83669	0.0010308	0.053021	20539.96241	0.05%		
LDT2	Electricity	0	0	0	0	0	0.008	0.0043479	0.0123479	0	0.002	0.0015218	0.0035218	0	0	0	404.3923381	0.00%		
LDT2	Plug-in Hybrid	0.0014084	0.0031961	0.2382226	0.0014434	0.0010364	0.008	0.003729	0.0127654	0.000953	0.002	0.0013051	0.0042581	145.86213	0.0004634	0.000624	11465.07498	0.03%		
LHD1	Gasoline	0.0396375	0.2737261	1.3512577	0.0069792	0.001229	0.008	0.078	0.0872291	0.0011312	0.002	0.0273	0.0304312	705.28264	0.007868	0.0155372	663077.8331	1.63%		
LHD1	Diesel	0.1378513	2.7226175	0.4855618	0.0047068	0.0345622	0.012	0.078	0.1245622	0.0330671	0.003	0.0273	0.0633671	497.18034	0.0064029	0.0782605	599853.3341	1.47%		
LHD2	Gasoline	0.0234934	0.2129268	0.9427709	0.0075439	0.0010243	0.008	0.091	0.1000244	0.0009418	0.002	0.03185	0.0347918	762.34794	0.005024	0.0129679	93989.36526	0.23%		
LHD2	Diesel	0.1173559	1.9911391	0.3469173	0.005704	0.0299005	0.012	0.091	0.1329005	0.028607	0.003	0.03185	0.063457	602.51151	0.005451	0.0948406	262680.9269	0.64%		
MCY	Gasoline	1.2795942	0.6385617	15.012012	0.0018911	0.0017583	0.004	0.012	0.0177583	0.0016496	0.001	0.0042	0.0068496	191.10761	0.1880802	0.0423434	154595.7773	0.38%		
MDV	Gasoline	0.0359834	0.2035788	1.6989245	0.0046349	0.0016322	0.008	0.0082842	0.0179163	0.0015021	0.002	0.0028995	0.0064016	468.37628	0.0077569	0.0132729	6427632.001	15.77%		
MDV	Diesel	0.0209604	0.2385646	0.2940744	0.004265	0.0117883	0.008	0.0079334	0.0277217	0.0112783	0.002	0.0027767	0.016055	450.51245	0.0009736	0.0709146	111469.9276	0.27%		
MDV	Electricity	0	0	0	0	0	0.008	0.004421	0.012421	0	0.002	0.0015474	0.0035474	0	0	0	140.7680375	0.00%		
MDV	Plug-in Hybrid	0.0014314	0.0032482	0.2416884	0.0014661	0.0010701	0.008	0.0037239	0.012794	0.0009839	0.002	0.0013034	0.0042873	148.15714	0.0004674	0.0006253	24138.80066	0.06%		
MH	Gasoline	0.0763423	0.464744	2.5237649	0.0174337	0.0013763	0.012	0.042163	0.0555393	0.0012684	0.003	0.0147571	0.0190254	1761.7564	0.0160299	0.0273902	58232.95353	0.14%		
MH	Diesel	0.0757378	4.5713455	0.3483257	0.0092725	0.1569535	0.016	0.0421001	0.2150535	0.1501637	0.004	0.014735	0.1688987	979.45388	0.0035179	0.1541746	19951.14185	0.05%		
Motor Coach	Diesel	0.1680263	4.1589372	0.6255556	0.0162763	0.0992082	0.012	0.0819546	0.1931629	0.0949165	0.003	0.0286841	0.1266007	1720.3812	0.0078044	0.270803	5096.688488	0.01%		
OBUS	Gasoline	0.0688353	0.611387	1.8656961	0.0170584	0.0005349	0.012	0.0420527	0.0545876	0.0004922	0.003	0.0147184	0.0182106	1723.8375	0.0141429	0.0288972	16427.86994	0.04%		
PTO	Diesel	0.2858937	5.6607837	1.0041968	0.0205446	0.0940626	0	0	0.0940626	0.0899935	0	0	0.0899935	2171.5272	0.013279	0.3418173	46213.50061	0.11%		
SBUS	Gasoline	0.1951546	0.6081323	4.1150936	0.0091426	0.0016581	0.008	0.046845	0.0565031	0.0015355	0.002	0.0163958	0.0199312	923.90344	0.0323531	0.030656	15859.26942	0.04%		
SBUS	Diesel	0.1626694	0.9232875	0.3848993	0.0121809	0.0574397	0.012	0.046845	0.1162847	0.0549549	0.003	0.0163958	0.0743506	1287.4993	0.0075556	0.2026636	11562.50573	0.03%		
SBUS	Natural Gas	0.0718892	1.012403	17.879881	0	0.0044829	0.012	0.046845	0.0633279	0.0041218	0.003	0.0163958	0.0235176	1776.1112	5.0314323	0.3620719	9575.528072	0.02%		
T6 CAIRP Class 4	Diesel	0.084706	2.148884	0.3105751	0.0105804	0.0698287	0.012	0.0420462	0.1238749	0.0668079	0.003	0.0147162	0.0845241	1118.3269	0.0039344	0.1760344	268.1344205	0.00%		
T6 CAIRP Class 5	Diesel	0.0582159	1.6088633	0.2260497	0.0105049	0.0508743	0.012	0.0420462	0.1049205	0.0486735	0.003	0.0147162	0.0663897	1110.3496	0.002704	0.1747787	367.8322079	0.00%		
T6 CAIRP Class 6	Diesel	0.0828045	2.109848	0.3152393	0.0103991	0.0719166	0.012	0.0420462	0.1259628	0.0688055	0.003	0.0147162	0.0865217	1099.1675	0.0038461	0.1730186	961.1560831	0.00%		
T6 CAIRP Class 7	Diesel	0.0824124	2.2378676	0.2906436	0.009805	0.0659171	0.012	0.0420462	0.1199634	0.0630656	0.003	0.0147162	0.0807818	1036.3733	0.0038278	0.1631342	6022.664692	0.01%		
T6 CAIRP Class 7	Natural Gas	0.0050363	0.1470807	2.3505216	0	0.000335	0.012	0.0420462	0.0543812	0.000308	0.003	0.0147162	0.0180242	752.03568	0.3524813	0.1533074	6.192080887	0.00%		
T6 Instate Delivery Class 4	Diesel	0.2807038	6.1610543	1.0032071	0.0101978	0.2168439	0.012	0.0422191	0.271063	0.2074633	0.003	0.0147767	0.22524	1077.8872	0.013038	0.1696689	13806.884	0.03%		
T6 Instate Delivery Class 4	Natural Gas	0.005315	0.1548742	2.3991223	0	0.000347	0.012	0.0422191	0.0545661	0.000319	0.003	0.0147767	0.0180957	807.56557	0.3719875	0.1646275	25.32393971	0.00%		
T6 Instate Delivery Class 5	Diesel	0.1409812	3.0860042	0.5246413	0.0104059	0.1162743	0.012	0.0422191	0.1704934	0.1112443	0.003	0.0147767	0.129021	1099.8909	0.0065482	0.1731324	13216.64923	0.03%		
T6 Instate Delivery Class 5	Natural Gas	0.0053181	0.1546959	2.3976329	0	0.0003481	0.012	0.0422191	0.0545672	0.0003201	0.003	0.0147767	0.0180968	799.91479	0.3722074	0.1630679	23.63003813	0.00%		
T6 Instate Delivery Class 6	Diesel	0.195892	4.492946	0.7085941	0.0100386	0.1572988	0.012	0.0422191	0.2115179	0.1504941	0.003	0.0147767	0.1682708	1061.0607	0.0090987	0.1670202	38132.71792	0.09%		
T6 Instate Delivery Class 6	Natural Gas	0.0053229	0.1544262	2.39538	0	0.0003499	0.012	0.0422191	0.054569	0.0003217	0.003	0.0147767	0.0180984	808.96797	0.3725401	0.1649134	137.7665658	0.00%		
T6 Instate Delivery Class 7	Diesel	0.1492419	4.8539378	0.4877259	0.0099838	0.1025081	0.012	0.0422191	0.1567272	0.0980736	0.003	0.0147767	0.1158503	1055.2682	0.0069319	0.1661084	8789.386077	0.02%		
T6 Instate Delivery Class 7	Natural Gas	0.0057338	0.1330009	2.2150406	0	0.0005049	0.012	0.0422191	0.054724	0.0004643	0.003	0.0147767	0.0182409	801.46193	0.4013019	0.1633833	105.2830812	0.00%		
T6 Instate Other Class 4	Diesel	0.2634272	5.7013968	0.9502463	0.0102737	0.2102665	0.012	0.0422045	0.264471	0.2011705	0.003	0.0147716	0.2189421	1085.9153	0.0122355	0.1709326	58358.31552	0.14%		
T6 Instate Other Class 4	Natural Gas	0.0052767	0.1541495	2.3949723	0	0.0003446	0.012	0.0422045	0.054											

T6 Instate Other Class 6	Diesel	0.1766948	3.798034	0.6500917	0.0102423	0.1447208	0.012	0.0422045	0.1989253	0.1384602	0.003	0.0147716	0.1562318	1082.5939	0.008207	0.1704097	103062.1657	0.25%		
T6 Instate Other Class 6	Natural Gas	0.0052998	0.1528472	2.3838255	0	0.0003531	0.012	0.0422045	0.0545577	0.0003247	0.003	0.0147716	0.0180963	802.49738	0.3709264	0.1635943	240.771254	0.00%		
T6 Instate Other Class 7	Diesel	0.1717755	4.1725806	0.5357361	0.0103124	0.1221191	0.012	0.0422045	0.1763236	0.1168363	0.003	0.0147716	0.1346078	1090.0026	0.0079785	0.1715759	54180.8439	0.13%		
T6 Instate Other Class 7	Natural Gas	0.0061597	0.1073624	1.9917156	0	0.0006756	0.012	0.0422045	0.0548801	0.0006212	0.003	0.0147716	0.0183928	797.29193	0.4311123	0.1625332	1029.663009	0.00%		
T6 Instate Tractor Class 6	Diesel	0.2541399	5.8599854	0.8577945	0.0102628	0.1854773	0.012	0.0422045	0.2396818	0.1774536	0.003	0.0147716	0.1952252	1084.7635	0.0118041	0.1707512	777.0150979	0.00%		
T6 Instate Tractor Class 7	Diesel	0.1339244	4.1499375	0.4716545	0.0094832	0.1026995	0.012	0.0422045	0.156904	0.0982567	0.003	0.0147716	0.1160283	1002.3629	0.0062204	0.1577807	23738.53492	0.06%		
T6 Instate Tractor Class 7	Natural Gas	0.0055272	0.1400176	2.2740106	0	0.0004376	0.012	0.0422045	0.0546421	0.0004023	0.003	0.0147716	0.0181739	802.22429	0.3868405	0.1635387	276.3663554	0.00%		
T6 OOS Class 4	Diesel	0.084706	2.148884	0.3105751	0.0105804	0.0698287	0.012	0.0420462	0.1238749	0.0668079	0.003	0.0147162	0.0845241	1118.3269	0.0039344	0.1760344	154.6752499	0.00%		
T6 OOS Class 5	Diesel	0.0582159	1.6088633	0.2260497	0.0105049	0.0508743	0.012	0.0420462	0.1049205	0.0486735	0.003	0.0147162	0.0663897	1110.3496	0.002704	0.1747787	212.1866286	0.00%		
T6 OOS Class 6	Diesel	0.0828045	2.109848	0.3152393	0.0103991	0.0719166	0.012	0.0420462	0.1259628	0.0688055	0.003	0.0147162	0.0865217	1099.1675	0.0038461	0.1730186	554.4497312	0.00%		
T6 OOS Class 7	Diesel	0.0910722	2.3517127	0.3205905	0.0098037	0.0726807	0.012	0.0420462	0.1267269	0.0695366	0.003	0.0147162	0.0872527	1036.2374	0.0042301	0.1631128	4031.538998	0.01%		
T6 Public Class 4	Diesel	0.0524698	8.9477475	0.1550612	0.0103322	0.0393804	0.012	0.0421001	0.0934805	0.0376768	0.003	0.014735	0.0554118	1092.0917	0.0024371	0.1719048	2695.741347	0.01%		
T6 Public Class 4	Natural Gas	0.005444	0.131785	2.2002787	0	0.0004553	0.012	0.0421001	0.0545554	0.0004186	0.003	0.014735	0.0181537	783.5711	0.3810182	0.1597361	46.78975832	0.00%		
T6 Public Class 5	Diesel	0.0294375	4.1630579	0.1003341	0.0104997	0.0230488	0.012	0.0421001	0.0771489	0.0220518	0.003	0.014735	0.0397868	1109.8035	0.0013673	0.1746928	4269.234437	0.01%		
T6 Public Class 5	Natural Gas	0.0058528	0.1186927	2.05888	0	0.0006136	0.012	0.0421001	0.0547136	0.0005642	0.003	0.014735	0.0182992	771.40671	0.4096281	0.1572563	753.466431	0.00%		
T6 Public Class 6	Diesel	0.0722741	9.2693004	0.2020246	0.0104969	0.0565577	0.012	0.0421001	0.1106578	0.0541111	0.003	0.014735	0.0718461	1109.5029	0.0033569	0.1746455	6219.075832	0.02%		
T6 Public Class 6	Natural Gas	0.0059755	0.1120063	1.9954415	0	0.0006583	0.012	0.0421001	0.0547584	0.0006053	0.003	0.014735	0.0183403	774.17915	0.4182173	0.1578215	269.4709229	0.00%		
T6 Public Class 7	Diesel	0.0875194	10.103366	0.2354522	0.0106768	0.0679402	0.012	0.0421001	0.1220403	0.0650012	0.003	0.014735	0.0827362	1128.5207	0.004065	0.177639	13237.81049	0.03%		
T6 Public Class 7	Natural Gas	0.00584	0.1180165	2.0550298	0	0.0006076	0.012	0.0421001	0.0547076	0.0005586	0.003	0.014735	0.0182936	776.80986	0.408736	0.1583578	515.7880387	0.00%		
T6 Utility Class 5	Diesel	0.0135612	1.0870962	0.0485408	0.0099778	0.0083276	0.012	0.0421001	0.0624277	0.0079673	0.003	0.014735	0.0257024	1054.6356	0.0006299	0.1660089	7049.356756	0.02%		
T6 Utility Class 5	Natural Gas	0.0051062	0.1502623	2.3754465	0	0.0003322	0.012	0.0421001	0.0544323	0.0003055	0.003	0.014735	0.0180405	784.0873	0.3573779	0.1598413	32.30309843	0.00%		
T6 Utility Class 6	Diesel	0.0185745	1.7579501	0.0677989	0.010089	0.0128216	0.012	0.0421001	0.0669217	0.0122669	0.003	0.014735	0.030002	1066.3888	0.0008627	0.1678589	1323.095471	0.00%		
T6 Utility Class 6	Natural Gas	0.0051062	0.1502623	2.3754465	0	0.0003322	0.012	0.0421001	0.0544323	0.0003055	0.003	0.014735	0.0180405	767.60172	0.3573779	0.1564806	15.19488969	0.00%		
T6 Utility Class 7	Diesel	0.0144956	1.592186	0.0606942	0.0101792	0.0124679	0.012	0.0421001	0.0665679	0.0119285	0.003	0.014735	0.0296635	1075.9208	0.0006733	0.1693593	1834.455686	0.00%		
T6 Utility Class 7	Natural Gas	0.0051062	0.1502623	2.3754465	0	0.0003322	0.012	0.0421001	0.0544323	0.0003055	0.003	0.014735	0.0180405	765.09829	0.3573779	0.1559703	27.55075522	0.00%		
T6TS	Gasoline	0.1401441	0.915067	3.8062094	0.0169768	0.0011529	0.012	0.042163	0.0553159	0.0010638	0.003	0.0147571	0.0188208	1715.5935	0.0260669	0.0399627	51297.92755	0.13%		
T7 CAIRP Class 8	Diesel	0.0806791	3.4660292	0.3051046	0.0149541	0.0647216	0.036	0.0768673	0.1775889	0.0619218	0.009	0.0269036	0.0978253	1580.6262	0.0037473	0.2488044	331977.1715	0.81%		
T7 CAIRP Class 8	Natural Gas	0.0121793	0.3930035	7.4780621	0	0.0012695	0.036	0.0743697	0.1116392	0.0011673	0.009	0.0260294	0.0361967	1173.216	0.8524096	0.2391678	1296.59245	0.00%		
T7 NNOOS Class 8	Diesel	0.1329418	3.7279949	0.5481883	0.0150594	0.1068135	0.036	0.0777319	0.2205454	0.1021928	0.009	0.0272062	0.138399	1591.7526	0.0061748	0.2505558	394661.0529	0.97%		
T7 NOOS Class 8	Diesel	0.0942623	3.6320509	0.3545919	0.0149538	0.0720998	0.036	0.0770345	0.1851343	0.0689808	0.009	0.0269621	0.1049429	1580.5876	0.0043782	0.2487983	143301.8338	0.35%		
T7 POLA Class 8	Diesel	0.0762032	4.5275586	0.2310805	0.0154131	0.0348924	0.036	0.0833796	0.154272	0.033383	0.009	0.0291828	0.0715658	1629.1341	0.0035394	0.2564399	227331.5951	0.56%		
T7 POLA Class 8	Natural Gas	0.0120529	0.4969667	9.5680176	0	0.0010127	0.036	0.0820592	0.1190862	0.0009443	0.009	0.0287207	0.0386665	1299.4526	0.8435638	0.2649019	10624.17239	0.03%		
T7 Public Class 8	Diesel	0.0883872	12.44381	0.3572244	0.0160473	0.0790997	0.036	0.0948042	0.2099012	0.0756753	0.009	0.0331815	0.1178568	1696.1766	0.0041054	0.2669993	28725.59238	0.07%		
T7 Public Class 8	Natural Gas	0.0122748	0.4128345	7.7649706	0	0.0012488	0.036	0.0784018	0.1156506	0.0011482	0.009	0.0274406	0.0375888	1206.6001	0.8590952	0.2459733	5088.592007	0.01%		
T7 Single Concrete/Transit Mix Class 8	Diesel	0.0688191	2.3550036	0.3292805	0.015642	0.0830899	0.036	0.0790648	0.1981547	0.0794955	0.009	0.0276727	0.1161682	1653.3289	0.0031965	0.2602484	87954.05123	0.22%		
T7 Single Concrete/Transit Mix Class 8	Natural Gas	0.0126418	0.3170049	5.8447556	0	0.0015053	0.036	0.0745103	0.1120156	0.001384	0.009	0.0260786	0.0364626	1178.1784	0.8847808	0.2401794	5532.370773	0.01%		
T7 Single Dump Class 8	Diesel	0.110213	4.3041853	0.4381499	0.0155301	0.0829558	0.036	0.0811709	0.2001267	0.0793671	0.009	0.0284098	0.1167769	1641.5047	0.0051191	0.2583872	68191.46853	0.17%		
T7 Single Dump Class 8	Natural Gas	0.0126147	0.3302584	6.0594222	0	0.0014772	0.036	0.0758558	0.113333	0.0013582	0.009	0.0265495	0.0369077	1207.1815	0.882889	0.2460918	4670.844872	0.01%		
T7 Single Other Class 8	Diesel	0.1625318	4.9697432	0.6535835	0.0155341	0.1249145	0.036	0.0826137	0.2435283	0.1195108	0.009	0.0289148	0.1574256	1641.9315	0.0075492	0.2584544	62512.90192	0.15%		
T7 Single Other Class 8	Natural Gas	0.0125947	0.333158	6.2015542	0	0.0014611	0.036	0.0764024	0.1138635	0.0013434	0.009	0.0267408	0.0370843	1209.5216	0.8814885	0.2465689	3878.789038	0.01%		
T7 SWCV Class 8	Diesel	0.0008598	15.684993	0.0117193	0.0354373	0.0163926	0.036	0.2100001	0.2623926	0.0156834	0.009	0.0735	0.0981835	3745.6621	3.994E-05	0.5895999	6518.798629	0.02%		
T7 SWCV Class 8	Natural Gas	0.1428344	3.2381789	9.1657072	0	0.0110123	0.036	0.2100001	0.2570124	0.0101254	0.009	0.0735	0.0926254	1302.8616	2.374239	0.2655969	4457.859559	0.01%		
T7 Tractor Class 8	Diesel	0.1149911	4.52954	0.4395036	0.0148195	0.0829822	0.036	0.0800766	0.1990588	0.0793924	0.009	0.0280268	0.1164192	1566.3976	0.005341	0.2465647	269022.8981	0.66%		
T7 Tractor Class 8	Natural Gas	0.0123425	0.3638917	6.743942	0	0.001364	0.036	0.0742098	0.1115739	0.0012542	0.009	0.0259734	0.0362276	1205.4826	0.8638379	0.2457455	6237.000901	0.02%		
T7 Utility Class 8	Diesel	0.019187	2.0304828	0.080714	0.0154961	0.0167564	0.036	0.0774687	0.1302251	0.0160316	0.009	0.027114	0.0521456	1637.9101	0.0008912	0.2578214	5591.766203	0.01%		
T7IS	Gasoline	2.2364315	10.641701	94.502974	0.0239489	0.0039241	0.02	0.0971571	0.1210812	0.0036379	0.005	0.034005	0.0426429	2420.1511	0.3432879	0.2676895	688.4253412	0.00%		
UBUS	Gasoline	0.0120793	0.1481943	0.4041301	0.015077	0.0013262	0.01037	0.1022557	0.1139516	0.0012194	0.00259	0.0357895	0.0396013	1523.6077	0.0039243	0.0151582	18275.95602	0.04%		
UBUS	Diesel	0.0360937	0.1611899	0.0290465	0.0085478	0.0022309	0.012	0.11	0.1242309	0.0021344	0.003	0.0385	0.0436344	902.90407	0.0016765	0.142125	30.10971099	0.00%		
UBUS	Electricity	0	0	0	0	0	0.012	0.055	0.067	0	0.003	0.01925	0.02225	0	0	0	2.969621933	0.00%		
UBUS	Natural Gas	0.021142	0.6593586	26.068284	0	0.0001934	0.03132	0.11	0.1415161	0.000185	0.00783	0.0385	0.0465157	1994.1698	1.4797034	0.4065246	30685.35112	0.08%		
																		TOTAL VMT	40,749,848	100%

lbs/Mile

1.00E-06

ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM 2.5 Total	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX
1.13E-03	1.72E-02	3.32E-03	2.22E-05	2.65E-05	9.27E-05	7.31E-04	8.50E-04	6.61E-06	3.24E-05	6.99E-04	7.38E-04	2.35E+00	5.27E-05	3.69E-04
1.22E-05	2.93E-04	4.83E-03	0.00E+00	2.65E-05	9.27E-05	1.06E-06	1.20E-04	6.61E-06	3.24E-05	9.77E-07	4.00E-05	1.73E+00	8.54E-04	3.53E-04
3.29E-05	1.41E-04	2.20E-03	6.62E-06	1.76E-05	1.53E-05	3.22E-06	3.61E-05	4.41E-06	5.35E-06	2.96E-06	1.27E-05	6.69E-01	8.15E-06	1.34E-05
6.43E-05	5.70E-04	7.23E-04	5.07E-06	1.76E-05	1.53E-05	4.07E-05	7.36E-05	4.41E-06	5.36E-06	3.89E-05	4.87E-05	5.35E-01	2.98E-06	8.42E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-05	9.61E-06	0.00E+00	2.72E-05	4.41E-06	3.36E-06	0.00E+00	7.77E-06	0.00E+00	0.00E+00	0.00E+00
3.15E-06	7.16E-06	5.31E-04	3.23E-06	1.76E-05	8.22E-06	2.03E-06	2.79E-05	4.41E-06	2.88E-06	1.86E-06	9.15E-06	3.26E-01	1.03E-06	1.38E-06
1.52E-04	6.56E-04	6.57E-03	7.93E-06	1.76E-05	1.87E-05	6.83E-06	4.31E-05	4.41E-06	6.53E-06	6.28E-06	1.72E-05	8.02E-01	3.29E-05	4.21E-05
6.98E-04	3.47E-03	4.59E-03	8.66E-06	1.76E-05	2.12E-05	5.35E-04	5.74E-04	4.41E-06	7.42E-06	5.12E-04	5.24E-04	9.15E-01	3.24E-05	1.44E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-05	9.71E-06	0.00E+00	2.73E-05	4.41E-06	3.40E-06	0.00E+00	7.81E-06	0.00E+00	0.00E+00	0.00E+00
3.17E-06	7.18E-06	5.34E-04	3.24E-06	1.76E-05	8.21E-06	2.35E-06	2.82E-05	4.41E-06	2.87E-06	2.16E-06	9.45E-06	3.28E-01	1.04E-06	1.39E-06
4.61E-05	2.85E-04	2.85E-03	8.42E-06	1.76E-05	1.77E-05	3.45E-06	3.88E-05	4.41E-06	6.19E-06	3.17E-06	1.38E-05	8.51E-01	1.10E-05	2.06E-05
4.89E-05	2.29E-04	3.50E-04	7.03E-06	1.76E-05	1.68E-05	2.64E-05	6.09E-05	4.41E-06	5.88E-06	2.53E-05	3.56E-05	7.43E-01	2.27E-06	1.17E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-05	9.59E-06	0.00E+00	2.72E-05	4.41E-06	3.35E-06	0.00E+00	7.76E-06	0.00E+00	0.00E+00	0.00E+00
3.11E-06	7.05E-06	5.25E-04	3.18E-06	1.76E-05	8.22E-06	2.28E-06	2.81E-05	4.41E-06	2.88E-06	2.10E-06	9.39E-06	3.22E-01	1.02E-06	1.38E-06
8.74E-05	6.03E-04	2.98E-03	1.54E-05	1.76E-05	1.72E-04	2.71E-06	1.92E-04	4.41E-06	6.02E-05	2.49E-06	6.71E-05	1.55E+00	1.73E-05	3.43E-05
3.04E-04	6.00E-03	1.07E-03	1.04E-05	2.65E-05	1.72E-04	7.62E-05	2.75E-04	6.61E-06	6.02E-05	7.29E-05	1.40E-04	1.10E+00	1.41E-05	1.73E-04
5.18E-05	4.69E-04	2.08E-03	1.66E-05	1.76E-05	2.01E-04	2.26E-06	2.21E-04	4.41E-06	7.02E-05	2.08E-06	7.67E-05	1.68E+00	1.11E-05	2.86E-05
2.59E-04	4.39E-03	7.65E-04	1.26E-05	2.65E-05	2.01E-04	6.59E-05	2.93E-04	6.61E-06	7.02E-05	6.31E-05	1.40E-04	1.33E+00	1.20E-05	2.09E-04
2.82E-03	1.41E-03	3.31E-02	4.17E-06	8.82E-06	2.65E-05	3.88E-06	3.92E-05	2.20E-06	9.26E-06	3.64E-06	1.51E-05	4.21E-01	4.15E-04	9.34E-05
7.93E-05	4.49E-04	3.75E-03	1.02E-05	1.76E-05	1.83E-05	3.60E-06	3.95E-05	4.41E-06	6.39E-06	3.31E-06	1.41E-05	1.03E+00	1.71E-05	2.93E-05
4.62E-05	5.26E-04	6.48E-04	9.40E-06	1.76E-05	1.75E-05	2.60E-05	6.11E-05	4.41E-06	6.12E-06	2.49E-05	3.54E-05	9.93E-01	2.15E-06	1.56E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-05	9.75E-06	0.00E+00	2.74E-05	4.41E-06	3.41E-06	0.00E+00	7.82E-06	0.00E+00	0.00E+00	0.00E+00
3.16E-06	7.16E-06	5.33E-04	3.23E-06	1.76E-05	8.21E-06	2.36E-06	2.82E-05	4.41E-06	2.87E-06	2.17E-06	9.45E-06	3.27E-01	1.03E-06	1.38E-06
1.68E-04	1.02E-03	5.56E-03	3.84E-05	2.65E-05	9.30E-05	3.03E-06	1.22E-04	6.61E-06	3.25E-05	2.80E-06	4.19E-05	3.88E+00	3.53E-05	6.04E-05
1.67E-04	1.01E-02	7.68E-04	2.04E-05	3.53E-05	9.28E-05	3.46E-04	4.74E-04	8.82E-06	3.25E-05	3.31E-04	3.72E-04	2.16E+00	7.76E-06	3.40E-04
3.70E-04	9.17E-03	1.38E-03	3.59E-05	2.65E-05	1.81E-04	2.19E-04	4.26E-04	6.61E-06	6.32E-05	2.09E-04	2.79E-04	3.79E+00	1.72E-05	5.97E-04
1.52E-04	1.35E-03	4.11E-03	3.76E-05	2.65E-05	9.27E-05	1.18E-06	1.20E-04	6.61E-06	3.24E-05	1.09E-06	4.01E-05	3.80E+00	3.12E-05	6.37E-05
6.30E-04	1.25E-02	2.21E-03	4.53E-05	0.00E+00	0.00E+00	2.07E-04	2.07E-04	0.00E+00	0.00E+00	1.98E-04	1.98E-04	4.79E+00	2.93E-05	7.54E-04
4.30E-04	1.34E-03	9.07E-03	2.02E-05	1.76E-05	1.03E-04	3.66E-06	1.25E-04	4.41E-06	3.61E-05	3.39E-06	4.39E-05	2.04E+00	7.13E-05	6.76E-05
3.59E-04	1.99E-02	8.49E-04	2.69E-05	2.65E-05	1.03E-04	1.27E-04	2.56E-04	6.61E-06	3.61E-05	1.21E-04	1.64E-04	2.84E+00	1.67E-05	4.47E-04
1.58E-04	2.23E-03	3.94E-02	0.00E+00	2.65E-05	1.03E-04	9.88E-06	1.40E-04	6.61E-06	3.61E-05	9.09E-06	5.18E-05	3.92E+00	1.11E-02	7.98E-04
1.87E-04	4.74E-03	6.85E-04	2.33E-05	2.65E-05	9.27E-05	1.54E-04	2.73E-04	6.61E-06	3.24E-05	1.47E-04	1.86E-04	2.47E+00	8.67E-06	3.88E-04
1.28E-04	3.55E-03	4.98E-04	2.32E-05	2.65E-05	9.27E-05	1.12E-04	2.31E-04	6.61E-06	3.24E-05	1.07E-04	1.46E-04	2.45E+00	5.96E-06	3.85E-04
1.83E-04	4.65E-03	6.95E-04	2.29E-05	2.65E-05	9.27E-05	1.59E-04	2.78E-04	6.61E-06	3.24E-05	1.52E-04	1.91E-04	2.42E+00	8.48E-06	3.81E-04
1.82E-04	4.93E-03	6.41E-04	2.16E-05	2.65E-05	9.27E-05	1.45E-04	2.64E-04	6.61E-06	3.24E-05	1.39E-04	1.78E-04	2.28E+00	8.44E-06	3.60E-04
1.11E-05	3.24E-04	5.18E-03	0.00E+00	2.65E-05	9.27E-05	7.39E-07	1.20E-04	6.61E-06	3.24E-05	6.79E-07	3.97E-05	1.66E+00	7.77E-04	3.38E-04
6.19E-04	1.36E-02	2.21E-03	2.25E-05	2.65E-05	9.31E-05	4.78E-04	5.98E-04	6.61E-06	3.26E-05	4.57E-04	4.97E-04	2.38E+00	2.87E-05	3.74E-04
1.17E-05	3.41E-04	5.29E-03	0.00E+00	2.65E-05	9.31E-05	7.65E-07	1.20E-04	6.61E-06	3.26E-05	7.03E-07	3.99E-05	1.78E+00	8.20E-04	3.63E-04
3.11E-04	6.80E-03	1.16E-03	2.29E-05	2.65E-05	9.31E-05	2.56E-04	3.76E-04	6.61E-06	3.26E-05	2.45E-04	2.84E-04	2.42E+00	1.44E-05	3.82E-04
1.17E-05	3.41E-04	5.29E-03	0.00E+00	2.65E-05	9.31E-05	7.67E-07	1.20E-04	6.61E-06	3.26E-05	7.06E-07	3.99E-05	1.76E+00	8.21E-04	3.59E-04
4.32E-04	9.91E-03	1.56E-03	2.21E-05	2.65E-05	9.31E-05	3.47E-04	4.66E-04	6.61E-06	3.26E-05	3.32E-04	3.71E-04	2.34E+00	2.01E-05	3.68E-04
1.17E-05	3.40E-04	5.28E-03	0.00E+00	2.65E-05	9.31E-05	7.71E-07	1.20E-04	6.61E-06	3.26E-05	7.09E-07	3.99E-05	1.78E+00	8.21E-04	3.64E-04
3.29E-04	1.07E-02	1.08E-03	2.20E-05	2.65E-05	9.31E-05	2.26E-04	3.46E-04	6.61E-06	3.26E-05	2.16E-04	2.55E-04	2.33E+00	1.53E-05	3.66E-04
1.26E-05	2.93E-04	4.88E-03	0.00E+00	2.65E-05	9.31E-05	1.11E-06	1.21E-04	6.61E-06	3.26E-05	1.02E-06	4.02E-05	1.77E+00	8.85E-04	3.60E-04
5.81E-04	1.26E-02	2.09E-03	2.26E-05	2.65E-05	9.30E-05	4.64E-04	5.83E-04	6.61E-06	3.26E-05	4.44E-04	4.83E-04	2.39E+00	2.70E-05	3.77E-04
1.16E-05	3.40E-04	5.28E-03	0.00E+00	2.65E-05	9.30E-05	7.60E-07	1.20E-04	6.61E-06	3.26E-05	6.98E-07	3.99E-05	1.77E+00	8.14E-04	3.61E-04
2.16E-04	4.77E-03	8.56E-04	2.30E-05	2.65E-05	9.30E-05	1.91E-04	3.10E-04	6.61E-06	3.26E-05	1.83E-04	2.22E-04	2.43E+00	1.00E-05	3.83E-04
1.16E-05	3.40E-04	5.28E-03	0.00E+00	2.65E-05	9.30E-05	7.57E-07	1.20E-04	6.61E-06	3.26E-05	6.96E-07	3.99E-05	1.76E+00	8.14E-04	3.58E-04

3.90E-04	8.37E-03	1.43E-03	2.26E-05	2.65E-05	9.30E-05	3.19E-04	4.39E-04	6.61E-06	3.26E-05	3.05E-04	3.44E-04	2.39E+00	1.81E-05	3.76E-04
1.17E-05	3.37E-04	5.26E-03	0.00E+00	2.65E-05	9.30E-05	7.79E-07	1.20E-04	6.61E-06	3.26E-05	7.16E-07	3.99E-05	1.77E+00	8.18E-04	3.61E-04
3.79E-04	9.20E-03	1.18E-03	2.27E-05	2.65E-05	9.30E-05	2.69E-04	3.89E-04	6.61E-06	3.26E-05	2.58E-04	2.97E-04	2.40E+00	1.76E-05	3.78E-04
1.36E-05	2.37E-04	4.39E-03	0.00E+00	2.65E-05	9.30E-05	1.49E-06	1.21E-04	6.61E-06	3.26E-05	1.37E-06	4.05E-05	1.76E+00	9.50E-04	3.58E-04
5.60E-04	1.29E-02	1.89E-03	2.26E-05	2.65E-05	9.30E-05	4.09E-04	5.28E-04	6.61E-06	3.26E-05	3.91E-04	4.30E-04	2.39E+00	2.60E-05	3.76E-04
2.95E-04	9.15E-03	1.04E-03	2.09E-05	2.65E-05	9.30E-05	2.26E-04	3.46E-04	6.61E-06	3.26E-05	2.17E-04	2.56E-04	2.21E+00	1.37E-05	3.48E-04
1.22E-05	3.09E-04	5.01E-03	0.00E+00	2.65E-05	9.30E-05	9.65E-07	1.20E-04	6.61E-06	3.26E-05	8.87E-07	4.01E-05	1.77E+00	8.53E-04	3.61E-04
1.87E-04	4.74E-03	6.85E-04	2.33E-05	2.65E-05	9.27E-05	1.54E-04	2.73E-04	6.61E-06	3.24E-05	1.47E-04	1.86E-04	2.47E+00	8.67E-06	3.88E-04
1.28E-04	3.55E-03	4.98E-04	2.32E-05	2.65E-05	9.27E-05	1.12E-04	2.31E-04	6.61E-06	3.24E-05	1.07E-04	1.46E-04	2.45E+00	5.96E-06	3.85E-04
1.83E-04	4.65E-03	6.95E-04	2.29E-05	2.65E-05	9.27E-05	1.59E-04	2.78E-04	6.61E-06	3.24E-05	1.52E-04	1.91E-04	2.42E+00	8.48E-06	3.81E-04
2.01E-04	5.18E-03	7.07E-04	2.16E-05	2.65E-05	9.27E-05	1.60E-04	2.79E-04	6.61E-06	3.24E-05	1.53E-04	1.92E-04	2.28E+00	9.33E-06	3.60E-04
1.16E-04	1.97E-02	3.42E-04	2.28E-05	2.65E-05	9.28E-05	8.68E-05	2.06E-04	6.61E-06	3.25E-05	8.31E-05	1.22E-04	2.41E+00	5.37E-06	3.79E-04
1.20E-05	2.91E-04	4.85E-03	0.00E+00	2.65E-05	9.28E-05	1.00E-06	1.20E-04	6.61E-06	3.25E-05	9.23E-07	4.00E-05	1.73E+00	8.40E-04	3.52E-04
6.49E-05	9.18E-03	2.21E-04	2.31E-05	2.65E-05	9.28E-05	5.08E-05	1.70E-04	6.61E-06	3.25E-05	4.86E-05	8.77E-05	2.45E+00	3.01E-06	3.85E-04
1.29E-05	2.62E-04	4.54E-03	0.00E+00	2.65E-05	9.28E-05	1.35E-06	1.21E-04	6.61E-06	3.25E-05	1.24E-06	4.03E-05	1.70E+00	9.03E-04	3.47E-04
1.59E-04	2.04E-02	4.45E-04	2.31E-05	2.65E-05	9.28E-05	1.25E-04	2.44E-04	6.61E-06	3.25E-05	1.19E-04	1.58E-04	2.45E+00	7.40E-06	3.85E-04
1.32E-05	2.47E-04	4.40E-03	0.00E+00	2.65E-05	9.28E-05	1.45E-06	1.21E-04	6.61E-06	3.25E-05	1.33E-06	4.04E-05	1.71E+00	9.22E-04	3.48E-04
1.93E-04	2.23E-02	5.19E-04	2.35E-05	2.65E-05	9.28E-05	1.50E-04	2.69E-04	6.61E-06	3.25E-05	1.43E-04	1.82E-04	2.49E+00	8.96E-06	3.92E-04
1.29E-05	2.60E-04	4.53E-03	0.00E+00	2.65E-05	9.28E-05	1.34E-06	1.21E-04	6.61E-06	3.25E-05	1.23E-06	4.03E-05	1.71E+00	9.01E-04	3.49E-04
2.99E-05	2.40E-03	1.07E-04	2.20E-05	2.65E-05	9.28E-05	1.84E-05	1.38E-04	6.61E-06	3.25E-05	1.76E-05	5.67E-05	2.33E+00	1.39E-06	3.66E-04
1.13E-05	3.31E-04	5.24E-03	0.00E+00	2.65E-05	9.28E-05	7.32E-07	1.20E-04	6.61E-06	3.25E-05	6.73E-07	3.98E-05	1.73E+00	7.88E-04	3.52E-04
4.09E-05	3.88E-03	1.49E-04	2.22E-05	2.65E-05	9.28E-05	2.83E-05	1.48E-04	6.61E-06	3.25E-05	2.70E-05	6.61E-05	2.35E+00	1.90E-06	3.70E-04
1.13E-05	3.31E-04	5.24E-03	0.00E+00	2.65E-05	9.28E-05	7.32E-07	1.20E-04	6.61E-06	3.25E-05	6.73E-07	3.98E-05	1.69E+00	7.88E-04	3.45E-04
3.20E-05	3.51E-03	1.34E-04	2.24E-05	2.65E-05	9.28E-05	2.75E-05	1.47E-04	6.61E-06	3.25E-05	2.63E-05	6.54E-05	2.37E+00	1.48E-06	3.73E-04
1.13E-05	3.31E-04	5.24E-03	0.00E+00	2.65E-05	9.28E-05	7.32E-07	1.20E-04	6.61E-06	3.25E-05	6.73E-07	3.98E-05	1.69E+00	7.88E-04	3.44E-04
3.09E-04	2.02E-03	8.39E-03	3.74E-05	2.65E-05	9.30E-05	2.54E-06	1.22E-04	6.61E-06	3.25E-05	2.35E-06	4.15E-05	3.78E+00	5.75E-05	8.81E-05
1.78E-04	7.64E-03	6.73E-04	3.30E-05	7.94E-05	1.69E-04	1.43E-04	3.92E-04	1.98E-05	5.93E-05	1.37E-04	2.16E-04	3.48E+00	8.26E-06	5.49E-04
2.69E-05	8.66E-04	1.65E-02	0.00E+00	7.94E-05	1.64E-04	2.80E-06	2.46E-04	1.98E-05	5.74E-05	2.57E-06	7.98E-05	2.59E+00	1.88E-03	5.27E-04
2.93E-04	8.22E-03	1.21E-03	3.32E-05	7.94E-05	1.71E-04	2.35E-04	4.86E-04	1.98E-05	6.00E-05	2.25E-04	3.05E-04	3.51E+00	1.36E-05	5.52E-04
2.08E-04	8.01E-03	7.82E-04	3.30E-05	7.94E-05	1.70E-04	1.59E-04	4.08E-04	1.98E-05	5.94E-05	1.52E-04	2.31E-04	3.48E+00	9.65E-06	5.49E-04
1.68E-04	9.98E-03	5.09E-04	3.40E-05	7.94E-05	1.84E-04	7.69E-05	3.40E-04	1.98E-05	6.43E-05	7.36E-05	1.58E-04	3.59E+00	7.80E-06	5.65E-04
2.66E-05	1.10E-03	2.11E-02	0.00E+00	7.94E-05	1.81E-04	2.26E-06	2.63E-04	1.98E-05	6.33E-05	2.08E-06	8.52E-05	2.86E+00	1.86E-03	5.84E-04
1.95E-04	2.74E-02	7.88E-04	3.54E-05	7.94E-05	2.09E-04	1.74E-04	4.63E-04	1.98E-05	7.32E-05	1.67E-04	2.60E-04	3.74E+00	9.05E-06	5.89E-04
2.71E-05	9.10E-04	1.71E-02	0.00E+00	7.94E-05	1.73E-04	2.75E-06	2.55E-04	1.98E-05	6.05E-05	2.53E-06	8.29E-05	2.66E+00	1.89E-03	5.42E-04
1.52E-04	5.19E-03	7.26E-04	3.45E-05	7.94E-05	1.74E-04	1.83E-04	4.37E-04	1.98E-05	6.10E-05	1.75E-04	2.56E-04	3.64E+00	7.05E-06	5.74E-04
2.79E-05	6.99E-04	1.29E-02	0.00E+00	7.94E-05	1.64E-04	3.32E-06	2.47E-04	1.98E-05	5.75E-05	3.05E-06	8.04E-05	2.60E+00	1.95E-03	5.29E-04
2.43E-04	9.49E-03	9.66E-04	3.42E-05	7.94E-05	1.79E-04	1.83E-04	4.41E-04	1.98E-05	6.26E-05	1.75E-04	2.57E-04	3.62E+00	1.13E-05	5.70E-04
2.78E-05	7.28E-04	1.34E-02	0.00E+00	7.94E-05	1.67E-04	3.26E-06	2.50E-04	1.98E-05	5.85E-05	2.99E-06	8.14E-05	2.66E+00	1.95E-03	5.43E-04
3.58E-04	1.10E-02	1.44E-03	3.42E-05	7.94E-05	1.82E-04	2.75E-04	5.37E-04	1.98E-05	6.37E-05	2.63E-04	3.47E-04	3.62E+00	1.66E-05	5.70E-04
2.78E-05	7.34E-04	1.37E-02	0.00E+00	7.94E-05	1.68E-04	3.22E-06	2.51E-04	1.98E-05	5.90E-05	2.96E-06	8.18E-05	2.67E+00	1.94E-03	5.44E-04
1.90E-06	3.46E-02	2.58E-05	7.81E-05	7.94E-05	4.63E-04	3.61E-05	5.78E-04	1.98E-05	1.62E-04	3.46E-05	2.16E-04	8.26E+00	8.80E-08	1.30E-03
3.15E-04	7.14E-03	2.02E-02	0.00E+00	7.94E-05	4.63E-04	2.43E-05	5.67E-04	1.98E-05	1.62E-04	2.23E-05	2.04E-04	2.87E+00	5.23E-03	5.86E-04
2.54E-04	9.99E-03	9.69E-04	3.27E-05	7.94E-05	1.77E-04	1.83E-04	4.39E-04	1.98E-05	6.18E-05	1.75E-04	2.57E-04	3.45E+00	1.18E-05	5.44E-04
2.72E-05	8.02E-04	1.49E-02	0.00E+00	7.94E-05	1.64E-04	3.01E-06	2.46E-04	1.98E-05	5.73E-05	2.76E-06	7.99E-05	2.66E+00	1.90E-03	5.42E-04
4.23E-05	4.48E-03	1.78E-04	3.42E-05	7.94E-05	1.71E-04	3.69E-05	2.87E-04	1.98E-05	5.98E-05	3.53E-05	1.15E-04	3.61E+00	1.96E-06	5.68E-04
4.93E-03	2.35E-02	2.08E-01	5.28E-05	4.41E-05	2.14E-04	8.65E-06	2.67E-04	1.10E-05	7.50E-05	8.02E-06	9.40E-05	5.34E+00	7.57E-04	5.90E-04
2.66E-05	3.27E-04	8.91E-04	3.32E-05	2.29E-05	2.25E-04	2.92E-06	2.51E-04	5.72E-06	7.89E-05	2.69E-06	8.73E-05	3.36E+00	8.65E-06	3.34E-05
7.96E-05	3.55E-04	6.40E-05	1.88E-05	2.65E-05	2.43E-04	4.92E-06	2.74E-04	6.61E-06	8.49E-05	4.71E-06	9.62E-05	1.99E+00	3.70E-06	3.13E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.65E-05	1.21E-04	0.00E+00	1.48E-04	6.61E-06	4.24E-05	0.00E+00	4.91E-05	0.00E+00	0.00E+00	0.00E+00
4.66E-05	1.45E-03	5.75E-02	0.00E+00	6.91E-05	2.43E-04	4.26E-07	3.12E-04	1.73E-05	8.49E-05	4.08E-07	1.03E-04	4.40E+00	3.26E-03	8.96E-04

MTons/Mile														
ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM 2.5 Total	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX
5.15E-07	7.79E-06	1.50E-06	1.01E-08	1.20E-08	4.21E-08	3.31E-07	3.85E-07	3.00E-09	1.47E-08	3.17E-07	3.35E-07	1.06E-03	2.39E-08	1.67E-07
5.54E-09	1.33E-07	2.19E-06	0.00E+00	1.20E-08	4.21E-08	4.82E-10	5.45E-08	3.00E-09	1.47E-08	4.43E-10	1.82E-08	7.85E-04	3.88E-07	1.60E-07
1.49E-08	6.40E-08	9.99E-07	3.00E-09	8.00E-09	6.93E-09	1.46E-09	1.64E-08	2.00E-09	2.43E-09	1.34E-09	5.77E-09	3.03E-04	3.69E-09	6.09E-09
2.91E-08	2.59E-07	3.28E-07	2.30E-09	8.00E-09	6.94E-09	1.85E-08	3.34E-08	2.00E-09	2.43E-09	1.77E-08	2.21E-08	2.43E-04	1.35E-09	3.82E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.36E-09	0.00E+00	1.24E-08	2.00E-09	1.53E-09	0.00E+00	3.53E-09	0.00E+00	0.00E+00	0.00E+00
1.43E-09	3.25E-09	2.41E-07	1.46E-09	8.00E-09	3.73E-09	9.19E-10	1.26E-08	2.00E-09	1.31E-09	8.45E-10	4.15E-09	1.48E-04	4.67E-10	6.25E-10
6.87E-08	2.97E-07	2.98E-06	3.60E-09	8.00E-09	8.46E-09	3.10E-09	1.96E-08	2.00E-09	2.96E-09	2.85E-09	7.81E-09	3.64E-04	1.49E-08	1.91E-08
3.17E-07	1.57E-06	2.08E-06	3.93E-09	8.00E-09	9.61E-09	2.43E-07	2.60E-07	2.00E-09	3.36E-09	2.32E-07	2.37E-07	4.15E-04	1.47E-08	6.53E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.41E-09	0.00E+00	1.24E-08	2.00E-09	1.54E-09	0.00E+00	3.54E-09	0.00E+00	0.00E+00	0.00E+00
1.44E-09	3.26E-09	2.42E-07	1.47E-09	8.00E-09	3.73E-09	1.07E-09	1.28E-08	2.00E-09	1.30E-09	9.81E-10	4.29E-09	1.49E-04	4.70E-10	6.31E-10
2.09E-08	1.29E-07	1.29E-06	3.82E-09	8.00E-09	8.02E-09	1.57E-09	1.76E-08	2.00E-09	2.81E-09	1.44E-09	6.25E-09	3.86E-04	4.97E-09	9.35E-09
2.22E-08	1.04E-07	1.59E-07	3.19E-09	8.00E-09	7.62E-09	1.20E-08	2.76E-08	2.00E-09	2.67E-09	1.15E-08	1.61E-08	3.37E-04	1.03E-09	5.30E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.35E-09	0.00E+00	1.23E-08	2.00E-09	1.52E-09	0.00E+00	3.52E-09	0.00E+00	0.00E+00	0.00E+00
1.41E-09	3.20E-09	2.38E-07	1.44E-09	8.00E-09	3.73E-09	1.04E-09	1.28E-08	2.00E-09	1.31E-09	9.53E-10	4.26E-09	1.46E-04	4.63E-10	6.24E-10
3.96E-08	2.74E-07	1.35E-06	6.98E-09	8.00E-09	7.80E-08	1.23E-09	8.72E-08	2.00E-09	2.73E-08	1.13E-09	3.04E-08	7.05E-04	7.87E-09	1.55E-08
1.38E-07	2.72E-06	4.86E-07	4.71E-09	1.20E-08	7.80E-08	3.46E-08	1.25E-07	3.00E-09	2.73E-08	3.31E-08	6.34E-08	4.97E-04	6.40E-09	7.83E-08
2.35E-08	2.13E-07	9.43E-07	7.54E-09	8.00E-09	9.10E-08	1.02E-09	1.00E-07	2.00E-09	3.19E-08	9.42E-10	3.48E-08	7.62E-04	5.02E-09	1.30E-08
1.17E-07	1.99E-06	3.47E-07	5.70E-09	1.20E-08	9.10E-08	2.99E-08	1.33E-07	3.00E-09	3.19E-08	2.86E-08	6.35E-08	6.03E-04	5.45E-09	9.48E-08
1.28E-06	6.39E-07	1.50E-05	1.89E-09	4.00E-09	1.20E-08	1.76E-09	1.78E-08	1.00E-09	4.20E-09	1.65E-09	6.85E-09	1.91E-04	1.88E-07	4.23E-08
3.60E-08	2.04E-07	1.70E-06	4.63E-09	8.00E-09	8.28E-09	1.63E-09	1.79E-08	2.00E-09	2.90E-09	1.50E-09	6.40E-09	4.68E-04	7.76E-09	1.33E-08
2.10E-08	2.39E-07	2.94E-07	4.26E-09	8.00E-09	7.93E-09	1.18E-08	2.77E-08	2.00E-09	2.78E-09	1.13E-08	1.61E-08	4.51E-04	9.74E-10	7.09E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.42E-09	0.00E+00	1.24E-08	2.00E-09	1.55E-09	0.00E+00	3.55E-09	0.00E+00	0.00E+00	0.00E+00
1.43E-09	3.25E-09	2.42E-07	1.47E-09	8.00E-09	3.72E-09	1.07E-09	1.28E-08	2.00E-09	1.30E-09	9.84E-10	4.29E-09	1.48E-04	4.67E-10	6.25E-10
7.63E-08	4.65E-07	2.52E-06	1.74E-08	1.20E-08	4.22E-08	1.38E-09	5.55E-08	3.00E-09	1.48E-08	1.27E-09	1.90E-08	1.76E-03	1.60E-08	2.74E-08
7.57E-08	4.57E-06	3.48E-07	9.27E-09	1.60E-08	4.21E-08	1.57E-07	2.15E-07	4.00E-09	1.47E-08	1.50E-07	1.69E-07	9.79E-04	3.52E-09	1.54E-07
1.68E-07	4.16E-06	6.26E-07	1.63E-08	1.20E-08	8.20E-08	9.92E-08	1.93E-07	3.00E-09	2.87E-08	9.49E-08	1.27E-07	1.72E-03	7.80E-09	2.71E-07
6.88E-08	6.11E-07	1.87E-06	1.71E-08	1.20E-08	4.21E-08	5.35E-10	5.46E-08	3.00E-09	1.47E-08	4.92E-10	1.82E-08	1.72E-03	1.41E-08	2.89E-08
2.86E-07	5.66E-06	1.00E-06	2.05E-08	0.00E+00	0.00E+00	9.41E-08	9.41E-08	0.00E+00	0.00E+00	9.00E-08	9.00E-08	2.17E-03	1.33E-08	3.42E-07
1.95E-07	6.08E-07	4.12E-06	9.14E-09	8.00E-09	4.68E-08	1.66E-09	5.65E-08	2.00E-09	1.64E-08	1.54E-09	1.99E-08	9.24E-04	3.24E-08	3.07E-08
1.63E-07	9.02E-06	3.85E-07	1.22E-08	1.20E-08	4.68E-08	5.74E-08	1.16E-07	3.00E-09	1.64E-08	5.50E-08	7.44E-08	1.29E-03	7.56E-09	2.03E-07
7.19E-08	1.01E-06	1.79E-05	0.00E+00	1.20E-08	4.68E-08	4.48E-09	6.33E-08	3.00E-09	1.64E-08	4.12E-09	2.35E-08	1.78E-03	5.03E-06	3.62E-07
8.47E-08	2.15E-06	3.11E-07	1.06E-08	1.20E-08	4.20E-08	6.98E-08	1.24E-07	3.00E-09	1.47E-08	6.68E-08	8.45E-08	1.12E-03	3.93E-09	1.76E-07
5.82E-08	1.61E-06	2.26E-07	1.05E-08	1.20E-08	4.20E-08	5.09E-08	1.05E-07	3.00E-09	1.47E-08	4.87E-08	6.64E-08	1.11E-03	2.70E-09	1.75E-07
8.28E-08	2.11E-06	3.15E-07	1.04E-08	1.20E-08	4.20E-08	7.19E-08	1.26E-07	3.00E-09	1.47E-08	6.88E-08	8.65E-08	1.10E-03	3.85E-09	1.73E-07
8.24E-08	2.24E-06	2.91E-07	9.81E-09	1.20E-08	4.20E-08	6.59E-08	1.20E-07	3.00E-09	1.47E-08	6.31E-08	8.08E-08	1.04E-03	3.83E-09	1.63E-07
5.04E-09	1.47E-07	2.35E-06	0.00E+00	1.20E-08	4.20E-08	3.35E-10	5.44E-08	3.00E-09	1.47E-08	3.08E-10	1.80E-08	7.52E-04	3.52E-07	1.53E-07
2.81E-07	6.16E-06	1.00E-06	1.02E-08	1.20E-08	4.22E-08	2.17E-07	2.71E-07	3.00E-09	1.48E-08	2.07E-07	2.25E-07	1.08E-03	1.30E-08	1.70E-07
5.31E-09	1.55E-07	2.40E-06	0.00E+00	1.20E-08	4.22E-08	3.47E-10	5.46E-08	3.00E-09	1.48E-08	3.19E-10	1.81E-08	8.08E-04	3.72E-07	1.65E-07
1.41E-07	3.09E-06	5.25E-07	1.04E-08	1.20E-08	4.22E-08	1.16E-07	1.70E-07	3.00E-09	1.48E-08	1.11E-07	1.29E-07	1.10E-03	6.55E-09	1.73E-07
5.32E-09	1.55E-07	2.40E-06	0.00E+00	1.20E-08	4.22E-08	3.48E-10	5.46E-08	3.00E-09	1.48E-08	3.20E-10	1.81E-08	8.00E-04	3.72E-07	1.63E-07
1.96E-07	4.49E-06	7.09E-07	1.00E-08	1.20E-08	4.22E-08	1.57E-07	2.12E-07	3.00E-09	1.48E-08	1.50E-07	1.68E-07	1.06E-03	9.10E-09	1.67E-07
5.32E-09	1.54E-07	2.40E-06	0.00E+00	1.20E-08	4.22E-08	3.50E-10	5.46E-08	3.00E-09	1.48E-08	3.22E-10	1.81E-08	8.09E-04	3.73E-07	1.65E-07
1.49E-07	4.85E-06	4.88E-07	9.98E-09	1.20E-08	4.22E-08	1.03E-07	1.57E-07	3.00E-09	1.48E-08	9.81E-08	1.16E-07	1.06E-03	6.93E-09	1.66E-07
5.73E-09	1.33E-07	2.22E-06	0.00E+00	1.20E-08	4.22E-08	5.05E-10	5.47E-08	3.00E-09	1.48E-08	4.64E-10	1.82E-08	8.01E-04	4.01E-07	1.63E-07
2.63E-07	5.70E-06	9.50E-07	1.03E-08	1.20E-08	4.22E-08	2.10E-07	2.64E-07	3.00E-09	1.48E-08	2.01E-07	2.19E-07	1.09E-03	1.22E-08	1.71E-07
5.28E-09	1.54E-07	2.39E-06	0.00E+00	1.20E-08	4.22E-08	3.45E-10	5.45E-08	3.00E-09	1.48E-08	3.17E-10	1.81E-08	8.04E-04	3.69E-07	1.64E-07
9.79E-08	2.16E-06	3.88E-07	1.04E-08	1.20E-08	4.22E-08	8.66E-08	1.41E-07	3.00E-09	1.48E-08	8.28E-08	1.01E-07	1.10E-03	4.55E-09	1.74E-07
5.27E-09	1.54E-07	2.40E-06	0.00E+00	1.20E-08	4.22E-08	3.43E-10	5.45E-08	3.00E-09	1.48E-08	3.16E-10	1.81E-08	7.97E-04	3.69E-07	1.62E-07

1.77E-07	3.80E-06	6.50E-07	1.02E-08	1.20E-08	4.22E-08	1.45E-07	1.99E-07	3.00E-09	1.48E-08	1.38E-07	1.56E-07	1.08E-03	8.21E-09	1.70E-07
5.30E-09	1.53E-07	2.38E-06	0.00E+00	1.20E-08	4.22E-08	3.53E-10	5.46E-08	3.00E-09	1.48E-08	3.25E-10	1.81E-08	8.02E-04	3.71E-07	1.64E-07
1.72E-07	4.17E-06	5.36E-07	1.03E-08	1.20E-08	4.22E-08	1.22E-07	1.76E-07	3.00E-09	1.48E-08	1.17E-07	1.35E-07	1.09E-03	7.98E-09	1.72E-07
6.16E-09	1.07E-07	1.99E-06	0.00E+00	1.20E-08	4.22E-08	6.76E-10	5.49E-08	3.00E-09	1.48E-08	6.21E-10	1.84E-08	7.97E-04	4.31E-07	1.63E-07
2.54E-07	5.86E-06	8.58E-07	1.03E-08	1.20E-08	4.22E-08	1.85E-07	2.40E-07	3.00E-09	1.48E-08	1.77E-07	1.95E-07	1.08E-03	1.18E-08	1.71E-07
1.34E-07	4.15E-06	4.72E-07	9.48E-09	1.20E-08	4.22E-08	1.03E-07	1.57E-07	3.00E-09	1.48E-08	9.83E-08	1.16E-07	1.00E-03	6.22E-09	1.58E-07
5.53E-09	1.40E-07	2.27E-06	0.00E+00	1.20E-08	4.22E-08	4.38E-10	5.46E-08	3.00E-09	1.48E-08	4.02E-10	1.82E-08	8.02E-04	3.87E-07	1.64E-07
8.47E-08	2.15E-06	3.11E-07	1.06E-08	1.20E-08	4.20E-08	6.98E-08	1.24E-07	3.00E-09	1.47E-08	6.68E-08	8.45E-08	1.12E-03	3.93E-09	1.76E-07
5.82E-08	1.61E-06	2.26E-07	1.05E-08	1.20E-08	4.20E-08	5.09E-08	1.05E-07	3.00E-09	1.47E-08	4.87E-08	6.64E-08	1.11E-03	2.70E-09	1.75E-07
8.28E-08	2.11E-06	3.15E-07	1.04E-08	1.20E-08	4.20E-08	7.19E-08	1.26E-07	3.00E-09	1.47E-08	6.88E-08	8.65E-08	1.10E-03	3.85E-09	1.73E-07
9.11E-08	2.35E-06	3.21E-07	9.80E-09	1.20E-08	4.20E-08	7.27E-08	1.27E-07	3.00E-09	1.47E-08	6.95E-08	8.73E-08	1.04E-03	4.23E-09	1.63E-07
5.25E-08	8.95E-06	1.55E-07	1.03E-08	1.20E-08	4.21E-08	3.94E-08	9.35E-08	3.00E-09	1.47E-08	3.77E-08	5.54E-08	1.09E-03	2.44E-09	1.72E-07
5.44E-09	1.32E-07	2.20E-06	0.00E+00	1.20E-08	4.21E-08	4.55E-10	5.46E-08	3.00E-09	1.47E-08	4.19E-10	1.82E-08	7.84E-04	3.81E-07	1.60E-07
2.94E-08	4.16E-06	1.00E-07	1.05E-08	1.20E-08	4.21E-08	2.30E-08	7.71E-08	3.00E-09	1.47E-08	2.21E-08	3.98E-08	1.11E-03	1.37E-09	1.75E-07
5.85E-09	1.19E-07	2.06E-06	0.00E+00	1.20E-08	4.21E-08	6.14E-10	5.47E-08	3.00E-09	1.47E-08	5.64E-10	1.83E-08	7.71E-04	4.10E-07	1.57E-07
7.23E-08	9.27E-06	2.02E-07	1.05E-08	1.20E-08	4.21E-08	5.66E-08	1.11E-07	3.00E-09	1.47E-08	5.41E-08	7.18E-08	1.11E-03	3.36E-09	1.75E-07
5.98E-09	1.12E-07	2.00E-06	0.00E+00	1.20E-08	4.21E-08	6.58E-10	5.48E-08	3.00E-09	1.47E-08	6.05E-10	1.83E-08	7.74E-04	4.18E-07	1.58E-07
8.75E-08	1.01E-05	2.35E-07	1.07E-08	1.20E-08	4.21E-08	6.79E-08	1.22E-07	3.00E-09	1.47E-08	6.50E-08	8.27E-08	1.13E-03	4.07E-09	1.78E-07
5.84E-09	1.18E-07	2.06E-06	0.00E+00	1.20E-08	4.21E-08	6.08E-10	5.47E-08	3.00E-09	1.47E-08	5.59E-10	1.83E-08	7.77E-04	4.09E-07	1.58E-07
1.36E-08	1.09E-06	4.85E-08	9.98E-09	1.20E-08	4.21E-08	8.33E-09	6.24E-08	3.00E-09	1.47E-08	7.97E-09	2.57E-08	1.05E-03	6.30E-10	1.66E-07
5.11E-09	1.50E-07	2.38E-06	0.00E+00	1.20E-08	4.21E-08	3.32E-10	5.44E-08	3.00E-09	1.47E-08	3.05E-10	1.80E-08	7.84E-04	3.57E-07	1.60E-07
1.86E-08	1.76E-06	6.78E-08	1.01E-08	1.20E-08	4.21E-08	1.28E-08	6.69E-08	3.00E-09	1.47E-08	1.23E-08	3.00E-08	1.07E-03	8.63E-10	1.68E-07
5.11E-09	1.50E-07	2.38E-06	0.00E+00	1.20E-08	4.21E-08	3.32E-10	5.44E-08	3.00E-09	1.47E-08	3.05E-10	1.80E-08	7.68E-04	3.57E-07	1.56E-07
1.45E-08	1.59E-06	6.07E-08	1.02E-08	1.20E-08	4.21E-08	1.25E-08	6.66E-08	3.00E-09	1.47E-08	1.19E-08	2.97E-08	1.08E-03	6.73E-10	1.69E-07
5.11E-09	1.50E-07	2.38E-06	0.00E+00	1.20E-08	4.21E-08	3.32E-10	5.44E-08	3.00E-09	1.47E-08	3.05E-10	1.80E-08	7.65E-04	3.57E-07	1.56E-07
1.40E-07	9.15E-07	3.81E-06	1.70E-08	1.20E-08	4.22E-08	1.15E-09	5.53E-08	3.00E-09	1.48E-08	1.06E-09	1.88E-08	1.72E-03	2.61E-08	4.00E-08
8.07E-08	3.47E-06	3.05E-07	1.50E-08	3.60E-08	7.69E-08	6.47E-08	1.78E-07	9.00E-09	2.69E-08	6.19E-08	9.78E-08	1.58E-03	3.75E-09	2.49E-07
1.22E-08	3.93E-07	7.48E-06	0.00E+00	3.60E-08	7.44E-08	1.27E-09	1.12E-07	9.00E-09	2.60E-08	1.17E-09	3.62E-08	1.17E-03	8.52E-07	2.39E-07
1.33E-07	3.73E-06	5.48E-07	1.51E-08	3.60E-08	7.77E-08	1.07E-07	2.21E-07	9.00E-09	2.72E-08	1.02E-07	1.38E-07	1.59E-03	6.17E-09	2.51E-07
9.43E-08	3.63E-06	3.55E-07	1.50E-08	3.60E-08	7.70E-08	7.21E-08	1.85E-07	9.00E-09	2.70E-08	6.90E-08	1.05E-07	1.58E-03	4.38E-09	2.49E-07
7.62E-08	4.53E-06	2.31E-07	1.54E-08	3.60E-08	8.34E-08	3.49E-08	1.54E-07	9.00E-09	2.92E-08	3.34E-08	7.16E-08	1.63E-03	3.54E-09	2.56E-07
1.21E-08	4.97E-07	9.57E-06	0.00E+00	3.60E-08	8.21E-08	1.03E-09	1.19E-07	9.00E-09	2.87E-08	9.44E-10	3.87E-08	1.30E-03	8.44E-07	2.65E-07
8.84E-08	1.24E-05	3.57E-07	1.60E-08	3.60E-08	9.48E-08	7.91E-08	2.10E-07	9.00E-09	3.32E-08	7.57E-08	1.18E-07	1.70E-03	4.11E-09	2.67E-07
1.23E-08	4.13E-07	7.76E-06	0.00E+00	3.60E-08	7.84E-08	1.25E-09	1.16E-07	9.00E-09	2.74E-08	1.15E-09	3.76E-08	1.21E-03	8.59E-07	2.46E-07
6.88E-08	2.36E-06	3.29E-07	1.56E-08	3.60E-08	7.91E-08	8.31E-08	1.98E-07	9.00E-09	2.77E-08	7.95E-08	1.16E-07	1.65E-03	3.20E-09	2.60E-07
1.26E-08	3.17E-07	5.84E-06	0.00E+00	3.60E-08	7.45E-08	1.51E-09	1.12E-07	9.00E-09	2.61E-08	1.38E-09	3.65E-08	1.18E-03	8.85E-07	2.40E-07
1.10E-07	4.30E-06	4.38E-07	1.55E-08	3.60E-08	8.12E-08	8.30E-08	2.00E-07	9.00E-09	2.84E-08	7.94E-08	1.17E-07	1.64E-03	5.12E-09	2.58E-07
1.26E-08	3.30E-07	6.06E-06	0.00E+00	3.60E-08	7.59E-08	1.48E-09	1.13E-07	9.00E-09	2.65E-08	1.36E-09	3.69E-08	1.21E-03	8.83E-07	2.46E-07
1.63E-07	4.97E-06	6.54E-07	1.55E-08	3.60E-08	8.26E-08	1.25E-07	2.44E-07	9.00E-09	2.89E-08	1.20E-07	1.57E-07	1.64E-03	7.55E-09	2.58E-07
1.26E-08	3.33E-07	6.20E-06	0.00E+00	3.60E-08	7.64E-08	1.46E-09	1.14E-07	9.00E-09	2.67E-08	1.34E-09	3.71E-08	1.21E-03	8.81E-07	2.47E-07
8.60E-10	1.57E-05	1.17E-08	3.54E-08	3.60E-08	2.10E-07	1.64E-08	2.62E-07	9.00E-09	7.35E-08	1.57E-08	9.82E-08	3.75E-03	3.99E-11	5.90E-07
1.43E-07	3.24E-06	9.17E-06	0.00E+00	3.60E-08	2.10E-07	1.10E-08	2.57E-07	9.00E-09	7.35E-08	1.01E-08	9.26E-08	1.30E-03	2.37E-06	2.66E-07
1.15E-07	4.53E-06	4.40E-07	1.48E-08	3.60E-08	8.01E-08	8.30E-08	1.99E-07	9.00E-09	2.80E-08	7.94E-08	1.16E-07	1.57E-03	5.34E-09	2.47E-07
1.23E-08	3.64E-07	6.74E-06	0.00E+00	3.60E-08	7.42E-08	1.36E-09	1.12E-07	9.00E-09	2.60E-08	1.25E-09	3.62E-08	1.21E-03	8.64E-07	2.46E-07
1.92E-08	2.03E-06	8.07E-08	1.55E-08	3.60E-08	7.75E-08	1.68E-08	1.30E-07	9.00E-09	2.71E-08	1.60E-08	5.21E-08	1.64E-03	8.91E-10	2.58E-07
2.24E-06	1.06E-05	9.45E-05	2.39E-08	2.00E-08	9.72E-08	3.92E-09	1.21E-07	5.00E-09	3.40E-08	3.64E-09	4.26E-08	2.42E-03	3.43E-07	2.68E-07
1.21E-08	1.48E-07	4.04E-07	1.51E-08	1.04E-08	1.02E-07	1.33E-09	1.14E-07	2.59E-09	3.58E-08	1.22E-09	3.96E-08	1.52E-03	3.92E-09	1.52E-08
3.61E-08	1.61E-07	2.90E-08	8.55E-09	1.20E-08	1.10E-07	2.23E-09	1.24E-07	3.00E-09	3.85E-08	2.13E-09	4.36E-08	9.03E-04	1.68E-09	1.42E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	5.50E-08	0.00E+00	6.70E-08	3.00E-09	1.93E-08	0.00E+00	2.23E-08	0.00E+00	0.00E+00	0.00E+00
2.11E-08	6.59E-07	2.61E-05	0.00E+00	3.13E-08	1.10E-07	1.93E-10	1.42E-07	7.83E-09	3.85E-08	1.85E-10	4.65E-08	1.99E-03	1.48E-06	4.07E-07

Year 2045 Current General Plan: Criteria Air Pollutants

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Sub-Area, Average Speed, Average Fleet

Daily VMT		1,321,564		lbs/day					
Vehicle Type	Fuel Type	Percent of VMT	Adjusted Percent of VMT	ROG	NOx	CO	SOx	PM10	PM2.5
All Other Buses	Diesel	0.02%	0.02%	0.01	0.39	0.05	0.01	0.04	0.02
All Other Buses	Natural Gas	0.01%	0.01%	0.00	0.01	0.28	0.00	0.01	0.00
LDA	Gasoline	41.11%	41.11%	3.44	22.87	588.22	2.70	18.54	5.87
LDA	Diesel	0.03%	0.03%	0.00	0.02	0.10	0.00	0.01	0.00
LDA	Electricity	5.15%	5.15%	0.00	0.00	0.00	0.00	1.86	0.53
LDA	Plug-in Hybrid	1.93%	1.93%	0.06	0.14	10.27	0.06	0.68	0.20
LDT1	Gasoline	2.63%	2.63%	0.25	1.66	40.74	0.20	1.29	0.41
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.03	0.01
LDT1	Plug-in Hybrid	0.06%	0.06%	0.00	0.00	0.33	0.00	0.02	0.01
LDT2	Gasoline	22.14%	22.14%	2.58	14.37	370.96	1.74	10.76	3.44
LDT2	Diesel	0.08%	0.08%	0.03	0.07	0.30	0.01	0.05	0.02
LDT2	Electricity	0.57%	0.57%	0.00	0.00	0.00	0.00	0.20	0.06
LDT2	Plug-in Hybrid	0.60%	0.60%	0.02	0.04	3.20	0.02	0.21	0.06
LHD1	Gasoline	0.79%	0.79%	0.04	0.48	13.44	0.11	2.00	0.70
LHD1	Diesel	0.55%	0.55%	0.67	4.19	1.37	0.07	1.62	0.67
LHD1	Electricity	1.05%	1.05%	0.00	0.00	0.00	0.00	1.44	0.48
LHD2	Gasoline	0.09%	0.09%	0.00	0.07	1.62	0.01	0.27	0.10
LHD2	Diesel	0.26%	0.26%	0.44	3.40	0.96	0.04	0.92	0.39
LHD2	Electricity	0.25%	0.25%	0.00	0.00	0.00	0.00	0.40	0.13
MCY	Gasoline	0.25%	0.25%	5.66	3.34	69.90	0.01	0.13	0.05
MDV	Gasoline	12.89%	12.89%	1.75	9.99	230.73	1.23	6.34	2.03
MDV	Diesel	0.14%	0.14%	0.02	0.08	0.58	0.01	0.07	0.03
MDV	Electricity	0.53%	0.53%	0.00	0.00	0.00	0.00	0.19	0.05
MDV	Plug-in Hybrid	0.38%	0.38%	0.01	0.03	2.02	0.01	0.13	0.04
MH	Gasoline	0.03%	0.03%	0.01	0.17	0.14	0.02	0.05	0.02
MH	Diesel	0.02%	0.02%	0.02	1.14	0.07	0.01	0.06	0.03
Motor Coach	Diesel	0.01%	0.01%	0.00	0.26	0.01	0.00	0.04	0.02
OBUS	Gasoline	0.01%	0.01%	0.00	0.06	0.09	0.00	0.01	0.00
OBUS	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
PTO	Diesel	0.06%	0.06%	0.03	4.34	0.32	0.03	0.01	0.01
PTO	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Gasoline	0.01%	0.01%	0.00	0.07	0.09	0.00	0.02	0.01
SBUS	Diesel	0.01%	0.01%	0.00	0.09	0.01	0.00	0.01	0.00
SBUS	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
SBUS	Natural Gas	0.02%	0.02%	0.02	0.16	4.75	0.00	0.03	0.01
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.02%	0.02%	0.00	0.08	0.01	0.00	0.03	0.01
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	0.00	0.13	0.02	0.01	0.04	0.01
T6 Instate Delivery Class 4	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Instate Delivery Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	0.00	0.12	0.02	0.01	0.04	0.01
T6 Instate Delivery Class 5	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Instate Delivery Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Delivery Class 6	Diesel	0.06%	0.06%	0.01	0.36	0.06	0.02	0.11	0.04
T6 Instate Delivery Class 6	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.07	0.02
T6 Instate Delivery Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Instate Delivery Class 7	Diesel	0.02%	0.02%	0.00	0.21	0.02	0.01	0.03	0.01
T6 Instate Delivery Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.09%	0.09%	0.01	0.50	0.08	0.03	0.16	0.06
T6 Instate Other Class 4	Electricity	0.11%	0.11%	0.00	0.00	0.00	0.00	0.10	0.03

T6 Instate Other Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 Instate Other Class 5	Diesel	0.24%	0.24%	0.03	1.26	0.21	0.06	0.40	0.15
T6 Instate Other Class 5	Electricity	0.27%	0.27%	0.00	0.00	0.00	0.00	0.26	0.08
T6 Instate Other Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.07	0.00	0.00	0.00
T6 Instate Other Class 6	Diesel	0.16%	0.16%	0.02	0.90	0.15	0.04	0.28	0.11
T6 Instate Other Class 6	Electricity	0.19%	0.19%	0.00	0.00	0.00	0.00	0.18	0.06
T6 Instate Other Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 Instate Other Class 7	Diesel	0.11%	0.11%	0.02	1.00	0.11	0.03	0.19	0.07
T6 Instate Other Class 7	Electricity	0.08%	0.08%	0.00	0.00	0.00	0.00	0.08	0.02
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.12	0.00	0.00	0.00
T6 Instate Tractor Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Diesel	0.07%	0.07%	0.01	0.60	0.07	0.02	0.11	0.04
T6 Instate Tractor Class 7	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.00
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.07	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.09	0.01	0.00	0.02	0.01
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.03	0.00	0.00	0.01	0.00
T6 Public Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.06	0.01	0.00	0.01	0.00
T6 Public Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.06	0.01	0.00	0.01	0.00
T6 Public Class 6	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.02%	0.02%	0.00	0.12	0.01	0.00	0.03	0.01
T6 Public Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.13	0.00	0.01	0.00
T6 Utility Class 5	Diesel	0.01%	0.01%	0.00	0.02	0.00	0.00	0.01	0.00
T6 Utility Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Utility Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Utility Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.05%	0.05%	0.01	0.10	0.25	0.02	0.09	0.03
T6TS	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.06	0.02
T7 CAIRP Class 8	Diesel	1.02%	1.02%	0.32	33.15	1.03	0.36	4.36	1.94
T7 CAIRP Class 8	Electricity	0.30%	0.30%	0.00	0.00	0.00	0.00	0.66	0.20
T7 CAIRP Class 8	Natural Gas	0.00%	0.00%	0.00	0.02	0.30	0.00	0.01	0.00
T7 NNOOS Class 8	Diesel	1.57%	1.57%	0.48	56.17	1.53	0.52	6.67	2.96
T7 NOOS Class 8	Diesel	0.57%	0.57%	0.18	20.98	0.57	0.19	2.45	1.10
T7 POLA Class 8	Diesel	0.71%	0.71%	0.21	22.91	0.73	0.27	2.94	1.27
T7 POLA Class 8	Electricity	0.13%	0.13%	0.00	0.00	0.00	0.00	0.29	0.09
T7 POLA Class 8	Natural Gas	0.03%	0.03%	0.01	0.12	2.27	0.00	0.10	0.03
T7 Public Class 8	Diesel	0.02%	0.02%	0.01	1.31	0.05	0.01	0.08	0.03
T7 Public Class 8	Electricity	0.03%	0.03%	0.00	0.00	0.00	0.00	0.07	0.02
T7 Public Class 8	Natural Gas	0.03%	0.03%	0.01	0.13	2.49	0.00	0.09	0.03
T7 Single Concrete/Transit Mix Class 8	Diesel	0.08%	0.08%	0.02	1.61	0.07	0.03	0.31	0.12
T7 Single Concrete/Transit Mix Class 8	Electricity	0.11%	0.11%	0.00	0.00	0.00	0.00	0.26	0.08
T7 Single Concrete/Transit Mix Class 8	Natural Gas	0.01%	0.01%	0.00	0.03	0.52	0.00	0.02	0.01
T7 Single Dump Class 8	Diesel	0.08%	0.08%	0.02	2.18	0.09	0.03	0.31	0.13
T7 Single Dump Class 8	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.16	0.05
T7 Single Dump Class 8	Natural Gas	0.01%	0.01%	0.00	0.03	0.60	0.00	0.02	0.01
T7 Single Other Class 8	Diesel	0.13%	0.13%	0.03	3.22	0.13	0.05	0.50	0.20
T7 Single Other Class 8	Electricity	0.13%	0.13%	0.00	0.00	0.00	0.00	0.29	0.09
T7 Single Other Class 8	Natural Gas	0.01%	0.01%	0.00	0.05	0.90	0.00	0.03	0.01
T7 SWCV Class 8	Diesel	0.00%	0.00%	0.00	0.12	0.00	0.00	0.00	0.00
T7 SWCV Class 8	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.04	0.01
T7 SWCV Class 8	Natural Gas	0.02%	0.02%	0.00	0.10	2.29	0.00	0.11	0.04

T7 Tractor Class 8	Diesel	0.89%	0.89%	0.26	27.97	0.85	0.31	3.67	1.59
T7 Tractor Class 8	Electricity	0.18%	0.18%	0.00	0.00	0.00	0.00	0.40	0.12
T7 Tractor Class 8	Natural Gas	0.02%	0.02%	0.01	0.11	2.03	0.00	0.09	0.03
T7 Utility Class 8	Diesel	0.01%	0.01%	0.00	0.16	0.01	0.00	0.03	0.01
T7 Utility Class 8	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T7IS	Gasoline	0.00%	0.00%	0.00	0.01	0.13	0.00	0.00	0.00
T7IS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Gasoline	0.02%	0.02%	0.00	0.01	0.34	0.00	0.06	0.02
UBUS	Electricity	0.12%	0.12%	0.00	0.00	0.00	0.00	0.28	0.09
		100%	100%	17	244	1,359	8	74	27

Year 2045 General Plan Update: Criteria Air Pollutants

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Sub-Area, Average Speed, Average Fleet

Daily VMT		1,451,849		lbs/day					
Vehicle Type	Fuel Type	Percent of VMT	Adjusted Percent of VMT	ROG	NOx	CO	SOx	PM10	PM2.5
All Other Buses	Diesel	0.02%	0.02%	0.01	0.43	0.06	0.01	0.05	0.02
All Other Buses	Natural Gas	0.01%	0.01%	0.00	0.01	0.30	0.00	0.01	0.00
LDA	Gasoline	41.11%	41.11%	3.78	25.12	646.21	2.96	20.37	6.45
LDA	Diesel	0.03%	0.03%	0.00	0.02	0.11	0.00	0.01	0.00
LDA	Electricity	5.15%	5.15%	0.00	0.00	0.00	0.00	2.04	0.58
LDA	Plug-in Hybrid	1.93%	1.93%	0.07	0.15	11.28	0.07	0.75	0.22
LDT1	Gasoline	2.63%	2.63%	0.28	1.82	44.75	0.22	1.42	0.45
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.03	0.01
LDT1	Plug-in Hybrid	0.06%	0.06%	0.00	0.00	0.36	0.00	0.02	0.01
LDT2	Gasoline	22.14%	22.14%	2.83	15.79	407.53	1.91	11.82	3.78
LDT2	Diesel	0.08%	0.08%	0.03	0.07	0.33	0.01	0.05	0.02
LDT2	Electricity	0.57%	0.57%	0.00	0.00	0.00	0.00	0.22	0.06
LDT2	Plug-in Hybrid	0.60%	0.60%	0.02	0.05	3.52	0.02	0.23	0.07
LHD1	Gasoline	0.79%	0.79%	0.04	0.53	14.77	0.12	2.20	0.77
LHD1	Diesel	0.55%	0.55%	0.73	4.60	1.51	0.08	1.78	0.73
LHD1	Electricity	1.05%	1.05%	0.00	0.00	0.00	0.00	1.58	0.53
LHD2	Gasoline	0.09%	0.09%	0.00	0.08	1.78	0.02	0.30	0.10
LHD2	Diesel	0.26%	0.26%	0.48	3.74	1.05	0.04	1.01	0.43
LHD2	Electricity	0.25%	0.25%	0.00	0.00	0.00	0.00	0.44	0.15
MCY	Gasoline	0.25%	0.25%	6.22	3.67	76.79	0.01	0.15	0.06
MDV	Gasoline	12.89%	12.89%	1.92	10.97	253.48	1.35	6.96	2.23
MDV	Diesel	0.14%	0.14%	0.02	0.09	0.64	0.01	0.08	0.03
MDV	Electricity	0.53%	0.53%	0.00	0.00	0.00	0.00	0.21	0.06
MDV	Plug-in Hybrid	0.38%	0.38%	0.01	0.03	2.22	0.01	0.15	0.04
MH	Gasoline	0.03%	0.03%	0.01	0.19	0.15	0.02	0.06	0.02
MH	Diesel	0.02%	0.02%	0.02	1.25	0.08	0.01	0.06	0.04
Motor Coach	Diesel	0.01%	0.01%	0.00	0.29	0.02	0.01	0.04	0.02
OBUS	Gasoline	0.01%	0.01%	0.00	0.07	0.10	0.00	0.02	0.01
OBUS	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
PTO	Diesel	0.06%	0.06%	0.03	4.77	0.35	0.03	0.01	0.01
PTO	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Gasoline	0.01%	0.01%	0.01	0.08	0.10	0.00	0.03	0.01
SBUS	Diesel	0.01%	0.01%	0.00	0.10	0.01	0.00	0.01	0.00
SBUS	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.03	0.01
SBUS	Natural Gas	0.02%	0.02%	0.03	0.17	5.22	0.00	0.03	0.01
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.02%	0.02%	0.00	0.09	0.02	0.00	0.03	0.01
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.01	0.00
T6 CAIRP Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	0.00	0.14	0.02	0.01	0.04	0.02
T6 Instate Delivery Class 4	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.03	0.01
T6 Instate Delivery Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	0.00	0.13	0.02	0.01	0.04	0.02
T6 Instate Delivery Class 5	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.03	0.01
T6 Instate Delivery Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Delivery Class 6	Diesel	0.06%	0.06%	0.01	0.39	0.06	0.02	0.12	0.04
T6 Instate Delivery Class 6	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.07	0.02
T6 Instate Delivery Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Instate Delivery Class 7	Diesel	0.02%	0.02%	0.00	0.24	0.02	0.01	0.04	0.01
T6 Instate Delivery Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.09%	0.09%	0.01	0.55	0.09	0.03	0.18	0.07
T6 Instate Other Class 4	Electricity	0.11%	0.11%	0.00	0.00	0.00	0.00	0.11	0.04

T6 Instate Other Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 Instate Other Class 5	Diesel	0.24%	0.24%	0.04	1.38	0.23	0.07	0.44	0.17
T6 Instate Other Class 5	Electricity	0.27%	0.27%	0.00	0.00	0.00	0.00	0.29	0.09
T6 Instate Other Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.08	0.00	0.00	0.00
T6 Instate Other Class 6	Diesel	0.16%	0.16%	0.03	0.99	0.16	0.05	0.31	0.12
T6 Instate Other Class 6	Electricity	0.19%	0.19%	0.00	0.00	0.00	0.00	0.20	0.06
T6 Instate Other Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.06	0.00	0.00	0.00
T6 Instate Other Class 7	Diesel	0.11%	0.11%	0.02	1.10	0.13	0.03	0.21	0.08
T6 Instate Other Class 7	Electricity	0.08%	0.08%	0.00	0.00	0.00	0.00	0.09	0.03
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.01	0.13	0.00	0.00	0.00
T6 Instate Tractor Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Diesel	0.07%	0.07%	0.01	0.66	0.08	0.02	0.13	0.05
T6 Instate Tractor Class 7	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.08	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.10	0.01	0.00	0.03	0.01
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.03	0.00	0.00	0.01	0.00
T6 Public Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.06	0.01	0.00	0.01	0.00
T6 Public Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.06	0.01	0.00	0.01	0.01
T6 Public Class 6	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.06	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.02%	0.02%	0.00	0.13	0.01	0.00	0.03	0.01
T6 Public Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.14	0.00	0.01	0.00
T6 Utility Class 5	Diesel	0.01%	0.01%	0.00	0.03	0.01	0.00	0.01	0.00
T6 Utility Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Utility Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Utility Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.05%	0.05%	0.01	0.11	0.27	0.02	0.09	0.03
T6TS	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.06	0.02
T7 CAIRP Class 8	Diesel	1.02%	1.02%	0.35	36.42	1.13	0.39	4.79	2.13
T7 CAIRP Class 8	Electricity	0.30%	0.30%	0.00	0.00	0.00	0.00	0.73	0.22
T7 CAIRP Class 8	Natural Gas	0.00%	0.00%	0.00	0.02	0.32	0.00	0.01	0.00
T7 NNOOS Class 8	Diesel	1.57%	1.57%	0.53	61.70	1.68	0.58	7.32	3.25
T7 NOOS Class 8	Diesel	0.57%	0.57%	0.20	23.04	0.63	0.21	2.69	1.21
T7 POLA Class 8	Diesel	0.71%	0.71%	0.23	25.17	0.80	0.29	3.23	1.40
T7 POLA Class 8	Electricity	0.13%	0.13%	0.00	0.00	0.00	0.00	0.31	0.10
T7 POLA Class 8	Natural Gas	0.03%	0.03%	0.01	0.13	2.49	0.00	0.11	0.03
T7 Public Class 8	Diesel	0.02%	0.02%	0.01	1.44	0.05	0.01	0.09	0.04
T7 Public Class 8	Electricity	0.03%	0.03%	0.00	0.00	0.00	0.00	0.08	0.02
T7 Public Class 8	Natural Gas	0.03%	0.03%	0.01	0.15	2.74	0.00	0.10	0.03
T7 Single Concrete/Transit Mix Class 8	Diesel	0.08%	0.08%	0.02	1.76	0.07	0.03	0.35	0.14
T7 Single Concrete/Transit Mix Class 8	Electricity	0.11%	0.11%	0.00	0.00	0.00	0.00	0.28	0.09
T7 Single Concrete/Transit Mix Class 8	Natural Gas	0.01%	0.01%	0.00	0.03	0.58	0.00	0.02	0.01
T7 Single Dump Class 8	Diesel	0.08%	0.08%	0.02	2.39	0.09	0.03	0.34	0.14
T7 Single Dump Class 8	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.18	0.05
T7 Single Dump Class 8	Natural Gas	0.01%	0.01%	0.00	0.04	0.66	0.00	0.02	0.01
T7 Single Other Class 8	Diesel	0.13%	0.13%	0.04	3.53	0.14	0.06	0.55	0.22
T7 Single Other Class 8	Electricity	0.13%	0.13%	0.00	0.00	0.00	0.00	0.32	0.10
T7 Single Other Class 8	Natural Gas	0.01%	0.01%	0.00	0.05	0.98	0.00	0.04	0.01
T7 SWCV Class 8	Diesel	0.00%	0.00%	0.00	0.13	0.00	0.00	0.00	0.00
T7 SWCV Class 8	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.05	0.02
T7 SWCV Class 8	Natural Gas	0.02%	0.02%	0.00	0.11	2.51	0.00	0.12	0.04

T7 Tractor Class 8	Diesel	0.89%	0.89%	0.29	30.73	0.93	0.34	4.04	1.74
T7 Tractor Class 8	Electricity	0.18%	0.18%	0.00	0.00	0.00	0.00	0.44	0.13
T7 Tractor Class 8	Natural Gas	0.02%	0.02%	0.01	0.12	2.23	0.00	0.09	0.03
T7 Utility Class 8	Diesel	0.01%	0.01%	0.00	0.17	0.01	0.00	0.03	0.01
T7 Utility Class 8	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T7IS	Gasoline	0.00%	0.00%	0.00	0.01	0.15	0.00	0.00	0.00
T7IS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Gasoline	0.02%	0.02%	0.00	0.01	0.37	0.00	0.07	0.02
UBUS	Electricity	0.12%	0.12%	0.00	0.00	0.00	0.00	0.30	0.10
		100%	100%	18	268	1,493	9	82	29

Year 2045 Existing: Criteria Air Pollutants

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Sub-Area, Average Speed, Average Fleet

Daily VMT		904,100		lbs/day					
Vehicle Type	Fuel Type	Percent of VMT	Adjusted Percent of VMT	ROG	NOx	CO	SOx	PM10	PM2.5
All Other Buses	Diesel	0.02%	0.02%	0.01	0.27	0.04	0.00	0.03	0.01
All Other Buses	Natural Gas	0.01%	0.01%	0.00	0.01	0.19	0.00	0.01	0.00
LDA	Gasoline	41.11%	41.11%	2.35	15.64	402.41	1.84	12.69	4.02
LDA	Diesel	0.03%	0.03%	0.00	0.01	0.07	0.00	0.01	0.00
LDA	Electricity	5.15%	5.15%	0.00	0.00	0.00	0.00	1.27	0.36
LDA	Plug-in Hybrid	1.93%	1.93%	0.04	0.10	7.03	0.04	0.47	0.14
LDT1	Gasoline	2.63%	2.63%	0.17	1.14	27.87	0.14	0.88	0.28
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.02	0.01
LDT1	Plug-in Hybrid	0.06%	0.06%	0.00	0.00	0.22	0.00	0.01	0.00
LDT2	Gasoline	22.14%	22.14%	1.76	9.83	253.78	1.19	7.36	2.35
LDT2	Diesel	0.08%	0.08%	0.02	0.04	0.20	0.00	0.03	0.01
LDT2	Electricity	0.57%	0.57%	0.00	0.00	0.00	0.00	0.14	0.04
LDT2	Plug-in Hybrid	0.60%	0.60%	0.01	0.03	2.19	0.01	0.15	0.04
LHD1	Gasoline	0.79%	0.79%	0.03	0.33	9.20	0.08	1.37	0.48
LHD1	Diesel	0.55%	0.55%	0.46	2.87	0.94	0.05	1.11	0.46
LHD1	Electricity	1.05%	1.05%	0.00	0.00	0.00	0.00	0.98	0.33
LHD2	Gasoline	0.09%	0.09%	0.00	0.05	1.11	0.01	0.19	0.07
LHD2	Diesel	0.26%	0.26%	0.30	2.33	0.66	0.03	0.63	0.27
LHD2	Electricity	0.25%	0.25%	0.00	0.00	0.00	0.00	0.27	0.09
MCY	Gasoline	0.25%	0.25%	3.87	2.28	47.82	0.01	0.09	0.04
MDV	Gasoline	12.89%	12.89%	1.20	6.83	157.85	0.84	4.33	1.39
MDV	Diesel	0.14%	0.14%	0.01	0.05	0.40	0.01	0.05	0.02
MDV	Electricity	0.53%	0.53%	0.00	0.00	0.00	0.00	0.13	0.04
MDV	Plug-in Hybrid	0.38%	0.38%	0.01	0.02	1.38	0.01	0.09	0.03
MH	Gasoline	0.03%	0.03%	0.01	0.12	0.09	0.01	0.04	0.01
MH	Diesel	0.02%	0.02%	0.01	0.78	0.05	0.00	0.04	0.02
Motor Coach	Diesel	0.01%	0.01%	0.00	0.18	0.01	0.00	0.03	0.01
OBUS	Gasoline	0.01%	0.01%	0.00	0.04	0.06	0.00	0.01	0.00
OBUS	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
PTO	Diesel	0.06%	0.06%	0.02	2.97	0.22	0.02	0.00	0.00
PTO	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Gasoline	0.01%	0.01%	0.00	0.05	0.06	0.00	0.02	0.01
SBUS	Diesel	0.01%	0.01%	0.00	0.06	0.01	0.00	0.01	0.00
SBUS	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
SBUS	Natural Gas	0.02%	0.02%	0.02	0.11	3.25	0.00	0.02	0.01
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.02%	0.02%	0.00	0.06	0.01	0.00	0.02	0.01
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	0.00	0.09	0.01	0.00	0.03	0.01
T6 Instate Delivery Class 4	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Instate Delivery Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	0.00	0.08	0.01	0.00	0.03	0.01
T6 Instate Delivery Class 5	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.00
T6 Instate Delivery Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 6	Diesel	0.06%	0.06%	0.01	0.24	0.04	0.01	0.07	0.03
T6 Instate Delivery Class 6	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.05	0.01
T6 Instate Delivery Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Delivery Class 7	Diesel	0.02%	0.02%	0.00	0.15	0.01	0.00	0.02	0.01
T6 Instate Delivery Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.09%	0.09%	0.01	0.34	0.06	0.02	0.11	0.04
T6 Instate Other Class 4	Electricity	0.11%	0.11%	0.00	0.00	0.00	0.00	0.07	0.02

T6 Instate Other Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Instate Other Class 5	Diesel	0.24%	0.24%	0.02	0.86	0.15	0.04	0.28	0.10
T6 Instate Other Class 5	Electricity	0.27%	0.27%	0.00	0.00	0.00	0.00	0.18	0.06
T6 Instate Other Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 Instate Other Class 6	Diesel	0.16%	0.16%	0.02	0.62	0.10	0.03	0.19	0.07
T6 Instate Other Class 6	Electricity	0.19%	0.19%	0.00	0.00	0.00	0.00	0.12	0.04
T6 Instate Other Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.04	0.00	0.00	0.00
T6 Instate Other Class 7	Diesel	0.11%	0.11%	0.01	0.68	0.08	0.02	0.13	0.05
T6 Instate Other Class 7	Electricity	0.08%	0.08%	0.00	0.00	0.00	0.00	0.05	0.02
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.08	0.00	0.00	0.00
T6 Instate Tractor Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Diesel	0.07%	0.07%	0.01	0.41	0.05	0.01	0.08	0.03
T6 Instate Tractor Class 7	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.06	0.01	0.00	0.02	0.01
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Public Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.04	0.00	0.00	0.01	0.00
T6 Public Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.03	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.04	0.00	0.00	0.01	0.00
T6 Public Class 6	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.04	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.02%	0.02%	0.00	0.08	0.01	0.00	0.02	0.01
T6 Public Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.09	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.01%	0.01%	0.00	0.02	0.00	0.00	0.01	0.00
T6 Utility Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Utility Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.05%	0.05%	0.01	0.07	0.17	0.01	0.06	0.02
T6TS	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.04	0.01
T7 CAIRP Class 8	Diesel	1.02%	1.02%	0.22	22.68	0.70	0.24	2.98	1.33
T7 CAIRP Class 8	Electricity	0.30%	0.30%	0.00	0.00	0.00	0.00	0.45	0.14
T7 CAIRP Class 8	Natural Gas	0.00%	0.00%	0.00	0.01	0.20	0.00	0.01	0.00
T7 NNOOS Class 8	Diesel	1.57%	1.57%	0.33	38.42	1.05	0.36	4.56	2.02
T7 NOOS Class 8	Diesel	0.57%	0.57%	0.12	14.35	0.39	0.13	1.68	0.75
T7 POLA Class 8	Diesel	0.71%	0.71%	0.14	15.67	0.50	0.18	2.01	0.87
T7 POLA Class 8	Electricity	0.13%	0.13%	0.00	0.00	0.00	0.00	0.20	0.06
T7 POLA Class 8	Natural Gas	0.03%	0.03%	0.01	0.08	1.55	0.00	0.07	0.02
T7 Public Class 8	Diesel	0.02%	0.02%	0.01	0.89	0.03	0.01	0.06	0.02
T7 Public Class 8	Electricity	0.03%	0.03%	0.00	0.00	0.00	0.00	0.05	0.01
T7 Public Class 8	Natural Gas	0.03%	0.03%	0.01	0.09	1.71	0.00	0.06	0.02
T7 Single Concrete/Transit Mix Class 8	Diesel	0.08%	0.08%	0.01	1.10	0.05	0.02	0.22	0.08
T7 Single Concrete/Transit Mix Class 8	Electricity	0.11%	0.11%	0.00	0.00	0.00	0.00	0.17	0.05
T7 Single Concrete/Transit Mix Class 8	Natural Gas	0.01%	0.01%	0.00	0.02	0.36	0.00	0.02	0.00
T7 Single Dump Class 8	Diesel	0.08%	0.08%	0.02	1.49	0.06	0.02	0.21	0.09
T7 Single Dump Class 8	Electricity	0.07%	0.07%	0.00	0.00	0.00	0.00	0.11	0.03
T7 Single Dump Class 8	Natural Gas	0.01%	0.01%	0.00	0.02	0.41	0.00	0.01	0.00
T7 Single Other Class 8	Diesel	0.13%	0.13%	0.02	2.20	0.09	0.03	0.34	0.14
T7 Single Other Class 8	Electricity	0.13%	0.13%	0.00	0.00	0.00	0.00	0.20	0.06
T7 Single Other Class 8	Natural Gas	0.01%	0.01%	0.00	0.03	0.61	0.00	0.02	0.01
T7 SWCV Class 8	Diesel	0.00%	0.00%	0.00	0.08	0.00	0.00	0.00	0.00
T7 SWCV Class 8	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.03	0.01
T7 SWCV Class 8	Natural Gas	0.02%	0.02%	0.00	0.07	1.56	0.00	0.07	0.03

T7 Tractor Class 8	Diesel	0.89%	0.89%	0.18	19.14	0.58	0.21	2.51	1.09
T7 Tractor Class 8	Electricity	0.18%	0.18%	0.00	0.00	0.00	0.00	0.28	0.08
T7 Tractor Class 8	Natural Gas	0.02%	0.02%	0.01	0.08	1.39	0.00	0.06	0.02
T7 Utility Class 8	Diesel	0.01%	0.01%	0.00	0.11	0.01	0.00	0.02	0.01
T7 Utility Class 8	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T7IS	Gasoline	0.00%	0.00%	0.00	0.01	0.09	0.00	0.00	0.00
T7IS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Gasoline	0.02%	0.02%	0.00	0.01	0.23	0.00	0.04	0.01
UBUS	Electricity	0.12%	0.12%	0.00	0.00	0.00	0.00	0.19	0.06
		100%	100%	11	167	930	6	51	18

Year 2045 Current General Plan: Greenhouse Gas Emissions

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Sub-area, Average Speed, Average Fleet

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the 2008 Climate Change Scoping Plan Measure Documentation Supplement.

				CO ₂ (Pavley)	CH ₄	N ₂ O		
				AR5 GWP	AR5 GWP	AR5 GWP		
				1	28	265		
				CO ₂	CH ₄	N ₂ O	CO ₂ e	
Vehicle Type	Fuel Type	Percent of VMT	Adjusted Percent of VMT					
All Other Buses	Diesel	0.02%	0.02%	89	0.00	0.01	93	
All Other Buses	Natural Gas	0.01%	0.01%	19	0.01	0.00	20	
LDA	Gasoline	41.11%	41.11%	42,917	0.19	0.60	43,081	
LDA	Diesel	0.03%	0.03%	21	0.00	0.00	22	
LDA	Electricity	5.15%	5.15%	0	0.00	0.00	0	
LDA	Plug-in Hybrid	1.93%	1.93%	994	0.00	0.00	995	
LDT1	Gasoline	2.63%	2.63%	3,184	0.01	0.04	3,196	
LDT1	Diesel	0.00%	0.00%	0	0.00	0.00	0	
LDT1	Electricity	0.07%	0.07%	0	0.00	0.00	0	
LDT1	Plug-in Hybrid	0.06%	0.06%	31	0.00	0.00	32	
LDT2	Gasoline	22.14%	22.14%	27,693	0.14	0.35	27,789	
LDT2	Diesel	0.08%	0.08%	97	0.00	0.02	101	
LDT2	Electricity	0.57%	0.57%	0	0.00	0.00	0	
LDT2	Plug-in Hybrid	0.60%	0.60%	310	0.00	0.00	310	
LHD1	Gasoline	0.79%	0.79%	1,765	0.00	0.01	1,767	
LHD1	Diesel	0.55%	0.55%	1,152	0.00	0.18	1,200	
LHD1	Electricity	1.05%	1.05%	0	0.00	0.00	0	
LHD2	Gasoline	0.09%	0.09%	235	0.00	0.00	235	
LHD2	Diesel	0.26%	0.26%	656	0.00	0.10	684	
LHD2	Electricity	0.25%	0.25%	0	0.00	0.00	0	
MCY	Gasoline	0.25%	0.25%	213	0.15	0.04	228	
MDV	Gasoline	12.89%	12.89%	19,599	0.09	0.22	19,659	
MDV	Diesel	0.14%	0.14%	216	0.00	0.03	225	
MDV	Electricity	0.53%	0.53%	0	0.00	0.00	0	
MDV	Plug-in Hybrid	0.38%	0.38%	195	0.00	0.00	196	
MH	Gasoline	0.03%	0.03%	274	0.00	0.00	275	
MH	Diesel	0.02%	0.02%	91	0.00	0.01	95	
Motor Coach	Diesel	0.01%	0.01%	76	0.00	0.01	79	
OBUS	Gasoline	0.01%	0.01%	59	0.00	0.00	60	
OBUS	Electricity	0.01%	0.01%	0	0.00	0.00	0	
PTO	Diesel	0.06%	0.06%	489	0.00	0.08	509	
PTO	Electricity	0.06%	0.06%	0	0.00	0.00	0	
SBUS	Gasoline	0.01%	0.01%	56	0.00	0.00	56	
SBUS	Diesel	0.01%	0.01%	31	0.00	0.00	32	
SBUS	Electricity	0.02%	0.02%	0	0.00	0.00	0	
SBUS	Natural Gas	0.02%	0.02%	109	0.25	0.02	122	
T6 CAIRP Class 4	Diesel	0.00%	0.00%	2	0.00	0.00	2	
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0	0.00	0.00	0	
T6 CAIRP Class 5	Diesel	0.00%	0.00%	2	0.00	0.00	2	
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0	0.00	0.00	0	
T6 CAIRP Class 6	Diesel	0.00%	0.00%	6	0.00	0.00	6	
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0	0.00	0.00	0	
T6 CAIRP Class 7	Diesel	0.02%	0.02%	63	0.00	0.01	66	
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0	0.00	0.00	0	
T6 CAIRP Class 7	Natural Gas	0.00%	0.00%	0	0.00	0.00	0	
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	103	0.00	0.02	107	
T6 Instate Delivery Class 4	Electricity	0.02%	0.02%	0	0.00	0.00	0	
T6 Instate Delivery Class 4	Natural Gas	0.00%	0.00%	1	0.00	0.00	1	
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	98	0.00	0.02	102	
T6 Instate Delivery Class 5	Electricity	0.02%	0.02%	0	0.00	0.00	0	
T6 Instate Delivery Class 5	Natural Gas	0.00%	0.00%	1	0.00	0.00	1	
T6 Instate Delivery Class 6	Diesel	0.06%	0.06%	284	0.00	0.04	296	
T6 Instate Delivery Class 6	Electricity	0.07%	0.07%	0	0.00	0.00	0	
T6 Instate Delivery Class 6	Natural Gas	0.00%	0.00%	2	0.00	0.00	2	
T6 Instate Delivery Class 7	Diesel	0.02%	0.02%	85	0.00	0.01	88	
T6 Instate Delivery Class 7	Electricity	0.01%	0.01%	0	0.00	0.00	0	
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	2	0.00	0.00	2	

T6 Instate Other Class 4	Diesel	0.09%	0.09%	420	0.00	0.07	438
T6 Instate Other Class 4	Electricity	0.11%	0.11%	0	0.00	0.00	0
T6 Instate Other Class 4	Natural Gas	0.00%	0.00%	2	0.00	0.00	3
T6 Instate Other Class 5	Diesel	0.24%	0.24%	1,063	0.00	0.17	1,108
T6 Instate Other Class 5	Electricity	0.27%	0.27%	0	0.00	0.00	0
T6 Instate Other Class 5	Natural Gas	0.00%	0.00%	6	0.00	0.00	6
T6 Instate Other Class 6	Diesel	0.16%	0.16%	743	0.00	0.12	775
T6 Instate Other Class 6	Electricity	0.19%	0.19%	0	0.00	0.00	0
T6 Instate Other Class 6	Natural Gas	0.00%	0.00%	4	0.00	0.00	5
T6 Instate Other Class 7	Diesel	0.11%	0.11%	486	0.00	0.08	506
T6 Instate Other Class 7	Electricity	0.08%	0.08%	0	0.00	0.00	0
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	9	0.01	0.00	10
T6 Instate Tractor Class 6	Diesel	0.00%	0.00%	5	0.00	0.00	6
T6 Instate Tractor Class 6	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Instate Tractor Class 6	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Instate Tractor Class 7	Diesel	0.07%	0.07%	269	0.00	0.04	280
T6 Instate Tractor Class 7	Electricity	0.02%	0.02%	0	0.00	0.00	0
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	5	0.00	0.00	6
T6 OOS Class 4	Diesel	0.00%	0.00%	2	0.00	0.00	2
T6 OOS Class 5	Diesel	0.00%	0.00%	3	0.00	0.00	3
T6 OOS Class 6	Diesel	0.00%	0.00%	8	0.00	0.00	8
T6 OOS Class 7	Diesel	0.01%	0.01%	53	0.00	0.01	55
T6 Public Class 4	Diesel	0.00%	0.00%	13	0.00	0.00	14
T6 Public Class 4	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Public Class 4	Natural Gas	0.00%	0.00%	2	0.00	0.00	2
T6 Public Class 5	Diesel	0.01%	0.01%	24	0.00	0.00	25
T6 Public Class 5	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Public Class 5	Natural Gas	0.00%	0.00%	4	0.00	0.00	4
T6 Public Class 6	Diesel	0.01%	0.01%	32	0.00	0.00	33
T6 Public Class 6	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Public Class 6	Natural Gas	0.00%	0.00%	5	0.00	0.00	5
T6 Public Class 7	Diesel	0.02%	0.02%	72	0.00	0.01	75
T6 Public Class 7	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Public Class 7	Natural Gas	0.00%	0.00%	10	0.01	0.00	11
T6 Utility Class 5	Diesel	0.01%	0.01%	31	0.00	0.00	32
T6 Utility Class 5	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Utility Class 5	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 6	Diesel	0.00%	0.00%	6	0.00	0.00	6
T6 Utility Class 6	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 6	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 7	Diesel	0.00%	0.00%	8	0.00	0.00	8
T6 Utility Class 7	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 7	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6TS	Gasoline	0.05%	0.05%	341	0.00	0.00	341
T6TS	Electricity	0.06%	0.06%	0	0.00	0.00	0
T7 CAIRP Class 8	Diesel	1.02%	1.02%	5,938	0.00	0.94	6,186
T7 CAIRP Class 8	Electricity	0.30%	0.30%	0	0.00	0.00	0
T7 CAIRP Class 8	Natural Gas	0.00%	0.00%	17	0.02	0.00	19
T7 NNOOS Class 8	Diesel	1.57%	1.57%	8,710	0.00	1.37	9,073
T7 NOOS Class 8	Diesel	0.57%	0.57%	3,161	0.00	0.50	3,293
T7 POLA Class 8	Diesel	0.71%	0.71%	4,416	0.00	0.70	4,601
T7 POLA Class 8	Electricity	0.13%	0.13%	0	0.00	0.00	0
T7 POLA Class 8	Natural Gas	0.03%	0.03%	128	0.11	0.03	138
T7 Public Class 8	Diesel	0.02%	0.02%	139	0.00	0.02	145
T7 Public Class 8	Electricity	0.03%	0.03%	0	0.00	0.00	0
T7 Public Class 8	Natural Gas	0.03%	0.03%	133	0.11	0.03	144
T7 Single Concrete/Transit Mi	Diesel	0.08%	0.08%	528	0.00	0.08	550
T7 Single Concrete/Transit Mi	Electricity	0.11%	0.11%	0	0.00	0.00	0
T7 Single Concrete/Transit Mi	Natural Gas	0.01%	0.01%	30	0.03	0.01	33
T7 Single Dump Class 8	Diesel	0.08%	0.08%	529	0.00	0.08	551
T7 Single Dump Class 8	Electricity	0.07%	0.07%	0	0.00	0.00	0
T7 Single Dump Class 8	Natural Gas	0.01%	0.01%	31	0.03	0.01	33
T7 Single Other Class 8	Diesel	0.13%	0.13%	842	0.00	0.13	877
T7 Single Other Class 8	Electricity	0.13%	0.13%	0	0.00	0.00	0
T7 Single Other Class 8	Natural Gas	0.01%	0.01%	48	0.04	0.01	52
T7 SWCV Class 8	Diesel	0.00%	0.00%	7	0.00	0.00	7
T7 SWCV Class 8	Electricity	0.01%	0.01%	0	0.00	0.00	0
T7 SWCV Class 8	Natural Gas	0.02%	0.02%	63	0.01	0.01	66

T7 Tractor Class 8	Diesel	0.89%	0.89%	5,185	0.00	0.82	5,402
T7 Tractor Class 8	Electricity	0.18%	0.18%	0	0.00	0.00	0
T7 Tractor Class 8	Natural Gas	0.02%	0.02%	115	0.10	0.02	125
T7 Utility Class 8	Diesel	0.01%	0.01%	50	0.00	0.01	52
T7 Utility Class 8	Electricity	0.01%	0.01%	0	0.00	0.00	0
T7IS	Gasoline	0.00%	0.00%	1	0.00	0.00	1
T7IS	Electricity	0.00%	0.00%	0	0.00	0.00	0
UBUS	Gasoline	0.02%	0.02%	51	0.00	0.00	52
UBUS	Electricity	0.12%	0.12%	0	0.00	0.00	0
		100%	100%	134,971	1	7	136,901

Year 2045 General Plan Update: Greenhouse Gas Emissions

Source: EMFAC2021 (v1.0.2) Emission Rates, Riverside (SC) Subarea, Average Speed, Average Fleet

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the 2008 Climate Change Scoping Plan Measure Documentation Supplement.

				CO ₂ (Pavley)	CH ₄	N ₂ O			
				AR5 GWP	AR5 GWP	AR5 GWP			
				1	28	265			
Daily VMT	1,451,849								
Annual VMT	503,791,659								
Vehicle Type	Fuel Type	Percent of VMT	Adjusted Percent of VMT	CO ₂	CH ₄	N ₂ O	CO ₂ e		
All Other Buses	Diesel	0.02%	0.02%	98	0.00	0.02	102		
All Other Buses	Natural Gas	0.01%	0.01%	21	0.01	0.00	22		
LDA	Gasoline	41.11%	41.11%	47,148	0.21	0.66	47,328		
LDA	Diesel	0.03%	0.03%	23	0.00	0.00	24		
LDA	Electricity	5.15%	5.15%	0	0.00	0.00	0		
LDA	Plug-in Hybrid	1.93%	1.93%	1,092	0.00	0.00	1,094		
LDT1	Gasoline	2.63%	2.63%	3,498	0.01	0.04	3,511		
LDT1	Diesel	0.00%	0.00%	0	0.00	0.00	0		
LDT1	Electricity	0.07%	0.07%	0	0.00	0.00	0		
LDT1	Plug-in Hybrid	0.06%	0.06%	35	0.00	0.00	35		
LDT2	Gasoline	22.14%	22.14%	30,423	0.15	0.38	30,528		
LDT2	Diesel	0.08%	0.08%	107	0.00	0.02	111		
LDT2	Electricity	0.57%	0.57%	0	0.00	0.00	0		
LDT2	Plug-in Hybrid	0.60%	0.60%	341	0.00	0.00	341		
LHD1	Gasoline	0.79%	0.79%	1,939	0.00	0.01	1,942		
LHD1	Diesel	0.55%	0.55%	1,265	0.01	0.20	1,318		
LHD1	Electricity	1.05%	1.05%	0	0.00	0.00	0		
LHD2	Gasoline	0.09%	0.09%	258	0.00	0.00	259		
LHD2	Diesel	0.26%	0.26%	721	0.00	0.11	751		
LHD2	Electricity	0.25%	0.25%	0	0.00	0.00	0		
MCY	Gasoline	0.25%	0.25%	234	0.16	0.04	250		
MDV	Gasoline	12.89%	12.89%	21,531	0.10	0.24	21,597		
MDV	Diesel	0.14%	0.14%	237	0.00	0.04	247		
MDV	Electricity	0.53%	0.53%	0	0.00	0.00	0		
MDV	Plug-in Hybrid	0.38%	0.38%	215	0.00	0.00	215		
MH	Gasoline	0.03%	0.03%	301	0.00	0.00	302		
MH	Diesel	0.02%	0.02%	100	0.00	0.02	104		
Motor Coach	Diesel	0.01%	0.01%	83	0.00	0.01	87		
OBUS	Gasoline	0.01%	0.01%	65	0.00	0.00	65		
OBUS	Electricity	0.01%	0.01%	0	0.00	0.00	0		
PTO	Diesel	0.06%	0.06%	537	0.00	0.08	559		
PTO	Electricity	0.06%	0.06%	0	0.00	0.00	0		
SBUS	Gasoline	0.01%	0.01%	61	0.00	0.00	61		
SBUS	Diesel	0.01%	0.01%	34	0.00	0.01	35		
SBUS	Electricity	0.02%	0.02%	0	0.00	0.00	0		
SBUS	Natural Gas	0.02%	0.02%	120	0.28	0.02	134		
T6 CAIRP Class 4	Diesel	0.00%	0.00%	2	0.00	0.00	2		
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0	0.00	0.00	0		
T6 CAIRP Class 5	Diesel	0.00%	0.00%	3	0.00	0.00	3		
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0	0.00	0.00	0		
T6 CAIRP Class 6	Diesel	0.00%	0.00%	7	0.00	0.00	7		
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0	0.00	0.00	0		
T6 CAIRP Class 7	Diesel	0.02%	0.02%	69	0.00	0.01	72		
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0	0.00	0.00	0		
T6 CAIRP Class 7	Natural Gas	0.00%	0.00%	0	0.00	0.00	0		
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	113	0.00	0.02	117		
T6 Instate Delivery Class 4	Electricity	0.02%	0.02%	0	0.00	0.00	0		
T6 Instate Delivery Class 4	Natural Gas	0.00%	0.00%	1	0.00	0.00	1		
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	108	0.00	0.02	112		
T6 Instate Delivery Class 5	Electricity	0.02%	0.02%	0	0.00	0.00	0		
T6 Instate Delivery Class 5	Natural Gas	0.00%	0.00%	1	0.00	0.00	1		
T6 Instate Delivery Class 6	Diesel	0.06%	0.06%	312	0.00	0.05	325		
T6 Instate Delivery Class 6	Electricity	0.07%	0.07%	0	0.00	0.00	0		
T6 Instate Delivery Class 6	Natural Gas	0.00%	0.00%	2	0.00	0.00	2		
T6 Instate Delivery Class 7	Diesel	0.02%	0.02%	93	0.00	0.01	97		
T6 Instate Delivery Class 7	Electricity	0.01%	0.01%	0	0.00	0.00	0		
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	2	0.00	0.00	2		

T6 Instate Other Class 4	Diesel	0.09%	0.09%	462	0.00	0.07	481
T6 Instate Other Class 4	Electricity	0.11%	0.11%	0	0.00	0.00	0
T6 Instate Other Class 4	Natural Gas	0.00%	0.00%	3	0.00	0.00	3
T6 Instate Other Class 5	Diesel	0.24%	0.24%	1,168	0.00	0.18	1,217
T6 Instate Other Class 5	Electricity	0.27%	0.27%	0	0.00	0.00	0
T6 Instate Other Class 5	Natural Gas	0.00%	0.00%	7	0.00	0.00	7
T6 Instate Other Class 6	Diesel	0.16%	0.16%	817	0.00	0.13	851
T6 Instate Other Class 6	Electricity	0.19%	0.19%	0	0.00	0.00	0
T6 Instate Other Class 6	Natural Gas	0.00%	0.00%	5	0.00	0.00	5
T6 Instate Other Class 7	Diesel	0.11%	0.11%	533	0.00	0.08	556
T6 Instate Other Class 7	Electricity	0.08%	0.08%	0	0.00	0.00	0
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	10	0.01	0.00	11
T6 Instate Tractor Class 6	Diesel	0.00%	0.00%	6	0.00	0.00	6
T6 Instate Tractor Class 6	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Instate Tractor Class 6	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Instate Tractor Class 7	Diesel	0.07%	0.07%	295	0.00	0.05	308
T6 Instate Tractor Class 7	Electricity	0.02%	0.02%	0	0.00	0.00	0
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	6	0.00	0.00	6
T6 OOS Class 4	Diesel	0.00%	0.00%	2	0.00	0.00	3
T6 OOS Class 5	Diesel	0.00%	0.00%	3	0.00	0.00	4
T6 OOS Class 6	Diesel	0.00%	0.00%	9	0.00	0.00	9
T6 OOS Class 7	Diesel	0.01%	0.01%	58	0.00	0.01	61
T6 Public Class 4	Diesel	0.00%	0.00%	15	0.00	0.00	15
T6 Public Class 4	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Public Class 4	Natural Gas	0.00%	0.00%	2	0.00	0.00	2
T6 Public Class 5	Diesel	0.01%	0.01%	27	0.00	0.00	28
T6 Public Class 5	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Public Class 5	Natural Gas	0.00%	0.00%	4	0.00	0.00	4
T6 Public Class 6	Diesel	0.01%	0.01%	35	0.00	0.01	36
T6 Public Class 6	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Public Class 6	Natural Gas	0.00%	0.00%	5	0.00	0.00	5
T6 Public Class 7	Diesel	0.02%	0.02%	80	0.00	0.01	83
T6 Public Class 7	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Public Class 7	Natural Gas	0.00%	0.00%	12	0.01	0.00	12
T6 Utility Class 5	Diesel	0.01%	0.01%	34	0.00	0.01	35
T6 Utility Class 5	Electricity	0.01%	0.01%	0	0.00	0.00	0
T6 Utility Class 5	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 6	Diesel	0.00%	0.00%	6	0.00	0.00	7
T6 Utility Class 6	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 6	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 7	Diesel	0.00%	0.00%	9	0.00	0.00	9
T6 Utility Class 7	Electricity	0.00%	0.00%	0	0.00	0.00	0
T6 Utility Class 7	Natural Gas	0.00%	0.00%	0	0.00	0.00	0
T6TS	Gasoline	0.05%	0.05%	374	0.00	0.00	375
T6TS	Electricity	0.06%	0.06%	0	0.00	0.00	0
T7 CAIRP Class 8	Diesel	1.02%	1.02%	6,524	0.00	1.03	6,796
T7 CAIRP Class 8	Electricity	0.30%	0.30%	0	0.00	0.00	0
T7 CAIRP Class 8	Natural Gas	0.00%	0.00%	19	0.02	0.00	20
T7 NNOOS Class 8	Diesel	1.57%	1.57%	9,568	0.00	1.51	9,968
T7 NOOS Class 8	Diesel	0.57%	0.57%	3,472	0.00	0.55	3,617
T7 POLA Class 8	Diesel	0.71%	0.71%	4,851	0.00	0.76	5,054
T7 POLA Class 8	Electricity	0.13%	0.13%	0	0.00	0.00	0
T7 POLA Class 8	Natural Gas	0.03%	0.03%	141	0.13	0.03	152
T7 Public Class 8	Diesel	0.02%	0.02%	153	0.00	0.02	159
T7 Public Class 8	Electricity	0.03%	0.03%	0	0.00	0.00	0
T7 Public Class 8	Natural Gas	0.03%	0.03%	146	0.13	0.03	158
T7 Single Concrete/Transit Mi	Diesel	0.08%	0.08%	580	0.00	0.09	604
T7 Single Concrete/Transit Mi	Electricity	0.11%	0.11%	0	0.00	0.00	0
T7 Single Concrete/Transit Mi	Natural Gas	0.01%	0.01%	33	0.03	0.01	36
T7 Single Dump Class 8	Diesel	0.08%	0.08%	581	0.00	0.09	606
T7 Single Dump Class 8	Electricity	0.07%	0.07%	0	0.00	0.00	0
T7 Single Dump Class 8	Natural Gas	0.01%	0.01%	34	0.03	0.01	36
T7 Single Other Class 8	Diesel	0.13%	0.13%	925	0.00	0.15	963
T7 Single Other Class 8	Electricity	0.13%	0.13%	0	0.00	0.00	0
T7 Single Other Class 8	Natural Gas	0.01%	0.01%	53	0.05	0.01	57
T7 SWCV Class 8	Diesel	0.00%	0.00%	8	0.00	0.00	8
T7 SWCV Class 8	Electricity	0.01%	0.01%	0	0.00	0.00	0
T7 SWCV Class 8	Natural Gas	0.02%	0.02%	69	0.02	0.01	73

T7 Tractor Class 8	Diesel	0.89%	0.89%	5,696	0.00	0.90	5,934
T7 Tractor Class 8	Electricity	0.18%	0.18%	0	0.00	0.00	0
T7 Tractor Class 8	Natural Gas	0.02%	0.02%	127	0.11	0.03	137
T7 Utility Class 8	Diesel	0.01%	0.01%	55	0.00	0.01	58
T7 Utility Class 8	Electricity	0.01%	0.01%	0	0.00	0.00	0
T7IS	Gasoline	0.00%	0.00%	2	0.00	0.00	2
T7IS	Electricity	0.00%	0.00%	0	0.00	0.00	0
UBUS	Gasoline	0.02%	0.02%	57	0.00	0.00	57
UBUS	Electricity	0.12%	0.12%	0	0.00	0.00	0
		100%	100%	148,277	1	8	150,397

Source: EMFAC2021 (v1.0.2) Emission Rates

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2045

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Vehicle Category	Fuel	g/mile															VMT Total	% of VMT
		PM10_PMT					PM2.5					Other						
		ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMBW	PM10_TOTAL	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM 2.5 Total	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX			
All Other Buses	Diesel	0.0197389	0.6449012	0.0867279	0.0088474	0.0141245	0.012	0.0421264	0.068251	0.0135135	0.003	0.0147443	0.0312578	934.3154	0.0009168	0.1472018	10928.51423	0.021%
All Other Buses	Natural Gas	0.0069364	0.0601799	1.5629951	0	0.0009506	0.012	0.0421264	0.0550771	0.0008741	0.003	0.0147443	0.0186183	685.32966	0.4854728	0.1397089	3180.5808	0.006%
LDA	Gasoline	0.0028696	0.0190894	0.4910659	0.0022504	0.0004974	0.008	0.0069833	0.0154807	0.0004573	0.002	0.0024441	0.0049015	227.63041	0.0010011	0.0031727	21566774.17	41.114%
LDA	Diesel	0.0047092	0.0209061	0.13394	0.0017484	0.001386	0.008	0.0070143	0.0164004	0.0013261	0.002	0.002455	0.0057811	184.52305	0.0002187	0.0290717	13126.41234	0.025%
LDA	Electricity	0	0	0	0	0	0.008	0.0043924	0.0123924	0	0.002	0.0015373	0.0035373	0	0	0	2701747.214	5.150%
LDA	Plug-in Hybrid	0.0010957	0.0024733	0.1829489	0.0011123	0.0002038	0.008	0.0039295	0.0121333	0.0001873	0.002	0.0013753	0.0035627	112.51496	0.0003392	0.0004297	1010915.897	1.927%
LDT1	Gasoline	0.003311	0.021681	0.5321731	0.0026128	0.0005578	0.008	0.0082707	0.0168284	0.0005128	0.002	0.0028947	0.0054076	264.29179	0.0011182	0.0033869	1378229.577	2.627%
LDT1	Diesel	0.0115227	0.0261387	0.1214718	0.0032157	0.0040133	0.008	0.0081824	0.0201957	0.0038397	0.002	0.0028638	0.0087035	339.37169	0.0005352	0.0534681	15.92326898	0.000%
LDT1	Electricity	0	0	0	0	0	0.008	0.0043941	0.0123941	0	0.002	0.0015379	0.0035379	0	0	0	38453.86724	0.073%
LDT1	Plug-in Hybrid	0.0010916	0.0024639	0.1822696	0.0011081	0.0001952	0.008	0.0039328	0.012128	0.0001795	0.002	0.0013765	0.003556	112.09147	0.0003381	0.0004286	32129.72615	0.061%
LDT2	Gasoline	0.0039916	0.0222795	0.5749694	0.0026959	0.0005125	0.008	0.0081609	0.0166734	0.0004712	0.002	0.0028563	0.0053275	272.69829	0.0013321	0.0034217	11616195.53	22.144%
LDT2	Diesel	0.0115098	0.0267494	0.120341	0.0023844	0.0039934	0.008	0.0081495	0.020143	0.0038207	0.002	0.0028523	0.008673	251.63736	0.0005346	0.0396456	44272.77467	0.084%
LDT2	Electricity	0	0	0	0	0	0.008	0.0043937	0.0123937	0	0.002	0.0015378	0.0035378	0	0	0	296847.493	0.566%
LDT2	Plug-in Hybrid	0.0010936	0.0024685	0.1826058	0.0011102	0.0001989	0.008	0.003932	0.0121309	0.0001829	0.002	0.0013762	0.0035591	112.29916	0.0003382	0.0004281	315773.4215	0.602%
LHD1	Gasoline	0.001631	0.0209036	0.5843447	0.0048203	0.0011074	0.008	0.078	0.0871074	0.0010182	0.002	0.0273	0.0303182	487.58784	0.0004862	0.0019009	414168.6108	0.790%
LHD1	Diesel	0.042028	0.2638494	0.0863504	0.0043651	0.0121592	0.012	0.078	0.1021592	0.0116332	0.003	0.0273	0.0419332	460.67196	0.0019521	0.0725791	286030.1577	0.545%
LHD1	Electricity	0	0	0	0	0	0.008	0.039	0.047	0	0.002	0.01365	0.01565	0	0	0	549811.5698	1.048%
LHD2	Gasoline	0.0014322	0.025123	0.594744	0.0054173	0.0010966	0.008	0.091	0.1000967	0.0010083	0.002	0.03185	0.0348583	547.97476	0.0004377	0.002514	49092.2567	0.094%
LHD2	Diesel	0.0563673	0.4407566	0.1242177	0.005119	0.0163541	0.012	0.091	0.1193542	0.0156467	0.003	0.03185	0.0504967	540.23138	0.0026182	0.0851137	138966.902	0.265%
LHD2	Electricity	0	0	0	0	0	0.008	0.0455	0.0535	0	0.002	0.015925	0.017925	0	0	0	133580.3338	0.255%
MCY	Gasoline	0.7699928	0.4538947	9.5055241	0.0018182	0.0021071	0.004	0.012	0.0181071	0.0019645	0.001	0.0042	0.0071645	183.9208	0.1296997	0.0345368	132399.5029	0.252%
MDV	Gasoline	0.0046556	0.0265865	0.6141515	0.0032765	0.0005334	0.008	0.0083312	0.0168646	0.0004905	0.002	0.0029159	0.0054064	331.42788	0.0014818	0.0036848	6764250.161	12.895%
MDV	Diesel	0.0047495	0.0192151	0.1404067	0.0031457	0.0013023	0.008	0.0083648	0.0176671	0.0012459	0.002	0.0029277	0.0061736	331.98666	0.0002206	0.0523046	74322.17767	0.142%
MDV	Electricity	0	0	0	0	0	0.008	0.0043993	0.0123993	0	0.002	0.0015398	0.0035398	0	0	0	276786.2049	0.528%
MDV	Plug-in Hybrid	0.0010949	0.0024713	0.1827738	0.0011114	0.0002036	0.008	0.0039367	0.0121403	0.0001872	0.002	0.0013778	0.0035651	112.41931	0.000337	0.0004246	198877.5537	0.379%
MH	Gasoline	0.0080376	0.1761346	0.1400881	0.0174048	0.0010016	0.012	0.042213	0.0552145	0.0009209	0.003	0.0147745	0.0186954	1760.5444	0.0029545	0.0168179	17815.95675	0.034%
MH	Diesel	0.0345527	1.9430812	0.1283558	0.0093546	0.041852	0.016	0.0421463	0.0999983	0.0400415	0.004	0.0147512	0.0587927	987.24513	0.0016049	0.1555409	10519.8828	0.020%
Motor Coach	Diesel	0.0090902	0.8140938	0.0421934	0.0140647	0.0183132	0.012	0.0853421	0.1156553	0.017521	0.003	0.0298698	0.0503907	1485.2788	0.0004222	0.2340063	5832.301835	0.011%
OBUS	Gasoline	0.0143823	0.2225744	0.3420057	0.0140237	0.0009173	0.012	0.0421264	0.0550437	0.0008434	0.003	0.0147443	0.0185877	1418.5436	0.0032648	0.0138194	4793.177046	0.009%
OBUS	Electricity	0	0	0	0	0	0.012	0.0210632	0.0330632	0	0.003	0.0073721	0.0103721	0	0	0	5483.4075	0.010%
PTO	Diesel	0.0142738	2.4349651	0.1773539	0.016482	0.0038908	0	0	0.0038908	0.0037225	0	0	0.0037225	1740.5531	0.000663	0.2742248	32109.60355	0.061%
PTO	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32570.5637	0.062%
SBUS	Gasoline	0.0111416	0.1680838	0.2136588	0.0082213	0.0015914	0.008	0.046845	0.0564364	0.0014632	0.002	0.0163958	0.019859	831.61095	0.0025253	0.0144524	7638.563692	0.015%
SBUS	Diesel	0.0130839	0.5255674	0.0738875	0.010662	0.0038476	0.012	0.046845	0.0626926	0.0036811	0.003	0.0163958	0.0230769	1125.9423	0.0006077	0.1773927	3112.156038	0.006%
SBUS	Electricity	0	0	0	0	0	0.011161	0.0234225	0.0345832	0	0.0027902	0.0081979	0.010988	0	0	0	12125.07552	0.023%
SBUS	Natural Gas	0.0491736	0.3335099	10.126803	0	0.0044829	0.012	0.046845	0.0633279	0.0041218	0.003	0.0163958	0.0235176	1478.8803	3.4415938	0.3014794	8445.076566	0.016%
T6 CAIRP Class 4	Diesel	0.004743	0.1657201	0.0278305	0.0093541	0.0046296	0.012	0.0420806	0.0587101	0.0044293	0.003	0.0147282	0.0221575	987.82503	0.0002203	0.1556322	200.7099949	0.000%
T6 CAIRP Class 4	Electricity	0	0	0	0	0	0.012	0.0210403	0.0330403	0	0.003	0.0073641	0.0103641	0	0	0	283.1614177	0.001%
T6 CAIRP Class 5	Diesel	0.004752	0.1668118	0.0278707	0.0093575	0.0046382	0.012	0.0420806	0.0587188	0.0044375	0.003	0.0147282	0.0221657	988.18094	0.0002207	0.1556883	275.8051205	0.001%
T6 CAIRP Class 5	Electricity	0	0	0	0	0	0.012	0.0210403	0.0330403	0	0.003	0.0073641	0.0103641	0	0	0	387.9794461	0.001%
T6 CAIRP Class 6	Diesel	0.0047321	0.166732	0.0277794	0.0093451	0.0046481	0.012	0.0420806	0.0587287	0.0044471	0.003	0.0147282	0.0221753	986.87599	0.0002198	0.1554827	717.4144022	0.001%
T6 CAIRP Class 6	Electricity	0	0	0	0	0	0.012	0.0210403	0.0330403	0	0.003	0.0073641	0.0103641	0	0	0	1017.073661	0.002%
T6 CAIRP Class 7	Diesel	0.0050973	0.1820723	0.0299211	0.0082557	0.0049229	0.012	0.0420806	0.0590035	0.0047099	0.003	0.0147282	0.0224381	871.83271	0.0002368	0.1373576	8257.437247	0.016%
T6 CAIRP Class 7	Electricity	0	0	0	0	0	0.012	0.0210403	0.0330403	0	0.003	0.0073641	0.0103641	0	0	0	2616.71477	0.005%
T6 CAIRP Class 7	Natural Gas	0.0069655	0.0430835	1.3089701	0	0.0010336	0.012	0.0420806	0.0551142	0.0009503	0.003	0.0147282	0.0186785	704.60414	0.4875027	0.1436382	5.43382181	0.000%
T6 Instate Delivery Class 4	Diesel	0.004847	0.1905811	0.0314085	0.0093176	0.0044249	0.012	0.0422722	0.0586972	0.0042335	0.003	0.0147953	0.0220288	983.96583	0.0002251	0.1550242	11928.82114	0.023%
T6 Instate Delivery Class 4	Electricity	0	0	0	0	0	0.012	0.0211361	0.0331361	0	0.003	0.0073976	0.0103976	0	0	0	12941.98729	0.025%
T6 Instate Delivery Class 4	Natural Gas	0.0072404	0.0447185	1.4720068	0	0.0010721	0.012	0.0422722	0.0553443	0.0009858	0.003	0.0147953	0.0187811	741.8243	0.5067476	0.1512257	90.5895969	0.0

T6 Instate Delivery Class 6	Electricity	0	0	0	0	0	0.012	0.0211361	0.0331361	0	0.003	0.0073976	0.0103976	0	0	0	35810.33242	0.068%
T6 Instate Delivery Class 6	Natural Gas	0.0072395	0.0447709	1.4724496	0	0.0010718	0.012	0.0422722	0.055344	0.0009855	0.003	0.0147953	0.0187807	741.52351	0.5066828	0.1511644	249.3258522	0.000%
T6 Instate Delivery Class 7	Diesel	0.0067635	0.3950743	0.0399396	0.0094171	0.0060581	0.012	0.0422722	0.0603303	0.005796	0.003	0.0147953	0.0235913	994.48053	0.0003141	0.1566808	9771.289088	0.019%
T6 Instate Delivery Class 7	Electricity	0	0	0	0	0	0.012	0.0211361	0.0331361	0	0.003	0.0073976	0.0103976	0	0	0	6037.958894	0.012%
T6 Instate Delivery Class 7	Natural Gas	0.0067694	0.0727115	1.7076606	0	0.0008977	0.012	0.0422722	0.0551699	0.0008254	0.003	0.0147953	0.0186207	760.38944	0.4737817	0.1550104	241.9405349	0.000%
T6 Instate Other Class 4	Diesel	0.004844	0.1856756	0.0309398	0.0093106	0.0044612	0.012	0.0422525	0.0587137	0.0042682	0.003	0.0147884	0.0220566	983.22855	0.000225	0.1549081	48875.62666	0.093%
T6 Instate Other Class 4	Electricity	0	0	0	0	0	0.012	0.0211262	0.0331263	0	0.003	0.0073942	0.0103942	0	0	0	56204.40424	0.107%
T6 Instate Other Class 4	Natural Gas	0.0072069	0.0442068	1.4456672	0	0.001069	0.012	0.0422525	0.0553215	0.0009829	0.003	0.0147884	0.0187713	739.18544	0.5044033	0.1506878	373.1832099	0.001%
T6 Instate Other Class 5	Diesel	0.0048526	0.1832152	0.0308939	0.0093177	0.004453	0.012	0.0422525	0.0587055	0.0042604	0.003	0.0147884	0.0220487	983.97541	0.0002254	0.1550257	123627.56	0.236%
T6 Instate Other Class 5	Electricity	0	0	0	0	0	0.012	0.0211262	0.0331263	0	0.003	0.0073942	0.0103942	0	0	0	141977.4976	0.271%
T6 Instate Other Class 5	Natural Gas	0.0072109	0.0439857	1.4437495	0	0.0010704	0.012	0.0422525	0.0553229	0.0009842	0.003	0.0147884	0.0187726	738.22373	0.5046785	0.1504917	932.2608003	0.002%
T6 Instate Other Class 6	Diesel	0.0048544	0.1877905	0.0309606	0.0093097	0.0044824	0.012	0.0422525	0.0587349	0.0042885	0.003	0.0147884	0.0220768	983.13073	0.0002255	0.1548926	86505.0734	0.165%
T6 Instate Other Class 6	Electricity	0	0	0	0	0	0.012	0.0211262	0.0331263	0	0.003	0.0073942	0.0103942	0	0	0	99258.95258	0.189%
T6 Instate Other Class 6	Natural Gas	0.0072073	0.0441863	1.4454894	0	0.0010691	0.012	0.0422525	0.0553216	0.000983	0.003	0.0147884	0.0187714	738.50362	0.5044288	0.1505488	654.9274226	0.001%
T6 Instate Other Class 7	Diesel	0.0061642	0.3200255	0.0368241	0.0093666	0.005601	0.012	0.0422525	0.0598535	0.0053587	0.003	0.0147884	0.0231471	989.13953	0.0002863	0.1558393	56157.31714	0.107%
T6 Instate Other Class 7	Electricity	0	0	0	0	0	0.012	0.0211262	0.0331263	0	0.003	0.0073942	0.0103942	0	0	0	42103.92817	0.080%
T6 Instate Other Class 7	Natural Gas	0.0068818	0.0634166	1.6113147	0	0.000949	0.012	0.0422525	0.0552015	0.0008726	0.003	0.0147884	0.018661	753.17868	0.4816477	0.1535404	1370.819559	0.003%
T6 Instate Tractor Class 6	Diesel	0.0048158	0.1917714	0.0306171	0.0092914	0.0044691	0.012	0.0422525	0.0587216	0.0042758	0.003	0.0147884	0.0220642	981.20056	0.0002237	0.1545885	634.0963847	0.001%
T6 Instate Tractor Class 6	Electricity	0	0	0	0	0	0.012	0.0211262	0.0331263	0	0.003	0.0073942	0.0103942	0	0	0	763.2961548	0.001%
T6 Instate Tractor Class 6	Natural Gas	0.0072079	0.0441539	1.4452083	0	0.0010693	0.012	0.0422525	0.0553218	0.0009832	0.003	0.0147884	0.0187716	738.53728	0.5044691	0.1505557	4797423431	0.000%
T6 Instate Tractor Class 7	Diesel	0.0059458	0.3139348	0.0361539	0.0084799	0.0054861	0.012	0.0422525	0.0597386	0.0052488	0.003	0.0147884	0.0230372	895.50167	0.0002762	0.1410867	34350.46394	0.065%
T6 Instate Tractor Class 7	Electricity	0	0	0	0	0	0.012	0.0211262	0.0331263	0	0.003	0.0073942	0.0103942	0	0	0	8161.923929	0.016%
T6 Instate Tractor Class 7	Natural Gas	0.0069031	0.0622319	1.6010287	0	0.000957	0.012	0.0422525	0.0552095	0.0008799	0.003	0.0147884	0.0186683	736.23171	0.4831365	0.1500856	824.5480804	0.002%
T6 OOS Class 4	Diesel	0.0046423	0.2072441	0.0272164	0.0087761	0.0047804	0.012	0.0420806	0.058861	0.0045736	0.003	0.0147282	0.0223018	926.78309	0.0002156	0.1460151	279.1246702	0.001%
T6 OOS Class 5	Diesel	0.0046595	0.2091173	0.0272862	0.0087819	0.0047952	0.012	0.0420806	0.0588758	0.0045878	0.003	0.0147282	0.022316	927.40119	0.0002164	0.1461124	382.9088542	0.001%
T6 OOS Class 6	Diesel	0.0046214	0.2052101	0.027124	0.0087605	0.0047625	0.012	0.0420806	0.0588431	0.0045565	0.003	0.0147282	0.0222847	925.13342	0.0002146	0.1457551	1000.551791	0.002%
T6 OOS Class 7	Diesel	0.0049848	0.2170104	0.0292625	0.0078954	0.0050457	0.012	0.0420806	0.0591263	0.0048274	0.003	0.0147282	0.0225556	833.7761	0.0002315	0.1313618	7275.255697	0.014%
T6 Public Class 4	Diesel	0.0058847	0.3708787	0.0313675	0.0094562	0.0053977	0.012	0.0421463	0.0595439	0.0051642	0.003	0.0147512	0.0229154	998.60696	0.0002733	0.1573309	1526.652805	0.003%
T6 Public Class 4	Electricity	0	0	0	0	0	0.012	0.0210731	0.0330731	0	0.003	0.0073756	0.0103756	0	0	0	1566.872882	0.003%
T6 Public Class 4	Natural Gas	0.0070533	0.0439777	1.3693304	0	0.0010444	0.012	0.0421463	0.0551907	0.0009603	0.003	0.0147512	0.0187115	732.45955	0.493654	0.1493167	284.6897426	0.001%
T6 Public Class 5	Diesel	0.0064497	0.3803927	0.0328935	0.009524	0.0056315	0.012	0.0421463	0.0597778	0.0053879	0.003	0.0147512	0.0231391	1005.7622	0.0002996	0.1584582	2766.450086	0.005%
T6 Public Class 5	Electricity	0	0	0	0	0	0.012	0.0210731	0.0330731	0	0.003	0.0073756	0.0103756	0	0	0	2845.543017	0.005%
T6 Public Class 5	Natural Gas	0.0068759	0.055457	1.4749349	0	0.0009813	0.012	0.0421463	0.0551275	0.0009022	0.003	0.0147512	0.0186534	737.72822	0.4812334	0.1503907	574.9068522	0.001%
T6 Public Class 6	Diesel	0.005485	0.2880524	0.0301428	0.0094563	0.0051504	0.012	0.0421463	0.0592966	0.0049276	0.003	0.0147512	0.0226787	998.61311	0.0002548	0.1573319	3626.841404	0.007%
T6 Public Class 6	Electricity	0	0	0	0	0	0.012	0.0210731	0.0330731	0	0.003	0.0073756	0.0103756	0	0	0	3660.859522	0.007%
T6 Public Class 6	Natural Gas	0.0070243	0.0460858	1.3883636	0	0.0010343	0.012	0.0421463	0.0551806	0.000951	0.003	0.0147512	0.0187022	733.73731	0.4916216	0.1495772	704.8096129	0.001%
T6 Public Class 7	Diesel	0.0051034	0.2564491	0.0284698	0.0093459	0.0047923	0.012	0.0421463	0.0589386	0.0044585	0.003	0.0147512	0.0223362	986.96096	0.000237	0.1554961	8399.406537	0.016%
T6 Public Class 7	Electricity	0	0	0	0	0	0.012	0.0210731	0.0330731	0	0.003	0.0073756	0.0103756	0	0	0	6910.082373	0.013%
T6 Public Class 7	Natural Gas	0.007036	0.0452452	1.3807576	0	0.0010384	0.012	0.0421463	0.0551847	0.0009548	0.003	0.0147512	0.018706	734.0777	0.4924436	0.1496465	1632.021321	0.003%
T6 Utility Class 5	Diesel	0.0037717	0.1235505	0.0229627	0.0092725	0.0038884	0.012	0.0421463	0.0580347	0.0037202	0.003	0.0147512	0.0214714	979.20652	0.0001752	0.1542744	3580.109994	0.007%
T6 Utility Class 5	Electricity	0	0	0	0	0	0.012	0.0210731	0.0330731	0	0.003	0.0073756	0.0103756	0	0	0	5122.410363	0.010%
T6 Utility Class 5	Natural Gas	0.0070793	0.0425544	1.3558315	0	0.0010539	0.012	0.0421463	0.0552002	0.000969	0.003	0.0147512	0.0187202	729.09158	0.4954737	0.1486301	20.57946177	0.000%
T6 Utility Class 6	Diesel	0.0037723	0.1208363	0.0229665	0.0092729	0.0038597	0.012	0.0421463	0.058006	0.0036928	0.003	0.0147512	0.021444	979.25162	0.0001752	0.1542815	676.8160691	0.001%
T6 Utility Class 6	Electricity	0	0	0	0	0	0.012	0.0210731	0.0330731	0	0.003	0.0073756	0.0103756	0	0	0	967.7826921	0.002%
T6 Utility Class 6	Natural Gas	0.0070793	0.0425544	1.3558315	0	0.0010539	0.012	0.0421463	0.0552002	0.000969	0.003	0.0147512	0.0187202	729.10228	0.4954737	0.1486323	3.890525834	0.000%
T6 Utility Class 7	Diesel	0.0037353	0.1177115	0.0227408	0.0092789	0.0038385	0.012	0.0421463	0.0579848	0.0036724	0.003	0.0147512	0.0214236	979.87837	0.0001735	0.1543802	926.889312	0.002%
T6 Utility Class 7	Electricity	0	0	0	0	0	0.012	0.0210731	0.0330731	0	0.003	0.0073756	0.0103756	0	0	0	1361.37886	0.003%
T6 Utility Class 7	Natural Gas	0.0070793	0.0425544	1.3558315	0	0.0010539	0.012	0.0421463	0.0552002	0.000969	0.003	0.0147512	0.0187202	729.10483	0.4954737	0.1486328	5.328015953	0.000%
T6TS	Gasoline	0.0078178	0.0637524	0.1608759	0.0137967	0.001033	0.012	0.042213	0.0552459	0.0009498	0.003	0.0147745	0.0187243	1395.5771	0.0020698	0.006205	27933.839	0.053%
T6TS	Electricity	0	0	0	0	0	0.012	0.0211065	0.0331065	0	0.003	0.0073873	0.0103873	0	0	0	32042.11589	0.061%
T7 CAIRP Class 8	Diesel	0.0107909	1.1115602	0.0344164	0.0119793	0.0288801	0.036	0.0813901	0.1462703	0.0276308	0.009	0.0284865	0.0651173	1265.0548	0.0005012	0.1993099	536934.0326	1.024%
T7 CAIRP Class 8	Electricity	0	0	0	0	0	0.036	0.0407214	0.0767214	0	0.009	0.0142525	0.0232525	0	0	0	155947.2735	0.297%
T7 CAIRP Class 8	Natural Gas	0.0128174	0.150013	2.7048351	0	0.001866	0.036	0.0813887	0.1192547	0.0017157	0.009	0.0284861	0.0392018	1005.8868	0.8970724	0.2050566	1964.599462	0.004%
T7 NNOOS Class 8	Diesel	0.010488	1.2289583	0.0334694	0.0114655	0.028495	0.036	0.0813798	0.1458747	0.0272623	0.009	0.0284829	0.0647452	1210.7899	0.0004871	0.1907604	822832.8969	1.569%
T7 NOOS Class 8	Diesel	0.0108186	1.2640251	0.0345017	0.0114595	0.0301652	0.036	0.0813966	0.1475619	0.0288603	0.009	0.0284888	0.0663491	1210.162	0.0005025</			

T7 Single Concrete/Transit Mix Class	Diesel	0.008017	0.6828972	0.027981	0.0134947	0.0154938	0.036	0.0821807	0.1336745	0.0148235	0.009	0.0287632	0.0525868	1425.0875	0.0003724	0.2245231	42350.28164	0.081%
T7 Single Concrete/Transit Mix Class	Electricity	0	0	0	0	0	0.036	0.0411597	0.0771597	0	0.009	0.0144059	0.0234059	0	0	0	59615.98572	0.114%
T7 Single Concrete/Transit Mix Class	Natural Gas	0.01303	0.1510598	2.856646	0	0.0018985	0.036	0.0821772	0.1200756	0.0017456	0.009	0.028762	0.0395076	1042.6429	0.9119527	0.2125496	3306.667596	0.006%
T7 Single Dump Class 8	Diesel	0.0096358	0.9486322	0.0376297	0.0138739	0.0197829	0.036	0.0806446	0.1364275	0.0189271	0.009	0.0282256	0.0561527	1465.1289	0.0004476	0.2308317	41324.69312	0.079%
T7 Single Dump Class 8	Electricity	0	0	0	0	0	0.036	0.0411409	0.0771409	0	0.009	0.0143993	0.0233993	0	0	0	37448.64145	0.071%
T7 Single Dump Class 8	Natural Gas	0.0129731	0.1760257	3.3008699	0	0.0018412	0.036	0.0805498	0.118391	0.0016929	0.009	0.0281924	0.0388853	1068.0827	0.9079668	0.2177356	3275.260473	0.006%
T7 Single Other Class 8	Diesel	0.0091503	0.8741244	0.0341747	0.0137621	0.018845	0.036	0.0808733	0.1357183	0.0180298	0.009	0.0283056	0.0553355	1453.3186	0.000425	0.2289709	66262.50778	0.126%
T7 Single Other Class 8	Electricity	0	0	0	0	0	0.036	0.041148	0.077148	0	0.009	0.0144018	0.0234018	0	0	0	66967.24194	0.128%
T7 Single Other Class 8	Natural Gas	0.0129976	0.1647111	3.1077773	0	0.0018663	0.036	0.0808488	0.1187151	0.001716	0.009	0.0282971	0.0390131	1057.256	0.9096877	0.2155285	5190.971065	0.010%
T7 SWCV Class 8	Diesel	0.0031278	9.9529829	0.0116242	0.0342687	0.0164411	0.036	0.2100001	0.2624412	0.0157299	0.009	0.0735	0.0982299	3618.8855	0.0001453	0.5701569	217.043035	0.000%
T7 SWCV Class 8	Electricity	0	0	0	0	0	0.036	0.105	0.141	0	0.009	0.03675	0.04575	0	0	0	5421.395132	0.010%
T7 SWCV Class 8	Natural Gas	0.0081323	0.2359246	5.220213	0	0.0011567	0.036	0.2100001	0.2471568	0.0010636	0.009	0.0735	0.0835636	909.08352	0.201995	0.1853226	7882.471763	0.015%
T7 Tractor Class 8	Diesel	0.0100225	1.0801226	0.0327488	0.0120458	0.0250681	0.036	0.0808119	0.1418799	0.0239836	0.009	0.0282841	0.0612678	1272.0746	0.0004655	0.2004159	466264.9493	0.889%
T7 Tractor Class 8	Electricity	0	0	0	0	0	0.036	0.040764	0.076764	0	0.009	0.0142674	0.0232674	0	0	0	94616.60086	0.180%
T7 Tractor Class 8	Natural Gas	0.0128267	0.1547766	2.8032271	0	0.0018575	0.036	0.0807058	0.1185634	0.0017079	0.009	0.028247	0.038955	1015.3508	0.8977252	0.2069859	13010.65041	0.025%
T7 Utility Class 8	Diesel	0.0085052	0.7306457	0.0338948	0.0139955	0.014878	0.036	0.0796042	0.1304821	0.0142344	0.009	0.0278615	0.0510958	1477.9717	0.000395	0.232855	3895.662682	0.007%
T7 Utility Class 8	Electricity	0	0	0	0	0	0.036	0.0409078	0.0769078	0	0.009	0.0143177	0.0233177	0	0	0	2992.204817	0.006%
T7IS	Gasoline	0.2989029	2.0067853	24.962921	0.0161711	0.0010252	0.02	0.0824048	0.1034299	0.0009426	0.005	0.0288417	0.0347843	1635.7581	0.0680139	0.0949417	96.98952025	0.000%
T7IS	Electricity	0	0	0	0	0	0.02	0.041385	0.061385	0	0.005	0.0144848	0.0194848	0	0	0	102.565411	0.000%
UBUS	Gasoline	0.001149	0.0182042	0.5480112	0.0052801	0.0011198	0.008	0.091	0.1001199	0.0010296	0.002	0.03185	0.0348797	534.10262	0.0004696	0.0032358	11014.89224	0.021%
UBUS	Electricity	0	0	0	0	0	0.026272	0.055	0.0812718	0	0.0065679	0.01925	0.0258179	0	0	0	61431.63505	0.117%
TOTAL VMT																	52,456,550	100%

lbs/Mile														
ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM 2.5 Total	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX
4.35E-05	1.42E-03	1.91E-04	1.95E-05	3.11E-05	9.29E-05	3.11E-05	1.50E-04	6.61E-06	3.25E-05	2.98E-05	6.89E-05	2.06E+00	2.02E-06	3.25E-04
1.53E-05	1.33E-04	3.45E-03	0.00E+00	2.10E-06	9.29E-05	2.10E-06	1.21E-04	6.61E-06	3.25E-05	1.93E-06	4.10E-05	1.51E+00	1.07E-03	3.08E-04
6.33E-06	4.21E-05	1.08E-03	4.96E-06	1.10E-06	1.54E-05	1.10E-06	3.41E-05	4.41E-06	5.39E-06	1.01E-06	1.08E-05	5.02E-01	2.21E-06	6.99E-06
1.04E-05	4.61E-05	2.95E-04	3.85E-06	3.06E-06	1.55E-05	3.06E-06	3.62E-05	4.41E-06	5.41E-06	2.92E-06	1.27E-05	4.07E-01	4.82E-07	6.41E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.68E-06	0.00E+00	2.73E-05	4.41E-06	3.39E-06	0.00E+00	7.80E-06	0.00E+00	0.00E+00	0.00E+00
2.42E-06	5.45E-06	4.03E-04	2.45E-06	4.49E-07	8.66E-06	4.49E-07	2.67E-05	4.41E-06	3.03E-06	4.13E-07	7.85E-06	2.48E-01	7.48E-07	9.47E-07
7.30E-06	4.78E-05	1.17E-03	5.76E-06	1.23E-06	1.82E-05	1.23E-06	3.71E-05	4.41E-06	6.38E-06	1.13E-06	1.19E-05	5.83E-01	2.47E-06	7.47E-06
2.54E-05	5.76E-05	2.68E-04	7.09E-06	8.85E-06	1.80E-05	8.85E-06	4.45E-05	4.41E-06	6.31E-06	8.46E-06	1.92E-05	7.48E-01	1.18E-06	1.18E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.69E-06	0.00E+00	2.73E-05	4.41E-06	3.39E-06	0.00E+00	7.80E-06	0.00E+00	0.00E+00	0.00E+00
2.41E-06	5.43E-06	4.02E-04	2.44E-06	4.30E-07	8.67E-06	4.30E-07	2.67E-05	4.41E-06	3.03E-06	3.96E-07	7.84E-06	2.47E-01	7.45E-07	9.45E-07
8.80E-06	4.91E-05	1.27E-03	5.94E-06	1.13E-06	1.80E-05	1.13E-06	3.68E-05	4.41E-06	6.30E-06	1.04E-06	1.17E-05	6.01E-01	2.94E-07	7.54E-06
2.54E-05	5.90E-05	2.65E-04	5.26E-06	8.80E-06	1.80E-05	8.80E-06	4.44E-05	4.41E-06	6.29E-06	8.42E-06	1.91E-05	5.55E-01	1.18E-06	8.74E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.69E-06	0.00E+00	2.73E-05	4.41E-06	3.39E-06	0.00E+00	7.80E-06	0.00E+00	0.00E+00	0.00E+00
2.41E-06	5.44E-06	4.03E-04	2.45E-06	4.39E-07	8.67E-06	4.39E-07	2.67E-05	4.41E-06	3.03E-06	4.03E-07	7.85E-06	2.48E-01	7.46E-07	9.44E-07
3.60E-06	4.61E-05	1.29E-03	1.06E-05	2.44E-06	1.72E-04	2.44E-06	1.92E-04	4.41E-06	6.02E-05	2.24E-06	6.68E-05	1.07E+00	1.07E-06	4.19E-06
9.27E-05	5.82E-04	1.90E-04	9.62E-06	2.68E-05	1.72E-04	2.68E-05	2.25E-04	6.61E-06	6.02E-05	2.56E-05	9.24E-05	1.02E+00	4.30E-06	1.60E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.60E-05	0.00E+00	1.04E-04	4.41E-06	3.01E-05	0.00E+00	3.45E-05	0.00E+00	0.00E+00	0.00E+00
3.16E-06	5.54E-05	1.31E-03	1.19E-05	2.42E-06	2.01E-04	2.42E-06	2.21E-04	4.41E-06	7.02E-05	2.22E-06	7.68E-05	1.21E+00	9.65E-07	5.54E-06
1.24E-04	9.72E-04	2.74E-04	1.13E-05	3.61E-05	2.01E-04	3.61E-05	2.63E-04	6.61E-06	7.02E-05	3.45E-05	1.11E-04	1.19E+00	5.77E-06	1.88E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-04	0.00E+00	1.18E-04	4.41E-06	3.51E-05	0.00E+00	3.95E-05	0.00E+00	0.00E+00	0.00E+00
1.70E-03	1.00E-03	2.10E-02	4.01E-06	4.65E-06	2.65E-05	4.65E-06	3.99E-05	2.20E-06	9.26E-06	4.33E-06	1.58E-05	4.05E-01	2.86E-04	7.61E-05
1.03E-05	5.86E-05	1.35E-03	7.22E-06	1.18E-06	1.84E-05	1.18E-06	3.72E-05	4.41E-06	6.43E-06	1.08E-06	1.19E-05	7.31E-01	3.27E-06	8.12E-06
1.05E-05	4.24E-05	3.10E-04	6.94E-06	2.87E-06	1.84E-05	2.87E-06	3.89E-05	4.41E-06	6.45E-06	2.75E-06	1.36E-05	7.32E-01	4.86E-07	1.15E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.70E-06	0.00E+00	2.73E-05	4.41E-06	3.39E-06	0.00E+00	7.80E-06	0.00E+00	0.00E+00	0.00E+00
2.41E-06	5.45E-06	4.03E-04	2.45E-06	4.49E-07	8.68E-06	4.49E-07	2.68E-05	4.41E-06	3.04E-06	4.13E-07	7.86E-06	2.48E-01	7.43E-07	9.36E-07
1.77E-05	3.88E-04	3.09E-04	3.84E-05	2.21E-06	9.31E-05	2.21E-06	1.22E-04	6.61E-06	3.26E-05	2.03E-06	4.12E-05	3.88E+00	6.51E-06	3.71E-05
7.62E-05	4.28E-03	2.83E-04	2.06E-05	9.23E-05	9.29E-05	9.23E-05	2.20E-04	8.82E-06	3.25E-05	8.83E-05	1.30E-04	2.18E+00	3.54E-06	3.43E-04
2.00E-05	1.79E-03	9.30E-05	3.10E-05	4.04E-05	1.88E-04	4.04E-05	2.55E-04	6.61E-06	6.59E-05	3.86E-05	1.11E-04	3.27E+00	9.31E-07	5.16E-04
3.17E-05	4.91E-04	7.54E-04	3.09E-05	2.02E-06	9.29E-05	2.02E-06	1.21E-04	6.61E-06	3.25E-05	1.86E-06	4.10E-05	3.13E+00	7.20E-06	3.05E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
3.15E-05	5.37E-03	3.91E-04	3.63E-05	8.58E-06	0.00E+00	8.58E-06	8.58E-06	0.00E+00	0.00E+00	8.21E-06	8.21E-06	3.84E+00	1.46E-06	6.05E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2.46E-05	3.71E-04	4.71E-04	1.81E-05	3.51E-06	1.03E-04	3.51E-06	1.24E-04	4.41E-06	3.61E-05	3.23E-06	4.38E-05	1.83E+00	5.57E-06	3.19E-05
2.88E-05	1.16E-03	1.63E-04	2.35E-05	8.48E-06	1.03E-04	8.48E-06	1.38E-04	6.61E-06	3.61E-05	8.12E-06	5.09E-05	2.48E+00	1.34E-06	3.91E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.16E-05	0.00E+00	7.62E-05	6.15E-06	1.81E-05	0.00E+00	2.42E-05	0.00E+00	0.00E+00	0.00E+00
1.08E-04	7.35E-04	2.23E-02	0.00E+00	9.88E-06	1.03E-04	9.88E-06	1.40E-04	6.61E-06	3.61E-05	9.09E-06	5.18E-05	3.26E+00	7.59E-03	6.65E-04
1.05E-05	3.65E-04	6.14E-05	2.06E-05	1.02E-05	9.28E-05	1.02E-05	1.29E-04	6.61E-06	3.25E-05	9.76E-06	4.88E-05	2.18E+00	4.86E-07	3.43E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-05	0.00E+00	7.28E-05	6.61E-06	1.62E-05	0.00E+00	2.28E-05	0.00E+00	0.00E+00	0.00E+00
1.05E-05	3.68E-04	6.14E-05	2.06E-05	1.02E-05	9.28E-05	1.02E-05	1.29E-04	6.61E-06	3.25E-05	9.78E-06	4.89E-05	2.18E+00	4.87E-07	3.43E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-05	0.00E+00	7.28E-05	6.61E-06	1.62E-05	0.00E+00	2.28E-05	0.00E+00	0.00E+00	0.00E+00
1.04E-05	3.68E-04	6.12E-05	2.06E-05	1.02E-05	9.28E-05	1.02E-05	1.29E-04	6.61E-06	3.25E-05	9.80E-06	4.89E-05	2.18E+00	4.85E-07	3.43E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-05	0.00E+00	7.28E-05	6.61E-06	1.62E-05	0.00E+00	2.28E-05	0.00E+00	0.00E+00	0.00E+00
1.12E-05	4.01E-04	6.60E-05	1.82E-05	1.09E-05	9.28E-05	1.09E-05	1.30E-04	6.61E-06	3.25E-05	1.04E-05	4.95E-05	1.92E+00	5.22E-07	3.03E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E-05	0.00E+00	7.28E-05	6.61E-06	1.62E-05	0.00E+00	2.28E-05	0.00E+00	0.00E+00	0.00E+00
1.54E-05	9.50E-05	2.89E-03	0.00E+00	2.28E-06	9.28E-05	2.28E-06	1.22E-04	6.61E-06	3.25E-05	2.10E-06	4.12E-05	1.55E+00	1.07E-03	3.17E-04
1.07E-05	4.20E-04	6.92E-05	2.05E-05	9.76E-06	9.32E-05	9.76E-06	1.29E-04	6.61E-06	3.26E-05	9.33E-06	4.86E-05	2.17E+00	4.96E-07	3.42E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.31E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.60E-05	9.86E-05	3.25E-03	0.00E+00	2.36E-06	9.32E-05	2.36E-06	1.22E-04	6.61E-06	3.26E-05	2.17E-06	4.14E-05	1.64E+00	1.12E-03	3.33E-04
1.07E-05	4.13E-04	6.91E-05	2.06E-05	9.72E-06	9.32E-05	9.72E-06	1.29E-04	6.61E-06	3.26E-05	9.30E-06	4.85E-05	2.17E+00	4.96E-07	3.42E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.31E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.60E-05	9.81E-05	3.24E-03	0.00E+00	2.37E-06	9.32E-05	2.37E-06	1.22E-04	6.61E-06	3.26E-05	2.18E-06	4.14E-05	1.63E+00	1.12E-03	3.33E-04
1.07E-05	4.29E-04	6.94E-05	2.05E-05	9.80E-06	9.32E-05	9.80E-06	1.29E-04	6.61E-06	3.26E-05	9.38E-06	4.86E-05	2.17E+00	4.97E-07	3.42E-04

1.00E-06

0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.31E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.60E-05	9.87E-05	3.25E-03	0.00E+00	2.36E-06	9.32E-05	2.36E-06	1.22E-04	6.61E-06	3.26E-05	2.17E-06	4.14E-05	1.63E+00	1.12E-03	3.33E-04
1.49E-05	8.71E-04	8.81E-05	2.08E-05	1.34E-05	9.32E-05	1.34E-05	1.33E-04	6.61E-06	3.26E-05	1.28E-05	5.20E-05	2.19E+00	6.93E-07	3.45E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.31E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.49E-05	1.60E-04	3.76E-03	0.00E+00	1.98E-06	9.32E-05	1.98E-06	1.22E-04	6.61E-06	3.26E-05	1.82E-06	4.11E-05	1.68E+00	1.04E-03	3.42E-04
1.07E-05	4.09E-04	6.82E-05	2.05E-05	9.84E-06	9.31E-05	9.84E-06	1.29E-04	6.61E-06	3.26E-05	9.41E-06	4.86E-05	2.17E+00	4.96E-07	3.42E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.30E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.59E-05	9.75E-05	3.19E-03	0.00E+00	2.36E-06	9.31E-05	2.36E-06	1.22E-04	6.61E-06	3.26E-05	2.17E-06	4.14E-05	1.63E+00	1.11E-03	3.32E-04
1.07E-05	4.04E-04	6.81E-05	2.05E-05	9.82E-06	9.31E-05	9.82E-06	1.29E-04	6.61E-06	3.26E-05	9.39E-06	4.86E-05	2.17E+00	4.97E-07	3.42E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.30E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.59E-05	9.70E-05	3.18E-03	0.00E+00	2.36E-06	9.31E-05	2.36E-06	1.22E-04	6.61E-06	3.26E-05	2.17E-06	4.14E-05	1.63E+00	1.11E-03	3.32E-04
1.07E-05	4.14E-04	6.83E-05	2.05E-05	9.88E-06	9.31E-05	9.88E-06	1.29E-04	6.61E-06	3.26E-05	9.45E-06	4.87E-05	2.17E+00	4.97E-07	3.41E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.30E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.59E-05	9.74E-05	3.19E-03	0.00E+00	2.36E-06	9.31E-05	2.36E-06	1.22E-04	6.61E-06	3.26E-05	2.17E-06	4.14E-05	1.63E+00	1.11E-03	3.32E-04
1.36E-05	7.06E-04	8.12E-05	2.06E-05	1.23E-05	9.31E-05	1.23E-05	1.32E-04	6.61E-06	3.26E-05	1.18E-05	5.10E-05	2.18E+00	6.31E-07	3.44E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.30E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.52E-05	1.40E-04	3.55E-03	0.00E+00	2.09E-06	9.31E-05	2.09E-06	1.22E-04	6.61E-06	3.26E-05	1.92E-06	4.11E-05	1.66E+00	1.06E-03	3.38E-04
1.06E-05	4.23E-04	6.75E-05	2.05E-05	9.85E-06	9.31E-05	9.85E-06	1.29E-04	6.61E-06	3.26E-05	9.43E-06	4.86E-05	2.16E+00	4.93E-07	3.41E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.30E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.59E-05	9.73E-05	3.19E-03	0.00E+00	2.36E-06	9.31E-05	2.36E-06	1.22E-04	6.61E-06	3.26E-05	2.17E-06	4.14E-05	1.63E+00	1.11E-03	3.32E-04
1.31E-05	6.92E-04	7.97E-05	1.87E-05	1.21E-05	9.31E-05	1.21E-05	1.32E-04	6.61E-06	3.26E-05	1.16E-05	5.08E-05	1.97E+00	6.09E-07	3.11E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	7.30E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.52E-05	1.37E-04	3.53E-03	0.00E+00	2.11E-06	9.31E-05	2.11E-06	1.22E-04	6.61E-06	3.26E-05	1.94E-06	4.12E-05	1.62E+00	1.07E-03	3.31E-04
1.02E-05	4.57E-04	6.00E-05	1.93E-05	1.05E-05	9.28E-05	1.05E-05	1.30E-04	6.61E-06	3.25E-05	1.01E-05	4.92E-05	2.04E+00	4.75E-07	3.22E-04
1.03E-05	4.61E-04	6.02E-05	1.94E-05	1.06E-05	9.28E-05	1.06E-05	1.30E-04	6.61E-06	3.25E-05	1.01E-05	4.92E-05	2.04E+00	4.77E-07	3.22E-04
1.02E-05	4.52E-04	5.98E-05	1.93E-05	1.05E-05	9.28E-05	1.05E-05	1.30E-04	6.61E-06	3.25E-05	1.00E-05	4.91E-05	2.04E+00	4.73E-07	3.21E-04
1.10E-05	4.78E-04	6.45E-05	1.74E-05	1.11E-05	9.28E-05	1.11E-05	1.30E-04	6.61E-06	3.25E-05	1.06E-05	4.97E-05	1.84E+00	5.10E-07	2.90E-04
1.30E-05	8.18E-04	6.92E-05	2.08E-05	1.19E-05	9.29E-05	1.19E-05	1.31E-04	6.61E-06	3.25E-05	1.14E-05	5.05E-05	2.20E+00	6.03E-07	3.47E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.55E-05	9.70E-05	3.02E-03	0.00E+00	2.30E-06	9.29E-05	2.30E-06	1.22E-04	6.61E-06	3.25E-05	2.12E-06	4.13E-05	1.61E+00	1.09E-03	3.29E-04
1.42E-05	8.39E-04	7.25E-05	2.10E-05	1.24E-05	9.29E-05	1.24E-05	1.32E-04	6.61E-06	3.25E-05	1.19E-05	5.10E-05	2.22E+00	6.60E-07	3.49E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.52E-05	1.22E-04	3.25E-03	0.00E+00	2.16E-06	9.29E-05	2.16E-06	1.22E-04	6.61E-06	3.25E-05	1.99E-06	4.11E-05	1.63E+00	1.06E-03	3.32E-04
1.21E-05	6.35E-04	6.65E-05	2.08E-05	1.14E-05	9.29E-05	1.14E-05	1.31E-04	6.61E-06	3.25E-05	1.09E-05	5.00E-05	2.20E+00	5.62E-07	3.47E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.55E-05	1.02E-04	3.06E-03	0.00E+00	2.28E-06	9.29E-05	2.28E-06	1.22E-04	6.61E-06	3.25E-05	2.10E-06	4.12E-05	1.62E+00	1.08E-03	3.30E-04
1.13E-05	5.65E-04	6.28E-05	2.06E-05	1.06E-05	9.29E-05	1.06E-05	1.30E-04	6.61E-06	3.25E-05	1.01E-05	4.92E-05	2.18E+00	5.23E-07	3.43E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.55E-05	9.97E-05	3.04E-03	0.00E+00	2.29E-06	9.29E-05	2.29E-06	1.22E-04	6.61E-06	3.25E-05	2.10E-06	4.12E-05	1.62E+00	1.09E-03	3.30E-04
8.32E-06	2.72E-04	5.06E-05	2.04E-05	8.57E-06	9.29E-05	8.57E-06	1.28E-04	6.61E-06	3.25E-05	8.20E-06	4.73E-05	2.16E+00	3.86E-07	3.40E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.56E-05	9.38E-05	2.99E-03	0.00E+00	2.32E-06	9.29E-05	2.32E-06	1.22E-04	6.61E-06	3.25E-05	2.14E-06	4.13E-05	1.61E+00	1.09E-03	3.28E-04
8.32E-06	2.66E-04	5.06E-05	2.04E-05	8.51E-06	9.29E-05	8.51E-06	1.28E-04	6.61E-06	3.25E-05	8.14E-06	4.73E-05	2.16E+00	3.86E-07	3.40E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.56E-05	9.38E-05	2.99E-03	0.00E+00	2.32E-06	9.29E-05	2.32E-06	1.22E-04	6.61E-06	3.25E-05	2.14E-06	4.13E-05	1.61E+00	1.09E-03	3.28E-04
8.23E-06	2.60E-04	5.01E-05	2.05E-05	8.46E-06	9.29E-05	8.46E-06	1.28E-04	6.61E-06	3.25E-05	8.10E-06	4.72E-05	2.16E+00	3.82E-07	3.40E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.29E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
1.56E-05	9.38E-05	2.99E-03	0.00E+00	2.32E-06	9.29E-05	2.32E-06	1.22E-04	6.61E-06	3.25E-05	2.14E-06	4.13E-05	1.61E+00	1.09E-03	3.28E-04
1.72E-05	1.41E-04	3.55E-04	3.04E-05	2.28E-06	9.31E-05	2.28E-06	1.22E-04	6.61E-06	3.26E-05	2.09E-06	4.13E-05	3.08E+00	4.56E-06	1.37E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-05	0.00E+00	7.30E-05	6.61E-06	1.63E-05	0.00E+00	2.29E-05	0.00E+00	0.00E+00	0.00E+00
2.38E-05	2.45E-03	7.59E-05	2.64E-05	6.37E-05	1.79E-04	6.37E-05	3.22E-04	1.98E-05	6.28E-05	6.09E-05	1.44E-04	2.79E+00	1.10E-06	4.39E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.98E-05	0.00E+00	1.69E-04	1.98E-05	3.14E-05	0.00E+00	5.13E-05	0.00E+00	0.00E+00	0.00E+00
2.83E-05	3.31E-04	5.96E-03	0.00E+00	4.11E-06	1.79E-04	4.11E-06	2.63E-04	1.98E-05	6.28E-05	3.78E-06	8.64E-05	2.22E+00	1.98E-03	4.52E-04
2.31E-05	2.71E-03	7.38E-05	2.53E-05	6.28E-05	1.79E-04	6.28E-05	3.22E-04	1.98E-05	6.28E-05	6.01E-05	1.43E-04	2.67E+00	1.07E-06	4.21E-04
2.39E-05	2.79E-03	7.61E-05	2.53E-05	6.65E-05	1.79E-04	6.65E-05	3.25E-04	1.98E-05	6.28E-05	6.36E-05	1.46E-04	2.67E+00	1.11E-06	4.20E-04
2.22E-05	2.46E-03	7.79E-05	2.85E-05	5.66E-05	1.79E-04	5.66E-05	3.15E-04	1.98E-05	6.26E-05	5.42E-05	1.37E-04	3.01E+00	1.03E-06	4.74E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.03E-05	0.00E+00	1.70E-04	1.98E-05	3.16E-05	0.00E+00	5.14E-05	0.00E+00	0.00E+00	0.00E+00
2.85E-05	3.36E-04	6.23E-03	0.00E+00	4.14E-06	1.80E-04	4.14E-06	2.63E-04	1.98E-05	6.29E-05	3.80E-06	8.65E-05	2.24E+00	1.99E-03	4.56E-04
4.61E-05	4.95E-03	1.71E-04	3.17E-05	4.98E-05	1.81E-04	4.98E-05	3.10E-04	1.98E-05	6.34E-05	4.77E-05	1.31E-04	3.35E+00	2.14E-06	5.28E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.02E-05	0.00E+00	1.70E-04	1.98E-05	3.16E-05	0.00E+00	5.14E-05	0.00E+00	0.00E+00	0.00E+00
2.84E-05	3.70E-04	6.84E-03	0.00E+00	4.05E-06	1.77E-04	4.05E-06	2.60E-04	1.98E-05	6.19E-05	3.73E-06	8.54E-05	2.32E+00	1.99E-03	4.73E-04

1.77E-05	1.51E-03	6.17E-05	2.98E-05	3.42E-05	1.81E-04	3.42E-05	2.95E-04	1.98E-05	6.34E-05	3.27E-05	1.16E-04	3.14E+00	8.21E-07	4.95E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-05	0.00E+00	1.70E-04	1.98E-05	3.18E-05	0.00E+00	5.16E-05	0.00E+00	0.00E+00	0.00E+00
2.87E-05	3.33E-04	6.30E-03	0.00E+00	4.19E-06	1.81E-04	4.19E-06	2.65E-04	1.98E-05	6.34E-05	3.85E-06	8.71E-05	2.30E+00	2.01E-03	4.69E-04
2.12E-05	2.09E-03	8.30E-05	3.06E-05	4.36E-05	1.78E-04	4.36E-05	3.01E-04	1.98E-05	6.22E-05	4.17E-05	1.24E-04	3.23E+00	9.87E-07	5.09E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-05	0.00E+00	1.70E-04	1.98E-05	3.17E-05	0.00E+00	5.16E-05	0.00E+00	0.00E+00	0.00E+00
2.86E-05	3.88E-04	7.28E-03	0.00E+00	4.06E-06	1.78E-04	4.06E-06	2.61E-04	1.98E-05	6.22E-05	3.73E-06	8.57E-05	2.35E+00	2.00E-03	4.80E-04
2.02E-05	1.93E-03	7.53E-05	3.03E-05	4.15E-05	1.78E-04	4.15E-05	2.99E-04	1.98E-05	6.24E-05	3.97E-05	1.22E-04	3.20E+00	9.37E-07	5.05E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-05	0.00E+00	1.70E-04	1.98E-05	3.18E-05	0.00E+00	5.16E-05	0.00E+00	0.00E+00	0.00E+00
2.87E-05	3.63E-04	6.85E-03	0.00E+00	4.11E-06	1.78E-04	4.11E-06	2.62E-04	1.98E-05	6.24E-05	3.78E-06	8.60E-05	2.33E+00	2.01E-03	4.75E-04
6.90E-06	2.19E-02	2.56E-05	7.55E-05	3.62E-05	4.63E-04	3.62E-05	5.79E-04	1.98E-05	1.62E-04	3.47E-05	2.17E-04	7.98E+00	3.20E-07	1.26E-03
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E-04	0.00E+00	3.11E-04	1.98E-05	8.10E-05	0.00E+00	1.01E-04	0.00E+00	0.00E+00	0.00E+00
1.79E-05	5.20E-04	1.15E-02	0.00E+00	2.55E-06	4.63E-04	2.55E-06	5.45E-04	1.98E-05	1.62E-04	2.34E-06	1.84E-04	2.00E+00	4.45E-04	4.09E-04
2.21E-05	2.38E-03	7.22E-05	2.66E-05	5.53E-05	1.78E-04	5.53E-05	3.13E-04	1.98E-05	6.24E-05	5.29E-05	1.35E-04	2.80E+00	1.03E-06	4.42E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.99E-05	0.00E+00	1.69E-04	1.98E-05	3.15E-05	0.00E+00	5.13E-05	0.00E+00	0.00E+00	0.00E+00
2.83E-05	3.41E-04	6.18E-03	0.00E+00	4.10E-06	1.78E-04	4.10E-06	2.61E-04	1.98E-05	6.23E-05	3.77E-06	8.59E-05	2.24E+00	1.98E-03	4.56E-04
1.88E-05	1.61E-03	7.47E-05	3.09E-05	3.28E-05	1.75E-04	3.28E-05	2.88E-04	1.98E-05	6.14E-05	3.14E-05	1.13E-04	3.26E+00	8.71E-07	5.13E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.02E-05	0.00E+00	1.70E-04	1.98E-05	3.16E-05	0.00E+00	5.14E-05	0.00E+00	0.00E+00	0.00E+00
6.59E-04	4.42E-03	5.50E-02	3.57E-05	2.26E-06	1.82E-04	2.26E-06	2.28E-04	1.10E-05	6.36E-05	2.08E-06	7.67E-05	3.61E+00	1.50E-04	2.09E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.12E-05	0.00E+00	1.35E-04	1.10E-05	3.19E-05	0.00E+00	4.30E-05	0.00E+00	0.00E+00	0.00E+00
2.53E-06	4.01E-05	1.21E-03	1.16E-05	2.47E-06	2.01E-04	2.47E-06	2.21E-04	4.41E-06	7.02E-05	2.27E-06	7.69E-05	1.18E+00	1.04E-06	7.13E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-04	0.00E+00	1.79E-04	1.45E-05	4.24E-05	0.00E+00	5.69E-05	0.00E+00	0.00E+00	0.00E+00

MTens/Mile														
ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM 2.5 Total	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX
1.97E-08	6.45E-07	8.67E-08	8.85E-09	1.20E-08	4.21E-08	1.41E-08	6.83E-08	3.00E-09	1.47E-08	1.35E-08	3.13E-08	9.34E-04	9.17E-10	1.47E-07
6.94E-09	6.02E-08	1.56E-06	0.00E+00	1.20E-08	4.21E-08	9.51E-10	5.51E-08	3.00E-09	1.47E-08	8.74E-10	1.86E-08	6.85E-04	4.85E-07	1.40E-07
2.87E-09	1.91E-08	4.91E-07	2.25E-09	8.00E-09	6.98E-09	4.97E-10	1.55E-08	2.00E-09	2.44E-09	4.57E-10	4.90E-09	2.28E-04	1.00E-09	3.17E-09
4.71E-09	2.09E-08	1.34E-07	1.75E-09	8.00E-09	7.01E-09	1.39E-09	1.64E-08	2.00E-09	2.46E-09	1.33E-09	5.78E-09	1.85E-04	2.19E-10	2.91E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.39E-09	0.00E+00	1.24E-08	2.00E-09	1.54E-09	0.00E+00	3.54E-09	0.00E+00	0.00E+00	0.00E+00
1.10E-09	2.47E-09	1.83E-07	1.11E-09	8.00E-09	3.93E-09	2.04E-10	1.21E-08	2.00E-09	1.38E-09	1.87E-10	3.56E-09	1.13E-04	3.39E-10	4.30E-10
3.31E-09	2.17E-08	5.32E-07	2.61E-09	8.00E-09	8.27E-09	5.58E-10	1.68E-08	2.00E-09	2.89E-09	5.13E-10	5.41E-09	2.64E-04	1.12E-09	3.39E-09
1.15E-08	2.61E-08	1.21E-07	3.22E-09	8.00E-09	8.18E-09	4.01E-09	2.02E-08	2.00E-09	2.86E-09	3.84E-09	8.70E-09	3.39E-04	5.35E-10	5.35E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.39E-09	0.00E+00	1.24E-08	2.00E-09	1.54E-09	0.00E+00	3.54E-09	0.00E+00	0.00E+00	0.00E+00
1.09E-09	2.46E-09	1.82E-07	1.11E-09	8.00E-09	3.93E-09	1.95E-10	1.21E-08	2.00E-09	1.38E-09	1.79E-10	3.56E-09	1.12E-04	3.38E-10	4.29E-10
3.99E-09	2.23E-08	5.75E-07	2.70E-09	8.00E-09	8.16E-09	5.12E-10	1.67E-08	2.00E-09	2.86E-09	4.71E-10	5.33E-09	2.73E-04	1.33E-09	3.42E-09
1.15E-08	2.67E-08	1.20E-07	2.38E-09	8.00E-09	8.15E-09	3.99E-09	2.01E-08	2.00E-09	2.85E-09	3.82E-09	8.67E-09	2.52E-04	5.35E-10	3.96E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.39E-09	0.00E+00	1.24E-08	2.00E-09	1.54E-09	0.00E+00	3.54E-09	0.00E+00	0.00E+00	0.00E+00
1.09E-09	2.47E-09	1.83E-07	1.11E-09	8.00E-09	3.93E-09	1.99E-10	1.21E-08	2.00E-09	1.38E-09	1.83E-10	3.56E-09	1.12E-04	3.38E-10	4.28E-10
1.63E-09	2.09E-08	5.84E-07	4.82E-09	8.00E-09	7.80E-08	1.11E-09	8.71E-08	2.00E-09	2.73E-08	1.02E-09	3.03E-08	4.88E-04	4.86E-10	1.90E-09
4.20E-08	2.64E-07	8.64E-08	4.37E-09	1.20E-08	7.80E-08	1.22E-08	1.02E-07	3.00E-09	2.73E-08	1.16E-08	4.19E-08	4.61E-04	1.95E-09	7.26E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	3.90E-08	0.00E+00	4.70E-08	2.00E-09	1.37E-08	0.00E+00	1.57E-08	0.00E+00	0.00E+00	0.00E+00
1.43E-09	2.51E-08	5.95E-07	5.42E-09	8.00E-09	9.10E-08	1.10E-09	1.00E-07	2.00E-09	3.19E-08	1.01E-09	3.49E-08	5.48E-04	4.38E-10	2.51E-09
5.64E-08	4.41E-07	1.24E-07	5.12E-09	1.20E-08	9.10E-08	1.64E-08	1.19E-07	3.00E-09	3.19E-08	1.56E-08	5.05E-08	5.40E-04	2.62E-09	8.51E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.55E-08	0.00E+00	5.35E-08	2.00E-09	1.59E-08	0.00E+00	1.79E-08	0.00E+00	0.00E+00	0.00E+00
7.70E-07	4.54E-07	9.51E-06	1.82E-09	4.00E-09	1.20E-08	2.11E-09	1.81E-08	1.00E-09	4.20E-09	1.96E-09	7.16E-09	1.84E-04	1.30E-07	3.45E-08
4.66E-09	2.66E-08	6.14E-07	3.28E-09	8.00E-09	8.33E-09	5.33E-10	1.69E-08	2.00E-09	2.92E-09	4.90E-10	5.41E-09	3.31E-04	1.48E-09	3.68E-09
4.75E-09	1.92E-08	1.40E-07	3.15E-09	8.00E-09	8.36E-09	1.30E-09	1.77E-08	2.00E-09	2.93E-09	1.25E-09	6.17E-09	3.32E-04	2.21E-10	5.23E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-09	4.40E-09	0.00E+00	1.24E-08	2.00E-09	1.54E-09	0.00E+00	3.54E-09	0.00E+00	0.00E+00	0.00E+00
1.09E-09	2.47E-09	1.83E-07	1.11E-09	8.00E-09	3.94E-09	2.04E-10	1.21E-08	2.00E-09	1.38E-09	1.87E-10	3.57E-09	1.12E-04	3.37E-10	4.25E-10
8.04E-09	1.76E-07	1.40E-07	1.74E-08	1.20E-08	4.22E-08	1.00E-09	5.52E-08	3.00E-09	1.48E-08	9.21E-10	1.87E-08	1.76E-03	2.95E-09	1.68E-08
3.46E-08	1.94E-06	1.28E-07	9.35E-09	1.60E-08	4.21E-08	4.19E-08	1.00E-07	4.00E-09	1.48E-08	4.00E-08	5.88E-08	9.87E-04	1.60E-09	1.56E-07
9.09E-09	8.14E-07	4.22E-08	1.41E-08	1.20E-08	8.53E-08	1.83E-08	1.16E-07	3.00E-09	2.99E-08	1.75E-08	5.04E-08	1.49E-03	4.22E-10	2.34E-07
1.44E-08	2.23E-07	3.42E-07	1.40E-08	1.20E-08	4.21E-08	9.17E-10	5.50E-08	3.00E-09	1.47E-08	8.43E-10	1.86E-08	1.42E-03	3.26E-09	1.38E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.37E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
1.43E-08	2.43E-06	1.77E-07	1.65E-08	0.00E+00	0.00E+00	3.89E-09	3.89E-09	0.00E+00	0.00E+00	3.72E-09	3.72E-09	1.74E-03	6.63E-10	2.74E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.11E-08	1.68E-07	2.14E-07	8.22E-09	8.00E-09	4.68E-08	1.59E-09	5.64E-08	2.00E-09	1.64E-08	1.46E-09	1.99E-08	8.32E-04	2.53E-09	1.45E-08
1.31E-08	5.26E-07	7.39E-08	1.07E-08	1.20E-08	4.68E-08	3.85E-09	6.27E-08	3.00E-09	1.64E-08	3.68E-09	2.31E-08	1.13E-03	6.08E-10	1.77E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-08	2.34E-08	0.00E+00	3.46E-08	2.79E-09	8.20E-09	0.00E+00	1.10E-08	0.00E+00	0.00E+00	0.00E+00
4.92E-08	3.34E-07	1.01E-05	0.00E+00	1.20E-08	4.68E-08	4.48E-09	6.33E-08	3.00E-09	1.64E-08	4.12E-09	2.35E-08	1.48E-03	3.44E-06	3.01E-07
4.74E-09	1.66E-07	2.78E-08	9.35E-09	1.20E-08	4.21E-08	4.63E-09	5.87E-08	3.00E-09	1.47E-08	4.43E-09	2.22E-08	9.88E-04	2.20E-10	1.56E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.10E-08	0.00E+00	3.30E-08	3.00E-09	7.36E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
4.75E-09	1.67E-07	2.79E-08	9.36E-09	1.20E-08	4.21E-08	4.64E-09	5.87E-08	3.00E-09	1.47E-08	4.44E-09	2.22E-08	9.88E-04	2.21E-10	1.56E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.10E-08	0.00E+00	3.30E-08	3.00E-09	7.36E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
4.73E-09	1.67E-07	2.78E-08	9.35E-09	1.20E-08	4.21E-08	4.65E-09	5.87E-08	3.00E-09	1.47E-08	4.45E-09	2.22E-08	9.87E-04	2.20E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.10E-08	0.00E+00	3.30E-08	3.00E-09	7.36E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
5.10E-09	1.82E-07	2.99E-08	8.26E-09	1.20E-08	4.21E-08	4.92E-09	5.90E-08	3.00E-09	1.47E-08	4.71E-09	2.24E-08	8.72E-04	2.37E-10	1.37E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.10E-08	0.00E+00	3.30E-08	3.00E-09	7.36E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
6.97E-09	4.31E-08	1.31E-06	0.00E+00	1.20E-08	4.21E-08	1.03E-09	5.51E-08	3.00E-09	1.47E-08	9.50E-10	1.87E-08	7.05E-04	4.88E-07	1.44E-07
4.85E-09	1.91E-07	3.14E-08	9.32E-09	1.20E-08	4.23E-08	4.42E-09	5.87E-08	3.00E-09	1.48E-08	4.23E-09	2.20E-08	9.84E-04	2.25E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.40E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.24E-09	4.47E-08	1.47E-06	0.00E+00	1.20E-08	4.23E-08	1.07E-09	5.53E-08	3.00E-09	1.48E-08	9.86E-10	1.88E-08	7.42E-04	5.07E-07	1.51E-07
4.84E-09	1.87E-07	3.13E-08	9.33E-09	1.20E-08	4.23E-08	4.41E-09	5.87E-08	3.00E-09	1.48E-08	4.22E-09	2.20E-08	9.85E-04	2.25E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.40E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.24E-09	4.45E-08	1.47E-06	0.00E+00	1.20E-08	4.23E-08	1.07E-09	5.53E-08	3.00E-09	1.48E-08	9.87E-10	1.88E-08	7.41E-04	5.07E-07	1.51E-07
4.85E-09	1.94E-07	3.15E-08	9.31E-09	1.20E-08	4.23E-08	4.45E-09	5.87E-08	3.00E-09	1.48E-08	4.25E-09	2.20E-08	9.83E-04	2.25E-10	1.55E-07

0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.40E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.24E-09	4.48E-08	1.47E-06	0.00E+00	1.20E-08	4.23E-08	1.07E-09	5.53E-08	3.00E-09	1.48E-08	9.85E-10	1.88E-08	7.42E-04	5.07E-07	1.51E-07
6.76E-09	3.95E-07	3.99E-08	9.42E-09	1.20E-08	4.23E-08	6.06E-09	6.03E-08	3.00E-09	1.48E-08	5.80E-09	2.36E-08	9.94E-04	3.14E-10	1.57E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.40E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
6.77E-09	7.27E-08	1.71E-06	0.00E+00	1.20E-08	4.23E-08	8.98E-10	5.52E-08	3.00E-09	1.48E-08	8.25E-10	1.86E-08	7.60E-04	4.74E-07	1.55E-07
4.84E-09	1.86E-07	3.09E-08	9.31E-09	1.20E-08	4.23E-08	4.46E-09	5.87E-08	3.00E-09	1.48E-08	4.27E-09	2.21E-08	9.83E-04	2.25E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.39E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.21E-09	4.42E-08	1.45E-06	0.00E+00	1.20E-08	4.23E-08	1.07E-09	5.53E-08	3.00E-09	1.48E-08	9.83E-10	1.88E-08	7.39E-04	5.04E-07	1.51E-07
4.85E-09	1.83E-07	3.09E-08	9.32E-09	1.20E-08	4.23E-08	4.45E-09	5.87E-08	3.00E-09	1.48E-08	4.26E-09	2.20E-08	9.84E-04	2.25E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.39E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.21E-09	4.40E-08	1.44E-06	0.00E+00	1.20E-08	4.23E-08	1.07E-09	5.53E-08	3.00E-09	1.48E-08	9.84E-10	1.88E-08	7.38E-04	5.05E-07	1.50E-07
4.85E-09	1.88E-07	3.10E-08	9.31E-09	1.20E-08	4.23E-08	4.48E-09	5.87E-08	3.00E-09	1.48E-08	4.29E-09	2.21E-08	9.83E-04	2.25E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.39E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.21E-09	4.42E-08	1.45E-06	0.00E+00	1.20E-08	4.23E-08	1.07E-09	5.53E-08	3.00E-09	1.48E-08	9.83E-10	1.88E-08	7.39E-04	5.04E-07	1.51E-07
6.16E-09	3.20E-07	3.68E-08	9.37E-09	1.20E-08	4.23E-08	5.60E-09	5.99E-08	3.00E-09	1.48E-08	5.36E-09	2.31E-08	9.89E-04	2.86E-10	1.56E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.39E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
6.88E-09	6.34E-08	1.61E-06	0.00E+00	1.20E-08	4.23E-08	9.49E-10	5.52E-08	3.00E-09	1.48E-08	8.73E-10	1.87E-08	7.53E-04	4.82E-07	1.54E-07
4.82E-09	1.92E-07	3.06E-08	9.29E-09	1.20E-08	4.23E-08	4.47E-09	5.87E-08	3.00E-09	1.48E-08	4.28E-09	2.21E-08	9.81E-04	2.24E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.39E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.21E-09	4.42E-08	1.45E-06	0.00E+00	1.20E-08	4.23E-08	1.07E-09	5.53E-08	3.00E-09	1.48E-08	9.83E-10	1.88E-08	7.39E-04	5.04E-07	1.51E-07
5.95E-09	3.14E-07	3.62E-08	8.48E-09	1.20E-08	4.23E-08	5.49E-09	5.97E-08	3.00E-09	1.48E-08	5.25E-09	2.30E-08	8.96E-04	2.76E-10	1.41E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.39E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
6.90E-09	6.22E-08	1.60E-06	0.00E+00	1.20E-08	4.23E-08	9.57E-10	5.52E-08	3.00E-09	1.48E-08	8.80E-10	1.87E-08	7.36E-04	4.83E-07	1.50E-07
4.64E-09	2.07E-07	2.72E-08	8.78E-09	1.20E-08	4.21E-08	4.78E-09	5.89E-08	3.00E-09	1.47E-08	4.57E-09	2.23E-08	9.27E-04	2.16E-10	1.46E-07
4.66E-09	2.09E-07	2.73E-08	8.78E-09	1.20E-08	4.21E-08	4.80E-09	5.89E-08	3.00E-09	1.47E-08	4.59E-09	2.23E-08	9.27E-04	2.16E-10	1.46E-07
4.62E-09	2.05E-07	2.71E-08	8.76E-09	1.20E-08	4.21E-08	4.76E-09	5.88E-08	3.00E-09	1.47E-08	4.56E-09	2.23E-08	9.25E-04	2.15E-10	1.46E-07
4.98E-09	2.17E-07	2.93E-08	7.90E-09	1.20E-08	4.21E-08	5.05E-09	5.91E-08	3.00E-09	1.47E-08	4.83E-09	2.26E-08	8.34E-04	2.32E-10	1.31E-07
5.88E-09	3.71E-07	3.14E-08	9.46E-09	1.20E-08	4.21E-08	5.40E-09	5.95E-08	3.00E-09	1.48E-08	5.16E-09	2.29E-08	9.99E-04	2.73E-10	1.57E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.38E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.05E-09	4.40E-08	1.37E-06	0.00E+00	1.20E-08	4.21E-08	1.04E-09	5.52E-08	3.00E-09	1.48E-08	9.60E-10	1.87E-08	7.32E-04	4.94E-07	1.49E-07
6.45E-09	3.80E-07	3.29E-08	9.52E-09	1.20E-08	4.21E-08	5.63E-09	5.98E-08	3.00E-09	1.48E-08	5.39E-09	2.31E-08	1.01E-03	3.00E-10	1.58E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.38E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
6.88E-09	5.55E-08	1.47E-06	0.00E+00	1.20E-08	4.21E-08	9.81E-10	5.51E-08	3.00E-09	1.48E-08	9.02E-10	1.87E-08	7.38E-04	4.81E-07	1.50E-07
5.49E-09	2.88E-07	3.01E-08	9.46E-09	1.20E-08	4.21E-08	5.15E-09	5.93E-08	3.00E-09	1.48E-08	4.93E-09	2.27E-08	9.99E-04	2.55E-10	1.57E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.38E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.02E-09	4.61E-08	1.39E-06	0.00E+00	1.20E-08	4.21E-08	1.03E-09	5.52E-08	3.00E-09	1.48E-08	9.51E-10	1.87E-08	7.34E-04	4.92E-07	1.50E-07
5.10E-09	2.56E-07	2.85E-08	9.35E-09	1.20E-08	4.21E-08	4.79E-09	5.89E-08	3.00E-09	1.48E-08	4.59E-09	2.23E-08	9.87E-04	2.37E-10	1.55E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.38E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.04E-09	4.52E-08	1.38E-06	0.00E+00	1.20E-08	4.21E-08	1.04E-09	5.52E-08	3.00E-09	1.48E-08	9.55E-10	1.87E-08	7.34E-04	4.92E-07	1.50E-07
3.77E-09	1.24E-07	2.30E-08	9.27E-09	1.20E-08	4.21E-08	3.89E-09	5.80E-08	3.00E-09	1.48E-08	3.72E-09	2.15E-08	9.79E-04	1.75E-10	1.54E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.38E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.08E-09	4.26E-08	1.36E-06	0.00E+00	1.20E-08	4.21E-08	1.05E-09	5.52E-08	3.00E-09	1.48E-08	9.69E-10	1.87E-08	7.29E-04	4.95E-07	1.49E-07
3.77E-09	1.21E-07	2.30E-08	9.27E-09	1.20E-08	4.21E-08	3.86E-09	5.80E-08	3.00E-09	1.48E-08	3.69E-09	2.14E-08	9.79E-04	1.75E-10	1.54E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.38E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.08E-09	4.26E-08	1.36E-06	0.00E+00	1.20E-08	4.21E-08	1.05E-09	5.52E-08	3.00E-09	1.48E-08	9.69E-10	1.87E-08	7.29E-04	4.95E-07	1.49E-07
3.74E-09	1.18E-07	2.27E-08	9.28E-09	1.20E-08	4.21E-08	3.84E-09	5.80E-08	3.00E-09	1.48E-08	3.67E-09	2.14E-08	9.80E-04	1.73E-10	1.54E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.38E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
7.08E-09	4.26E-08	1.36E-06	0.00E+00	1.20E-08	4.21E-08	1.05E-09	5.52E-08	3.00E-09	1.48E-08	9.69E-10	1.87E-08	7.29E-04	4.95E-07	1.49E-07
7.82E-09	6.38E-08	1.61E-07	1.38E-08	1.20E-08	4.22E-08	1.03E-09	5.52E-08	3.00E-09	1.48E-08	9.50E-10	1.87E-08	1.40E-03	2.07E-09	6.20E-09
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-08	2.11E-08	0.00E+00	3.31E-08	3.00E-09	7.39E-09	0.00E+00	1.04E-08	0.00E+00	0.00E+00	0.00E+00
1.08E-08	1.11E-06	3.44E-08	1.20E-08	3.60E-08	8.14E-08	2.89E-08	1.46E-07	9.00E-09	2.85E-08	2.76E-08	6.51E-08	1.27E-03	5.01E-10	1.99E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.07E-08	0.00E+00	7.67E-08	9.00E-09	1.43E-08	0.00E+00	2.33E-08	0.00E+00	0.00E+00	0.00E+00
1.28E-08	1.50E-07	2.70E-06	0.00E+00	3.60E-08	8.14E-08	1.87E-09	1.19E-07	9.00E-09	2.85E-08	1.72E-09	3.92E-08	1.01E-03	8.97E-07	2.05E-07
1.05E-08	1.23E-06	3.35E-08	1.15E-08	3.60E-08	8.14E-08	2.85E-08	1.46E-07	9.00E-09	2.85E-08	2.73E-08	6.47E-08	1.21E-03	4.87E-10	1.91E-07
1.08E-08	1.26E-06	3.45E-08	1.15E-08	3.60E-08	8.14E-08	3.02E-08	1.48E-07	9.00E-09	2.85E-08	2.89E-08	6.63E-08	1.21E-03	5.02E-10	1.91E-07
1.01E-08	1.11E-06	3.53E-08	1.29E-08	3.60E-08	8.11E-08	2.57E-08	1.43E-07	9.00E-09	2.84E-08	2.46E-08	6.20E-08	1.36E-03	4.67E-10	2.15E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.10E-08	0.00E+00	7.70E-08	9.00E-09	1.43E-08	0.00E+00	2.33E-08	0.00E+00	0.00E+00	0.00E+00
1.29E-08	1.52E-07	2.83E-06	0.00E+00	3.60E-08	8.15E-08	1.88E-09	1.19E-07	9.00E-09	2.85E-08	1.73E-09	3.92E-08	1.01E-03	9.04E-07	2.07E-07
2.09E-08	2.25E-06	7.77E-08	1.44E-08	3.60E-08	8.21E-08	2.26E-08	1.41E-07	9.00E-09	2.87E-08	2.16E-08	5.94E-08	1.52E-03	9.72E-10	2.40E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.09E-08	0.00E+00	7.69E-08	9.00E-09	1.43E-08	0.00E+00	2.33E-08	0.00E+00	0.00E+00	0.00E+00
1.29E-08	1.68E-07	3.10E-06	0.00E+00	3.60E-08	8.02E-08	1.84E-09	1.18E-07	9.00E-09	2.81E-08	1.69E-09	3.88E-08	1.05E-03	9.01E-07	2.15E-07

8.02E-09	6.83E-07	2.80E-08	1.35E-08	3.60E-08	8.22E-08	1.55E-08	1.34E-07	9.00E-09	2.88E-08	1.48E-08	5.26E-08	1.43E-03	3.72E-10	2.25E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.12E-08	0.00E+00	7.72E-08	9.00E-09	1.44E-08	0.00E+00	2.34E-08	0.00E+00	0.00E+00	0.00E+00
1.30E-08	1.51E-07	2.86E-06	0.00E+00	3.60E-08	8.22E-08	1.90E-09	1.20E-07	9.00E-09	2.88E-08	1.75E-09	3.95E-08	1.04E-03	9.12E-07	2.13E-07
9.64E-09	9.49E-07	3.76E-08	1.39E-08	3.60E-08	8.06E-08	1.98E-08	1.36E-07	9.00E-09	2.82E-08	1.89E-08	5.62E-08	1.47E-03	4.48E-10	2.31E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.11E-08	0.00E+00	7.71E-08	9.00E-09	1.44E-08	0.00E+00	2.34E-08	0.00E+00	0.00E+00	0.00E+00
1.30E-08	1.76E-07	3.30E-06	0.00E+00	3.60E-08	8.05E-08	1.84E-09	1.18E-07	9.00E-09	2.82E-08	1.69E-09	3.89E-08	1.07E-03	9.08E-07	2.18E-07
9.15E-09	8.74E-07	3.42E-08	1.38E-08	3.60E-08	8.09E-08	1.88E-08	1.36E-07	9.00E-09	2.83E-08	1.80E-08	5.53E-08	1.45E-03	4.25E-10	2.29E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.11E-08	0.00E+00	7.71E-08	9.00E-09	1.44E-08	0.00E+00	2.34E-08	0.00E+00	0.00E+00	0.00E+00
1.30E-08	1.65E-07	3.11E-06	0.00E+00	3.60E-08	8.08E-08	1.87E-09	1.19E-07	9.00E-09	2.83E-08	1.72E-09	3.90E-08	1.06E-03	9.10E-07	2.16E-07
3.13E-09	9.95E-06	1.16E-08	3.43E-08	3.60E-08	2.10E-07	1.64E-08	2.62E-07	9.00E-09	7.35E-08	1.57E-08	9.82E-08	3.62E-03	1.45E-10	5.70E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	1.05E-07	0.00E+00	1.41E-07	9.00E-09	3.68E-08	0.00E+00	4.58E-08	0.00E+00	0.00E+00	0.00E+00
8.13E-09	2.36E-07	5.22E-06	0.00E+00	3.60E-08	2.10E-07	1.16E-09	2.47E-07	9.00E-09	7.35E-08	1.06E-09	8.36E-08	9.09E-04	2.02E-07	1.85E-07
1.00E-08	1.08E-06	3.27E-08	1.20E-08	3.60E-08	8.08E-08	2.51E-08	1.42E-07	9.00E-09	2.83E-08	2.40E-08	6.13E-08	1.27E-03	4.66E-10	2.00E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.08E-08	0.00E+00	7.68E-08	9.00E-09	1.43E-08	0.00E+00	2.33E-08	0.00E+00	0.00E+00	0.00E+00
1.28E-08	1.55E-07	2.80E-06	0.00E+00	3.60E-08	8.07E-08	1.86E-09	1.19E-07	9.00E-09	2.82E-08	1.71E-09	3.90E-08	1.02E-03	8.98E-07	2.07E-07
8.51E-09	7.31E-07	3.39E-08	1.40E-08	3.60E-08	7.96E-08	1.49E-08	1.30E-07	9.00E-09	2.79E-08	1.42E-08	5.11E-08	1.48E-03	3.95E-10	2.33E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-08	4.09E-08	0.00E+00	7.69E-08	9.00E-09	1.43E-08	0.00E+00	2.33E-08	0.00E+00	0.00E+00	0.00E+00
2.99E-07	2.01E-06	2.50E-05	1.62E-08	2.00E-08	8.24E-08	1.03E-09	1.03E-07	5.00E-09	2.88E-08	9.43E-10	3.48E-08	1.64E-03	6.80E-08	9.49E-08
0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-08	4.14E-08	0.00E+00	6.14E-08	5.00E-09	1.45E-08	0.00E+00	1.95E-08	0.00E+00	0.00E+00	0.00E+00
1.15E-09	1.82E-08	5.48E-07	5.28E-09	8.00E-09	9.10E-08	1.12E-09	1.00E-07	2.00E-09	3.19E-08	1.03E-09	3.49E-08	5.34E-04	4.70E-10	3.24E-09
0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-08	5.50E-08	0.00E+00	8.13E-08	6.57E-09	1.93E-08	0.00E+00	2.58E-08	0.00E+00	0.00E+00	0.00E+00

Operation-Related Annual Vehicle Fuel/Energy Usage Summary

Existing - Baseline Year 2019

Year	VMT Scenario											
	VMT	Gas		VMT	Diesel		VMT	CNG		VMT	Electricity	
		Gallons	Miles/Gal		Gallons	Miles/Gal		Gallons	Miles/Gal		kWh	Miles/kWh
Existing Baseline	284,999,873	12,421,204	22.94	25,473,771	3,074,054	8.29	676,576	116,984	5.78	2,572,479	874,658	2.94

Existing - Year 2045

Year	VMT Scenario											
	VMT	Gas		VMT	Diesel		VMT	CNG		VMT	Electricity	
		Gallons	Miles/Gal		Gallons	Miles/Gal		Gallons	Miles/Gal		kWh	Miles/kWh
Existing Year 2045	254,915,559	7,993,867	31.89	22,372,357	2,593,587	8.63	504,183	58,283	8.65	35,930,601	9,315,923	3.86

Proposed Project (GP 2045)

Year	VMT Scenario											
	VMT	Gas		VMT	Diesel		VMT	CNG		VMT	Electricity	
		Gallons	Miles/Gal		Gallons	Miles/Gal		Gallons	Miles/Gal		kWh	Miles/kWh
Proposed Project	409,356,200	12,836,953	31.89	35,926,654	4,164,912	8.63	809,643	93,595	8.65	57,699,162	14,959,976	3.86

Net Change

Year	VMT Scenario											
	VMT	Gas		VMT	Diesel		VMT	CNG		VMT	Electricity	
		Gallons	Miles/Gal		Gallons	Miles/Gal		Gallons	Miles/Gal		kWh	Miles/kWh
From Existing Baseline	124,356,326	415,749	8.94	10,452,883	1,090,858	0.34	133,066	-23,390	2.87	55,126,683	14,085,318	0.92
From Existing 2045	154,440,641	4,843,086	0.00	13,554,297	1,571,325	0.00	305,460	35,311	0.00	21,768,561	5,644,054	0.00

Notes

* VMT with RTAC based on VMT data provided by Chen Ryan Transportation.

** Fuel consumption rates based on data obtained from EMFAC2021 Web Database, Version 1.0.2. <https://arb.ca.gov/emfac/emissions-inventory/517d3e0c599c7b26ab4e9feca9c2424afa4526d9>

***VMT per year based on a conversion of VMT x 347 days per year to account for less travel on weekend, consistent with CARB statewide GHG emissions inventory methodology. California Air Resources Board. 2008, October. Climate Change Proposed Scoping Plan: A Framework for Change.

Existing Baseline Year 2019: VMT

Vehicle type	Fleet percent	VMT
LDA	51.24%	160,738,647
LDT1	4.08%	12,796,782
LDT2	18.14%	56,924,910
MDV	16.11%	50,529,803
LHD1	3.10%	9,722,985
LHD2	0.88%	2,745,914
MHD	1.39%	4,356,300
HHD	4.09%	12,843,538
OBUS	0.04%	126,474
UBUS	0.12%	377,195
MCY	0.38%	1,190,194
SBUS	0.09%	284,833
MH	0.19%	601,919
All Other Buses	0.03%	88,183
Motor Coach	0.01%	39,238
PTO	0.11%	355,786
	100%	313,722,700

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent
LDA	98.12%	0.37%	0.00%	1.52%
LDT1	99.93%	0.04%	0.00%	0.03%
LDT2	99.64%	0.28%	0.00%	0.08%
MDV	98.13%	1.70%	0.00%	0.17%
LHD1	52.50%	47.50%	0.00%	0.00%
LHD2	26.35%	73.65%	0.00%	0.00%
MHD	9.07%	90.25%	0.68%	0.00%
HHD	0.04%	97.45%	2.50%	0.00%
OBUS	49.81%	46.19%	3.99%	0.00%
UBUS	37.30%	0.06%	62.63%	0.01%
MCY	100.00%	0.00%	0.00%	0.00%
SBUS	42.87%	31.25%	25.88%	0.00%
MH	74.48%	25.52%	0.00%	0.00%
All Other Buses	0.00%	88.50%	11.50%	0.00%
Motor Coach	0.00%	100.00%	0.00%	0.00%
PTO	0.00%	100.00%	0.00%	0.00%

<< Equal to T6 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

<< Equal to T7 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

<< OBUS (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

Vehicle type	Gasoline			Diesel			CNG			Electricity		
	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	mpg	Gallons	VMT	m/kWh	kWh
LDA	157,711,170	27.60	5,714,697	589,677	41.88	14,079	0	0	0	2,437,801	2.93	833,331
LDT1	12,788,279	22.87	559,225	4,835	24.49	197	0	0	0	3,667	2.60	1,412
LDT2	56,722,317	21.66	2,618,414	158,132	30.18	5,240	0	0	0	44,461	3.25	13,690
MDV	49,585,097	17.83	2,780,668	858,179	22.56	38,036	0	0	0	86,528	3.30	26,225
LHD1	5,104,867	11.94	427,591	4,618,118	20.29	227,558	0	0	0	0	0.00	0
LHD2	723,600	11.06	65,447	2,022,314	16.71	121,013	0	0	0	0	0.00	0
MHD	394,930	4.88	80,850	3,931,643	8.88	442,962	29,727	0	0	0	0.00	0
HHD	5,300	3.49	1,517	12,516,536	5.96	2,099,522	321,701	5.75	55,923	0	0.00	0
OBUS	63,001	4.91	12,843	58,422	8.16	7,158	5,051	0	0	0	0.00	0
UBUS	140,702	5.63	24,981	232	11.26	21	236,239	3.94	60,023	23	0.49	0
MCY	1,190,194	41.28	28,833	0	0.00	0	0	0	0	0	0.00	0
SBUS	122,096	8.59	14,222	89,017	7.28	12,223	73,720	0	0	0	0.00	0
MH	448,321	4.88	91,916	153,599	10.38	14,801	0	0	0	0	0.00	0
All Other Buses	0	0	0	78,044	9.43	8,275	10,139	10	1,038	0	0.00	0
Motor Coach	0	0	0	39,238	5.64	6,959	0	0	0	0	0.00	0
PTO	0	0	0	355,786	4.68	76,009	0	0	0	0	0.00	0
	284,999,873		12,421,204	25,473,771		3,074,054	676,576		116,984	2,572,479		874,658

Existing Year 2045: VMT

Vehicle type	Fleet percent	VMT
LDA	48.22%	151,265,217
LDT1	2.76%	8,664,897
LDT2	23.40%	73,400,685
MDV	13.94%	43,743,668
LHD1	2.38%	7,475,837
LHD2	0.61%	1,923,604
MHD	1.84%	5,780,800
HHD	6.16%	19,318,553
OBUS	0.02%	61,460
UBUS	0.14%	433,275
MCY	0.25%	791,831
SBUS	0.06%	187,318
MH	0.05%	169,466
All Other Buses	0.03%	84,381
Motor Coach	0.01%	34,881
PTO	0.12%	386,828
	100%	313,722,700

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent
LDA	86.90%	0.05%	0.00%	13.05%
LDT1	96.03%	0.00%	0.00%	3.97%
LDT2	95.70%	0.36%	0.00%	3.94%
MDV	93.59%	1.02%	0.00%	5.39%
LHD1	33.13%	22.88%	0.00%	43.98%
LHD2	15.26%	43.21%	0.00%	41.53%
MHD	2.89%	47.19%	0.83%	49.08%
HHD	0.00%	82.34%	1.97%	15.69%
OBUS	15.86%	55.47%	10.53%	18.15%
UBUS	15.20%	0.00%	0.00%	84.80%
MCY	100.00%	0.00%	0.00%	0.00%
SBUS	24.39%	9.94%	26.96%	38.71%
MH	62.87%	37.13%	0.00%	0.00%
All Other Buses	0.00%	77.46%	22.54%	0.00%
Motor Coach	0.00%	100.00%	0.00%	0.00%
PTO	0.00%	49.64%	0.00%	50.36%

<< Equal to T6 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)
 << Equal to T7 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)
 <<OBUS (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

Vehicle type	Gasoline		Diesel		CNG		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	Gallons	VMT	kWh
LDA	131,454,009	36.68	78,504	1,426	0	0	19,732,703	7,317,999
LDT1	8,320,916	31.68	95	3	0	0	343,886	123,194
LDT2	70,242,509	30.72	264,779	6,561	0	0	2,893,397	1,023,114
MDV	40,940,206	25.29	444,493	14,531	0	0	2,358,969	851,616
LHD1	2,476,985	17.18	1,710,638	78,203	0	0	3,288,214	0
LHD2	293,602	15.31	831,108	44,728	0	0	798,893	0
MHD	167,062	6.03	2,728,091	274,219	48,200	0	2,837,447	0
HHD	580	5.23	15,906,757	2,117,579	379,986	6.72	3,031,231	0
OBUS	9,749	5.92	34,090	3,671	6,469	0	11,153	0
UBUS	65,876	16.06	0	0	0	0.00	367,399	0
MCY	791,831	43.58	0	0	0	0	0	0
SBUS	45,683	9.56	18,613	2,227	50,507	0	72,515	0
MH	106,550	4.89	62,915	6,116	0	0	0	0
All Other Buses	0	0	65,359	6,081	19,022	11	0	0
Motor Coach	0	0	34,881	5,328	0	0	0	0
PTO	0	0	192,035	32,913	0	0	194,792	0.48
	254,915,559		22,372,357	2,593,587	504,183	58,283	35,930,601	9,315,923

Proposed Project Year 2045 (General Plan 2045): VMT

Vehicle type	Fleet percent	VMT
LDA	48.22%	242,909,278
LDT1	2.76%	13,914,526
LDT2	23.40%	117,870,504
MDV	13.94%	70,245,778
LHD1	2.38%	12,005,074
LHD2	0.61%	3,089,019
MHD	1.84%	9,283,098
HHD	6.16%	31,022,703
OBUS	0.02%	98,696
UBUS	0.14%	695,775
MCY	0.25%	1,271,562
SBUS	0.06%	300,805
MH	0.05%	272,137
All Other Buses	0.03%	135,503
Motor Coach	0.01%	56,013
PTO	0.12%	621,187
	100%	503,791,659

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent
LDA	86.90%	0.05%	0.00%	13.05%
LDT1	96.03%	0.00%	0.00%	3.97%
LDT2	95.70%	0.36%	0.00%	3.94%
MDV	93.59%	1.02%	0.00%	5.39%
LHD1	33.13%	22.88%	0.00%	43.98%
LHD2	15.26%	43.21%	0.00%	41.53%
MHD	2.89%	47.19%	0.83%	49.08%
HHD	0.00%	82.34%	1.97%	15.69%
OBUS	15.86%	55.47%	10.53%	18.15%
UBUS	15.20%	0.00%	0.00%	84.80%
MCY	100.00%	0.00%	0.00%	0.00%
SBUS	24.39%	9.94%	26.96%	38.71%
MH	62.87%	37.13%	0.00%	0.00%
All Other Buses	0.00%	77.46%	22.54%	0.00%
Motor Coach	0.00%	100.00%	0.00%	0.00%
PTO	0.00%	49.64%	0.00%	50.36%

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 << OBUS (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

Vehicle type	VMT	Gasoline		Diesel		CNG		Electricity				
		mpg	Gallons	mpg	Gallons	mpg	Gallons	m/kWh	kWh			
LDA	211,095,446	36.68	5,755,184	126,066	55,04	2,291	0	0	31,687,765	2.70	11,751,610	
LDT1	13,362,144	31.68	421,843	153	29.92	5	0	0	552,229	2.79	197,831	
LDT2	112,798,947	30.72	3,672,420	425,195	40.36	10,536	0	0	4,646,362	2.83	1,642,967	
MDV	65,743,838	25.29	2,599,324	713,789	30.59	23,334	0	0	3,788,151	2.77	1,367,568	
LHD1	3,977,667	17.18	231,576	2,747,028	21.87	125,583	0	0	5,280,379	1.77	0	
LHD2	471,481	15.31	30,804	1,334,635	18.58	71,827	0	0	1,282,903	1.77	0	
MHD	268,276	6.03	44,516	4,380,905	9.95	440,355	77,402	0	4,556,516	0.95	0	
HHD	931	5.23	178	25,543,868	7.51	3,400,515	610,200	6.72	90,843	4,867,703	0.56	0
OBUS	15,655	5.92	2,646	54,743	9.29	5,895	10,388	0	17,910	0.00	0	
UBUS	105,787	16.06	6,586	0	0.00	0	0	0.00	589,988	0.50	0	
MCY	1,271,562	43.58	29,179	0	0.00	0	0	0	0	0.00	0	
SBUS	73,361	9.56	7,677	29,889	8.36	3,576	81,106	0	116,449	0.86	0	
MH	171,104	4.89	35,021	101,033	10.29	9,822	0	0	0	0.00	0	
All Other Buses	0	0	0	104,957	10.75	9,766	30,546	11	2,752	0	0.00	0
Motor Coach	0	0	0	56,013	6.55	8,555	0	0	0	0.00	0	
PTO	0	0	0	308,380	5.83	52,853	0	0	312,807	0.48	0	
	409,356,200		12,836,953	35,926,654		4,164,912	809,643		93,595	57,699,162		14,959,976

EMFAC Fuel Usage: Year 2019

Vehicle type	GAS			DSL			NG			ELEC		
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	kWh/day	Miles/kWh
All other buses	0	0	0.00	10,137	1,075	9.43	1,317	135	9.77	0	0	0.00
LDA	20,485,308	742,289	27.60	76,594	1,829	41.88	0	0	0.00	316,649	108,242	2.93
LDT1	1,661,086	72,639	22.87	628	26	24.49	0	0	0.00	476	183	2.60
LDT2	7,367,735	340,109	21.66	20,540	681	30.18	0	0	0.00	5,775	1,778	3.25
LHD1	663,078	55,540	11.94	599,853	29,558	20.29	0	0	0.00	0	0	0.00
LHD2	93,989	8,501	11.06	262,681	15,719	16.71	0	0	0.00	0	0	0.00
MCY	154,596	3,745	41.28	0	0	0.00	0	0	0.00	0	0	0.00
MDV	6,440,672	361,185	17.83	111,470	4,941	22.56	0	0	0.00	11,239	3,406	3.30
MH	58,233	11,939	4.88	19,951	1,922	10.38	0	0	0.00	0	0	0.00
Motor coach	0	0	0.00	5,097	904	5.64	0	0	0.00	0	0	0.00
OBUS	16,428	3,349	4.91	0	0	0.00	0	0	0.00	0	0	0.00
PTO	0	0	0.00	46,214	9,873	4.68	0	0	0.00	0	0	0.00
SBUS	15,859	1,847	8.59	11,563	1,588	7.28	9,576	2,361	4.06	0	0	0.00
T6	51,298	10,502	4.88	510,686	57,537	8.88	3,861	438	8.81	0	0	0.00
T7	688	197	3.49	1,625,789	272,710	5.96	41,786	7,264	5.75	0	0	0.00
UBUS	18,276	3,245	5.63	30	3	11.26	30,685	7,796	3.94	3	6	0.49
Total	37,027,247	1,615,087	22.93	3,301,233	398,363	8.29	87,225	17,995	4.85	334,143	113,616	2.94

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2019

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Fuel Consumption	Energy Consumption
Riverside (SC)	2019	All Other Buses	Aggregate	Aggregate	Diesel	208.3349609	10137.17451	10137.17451	0	1854.181	1.074884091	0
Riverside (SC)	2019	All Other Buses	Aggregate	Aggregate	Natural Gas	20.31923405	1316.989021	1316.989021	0	180.8412	0.134822227	0
Riverside (SC)	2019	LDA	Aggregate	Aggregate	Gasoline	475839.6385	20289766.96	20289766.96	0	2241307	735.8204521	0
Riverside (SC)	2019	LDA	Aggregate	Aggregate	Diesel	1899.967093	76593.90777	76593.90777	0	8694.823	1.828795111	0
Riverside (SC)	2019	LDA	Aggregate	Aggregate	Electricity	4471.112672	149964.7737	0	149964.8	22676.5	0	57898.77993
Riverside (SC)	2019	LDA	Aggregate	Aggregate	Plug-in Hybrid	7097.38712	362225.3813	195541.0903	166684.3	29347.7	6.468968858	50343.62387
Riverside (SC)	2019	LDT1	Aggregate	Aggregate	Gasoline	46765.34795	1661078.377	1661078.377	0	203793.3	72.63826287	0
Riverside (SC)	2019	LDT1	Aggregate	Aggregate	Diesel	31.82381996	628.0422794	628.0422794	0	100.3007	0.025643578	0
Riverside (SC)	2019	LDT1	Aggregate	Aggregate	Electricity	19.22518013	469.8365772	0	469.8366	87.94872	0	181.3956965
Riverside (SC)	2019	LDT1	Aggregate	Aggregate	Plug-in Hybrid	0.272685855	14.26208366	7.728218549	6.533865	1.127556	0.000256821	1.973422004
Riverside (SC)	2019	LDT2	Aggregate	Aggregate	Gasoline	176122.0726	7361640.798	7361640.798	0	825695.7	339.9063854	0
Riverside (SC)	2019	LDT2	Aggregate	Aggregate	Diesel	436.7618952	20539.96241	20539.96241	0	2123.642	0.68065631	0
Riverside (SC)	2019	LDT2	Aggregate	Aggregate	Electricity	11.34740185	404.3923381	0	404.3923	58.89302	0	156.1288188
Riverside (SC)	2019	LDT2	Aggregate	Aggregate	Plug-in Hybrid	207.3229349	11465.07498	6094.393014	5370.682	857.2803	0.202803483	1622.106025
Riverside (SC)	2019	LHD1	Aggregate	Aggregate	Gasoline	19394.39179	663077.8331	663077.8331	0	288947.5	55.540305	0
Riverside (SC)	2019	LHD1	Aggregate	Aggregate	Diesel	15926.27685	599853.3341	599853.3341	0	200332.5	29.5578622	0
Riverside (SC)	2019	LHD2	Aggregate	Aggregate	Gasoline	2656.122338	93989.36526	93989.36526	0	39572.27	8.50100197	0
Riverside (SC)	2019	LHD2	Aggregate	Aggregate	Diesel	6769.700352	262680.9269	262680.9269	0	85154.31	15.71855766	0
Riverside (SC)	2019	MCY	Aggregate	Aggregate	Gasoline	25055.52838	154595.7773	154595.7773	0	50111.06	3.745113821	0
Riverside (SC)	2019	MDV	Aggregate	Aggregate	Gasoline	163466.8978	6427632.001	6427632.001	0	755020.5	360.745131	0
Riverside (SC)	2019	MDV	Aggregate	Aggregate	Diesel	2568.894843	111469.9276	111469.9276	0	12327.93	4.94052791	0
Riverside (SC)	2019	MDV	Aggregate	Aggregate	Electricity	5.649260859	140.7680375	0	140.768	26.20457	0	54.34808069
Riverside (SC)	2019	MDV	Aggregate	Aggregate	Plug-in Hybrid	472.8485082	24138.80066	13040.3889	11098.41	1955.229	0.439466231	3352.051137
Riverside (SC)	2019	MH	Aggregate	Aggregate	Gasoline	6402.441373	58232.95353	58232.95353	0	640.5002	11.93903846	0
Riverside (SC)	2019	MH	Aggregate	Aggregate	Diesel	2164.987325	19951.14185	19951.14185	0	216.4987	1.922474509	0
Riverside (SC)	2019	Motor Coach	Aggregate	Aggregate	Diesel	37.82542614	5096.688488	5096.688488	0	869.2283	0.903953929	0
Riverside (SC)	2019	OBUS	Aggregate	Aggregate	Gasoline	445.504709	16427.86994	16427.86994	0	8913.658	3.34893693	0
Riverside (SC)	2019	PTO	Aggregate	Aggregate	Diesel	0	46213.50061	46213.50061	0	0	9.872860001	0
Riverside (SC)	2019	SBUS	Aggregate	Aggregate	Gasoline	422.1299909	15859.26942	15859.26942	0	1688.52	1.847288945	0
Riverside (SC)	2019	SBUS	Aggregate	Aggregate	Diesel	522.8354136	11562.50573	11562.50573	0	7570.657	1.587692585	0
Riverside (SC)	2019	SBUS	Aggregate	Aggregate	Natural Gas	371.1768314	9575.528072	9575.528072	0	5374.641	2.361226513	0
Riverside (SC)	2019	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	4.072125535	268.1344205	268.1344205	0	93.57744	0.029764427	0
Riverside (SC)	2019	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	5.433664441	367.8322079	367.8322079	0	124.8656	0.040529696	0
Riverside (SC)	2019	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	14.81454259	961.1560831	961.1560831	0	340.4382	0.104891949	0
Riverside (SC)	2019	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	28.35254205	6022.664692	6022.664692	0	651.5414	0.615885329	0
Riverside (SC)	2019	T6 CAIRP Class 7	Aggregate	Aggregate	Natural Gas	0.027424867	6.192080887	6.192080887	0	0.630223	0.000597352	0
Riverside (SC)	2019	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	442.1598039	13806.884	13806.884	0	6309.62	1.567021306	0
Riverside (SC)	2019	T6 Instate Delivery Class 4	Aggregate	Aggregate	Natural Gas	0.758301169	25.32393971	25.32393971	0	10.82096	0.003000797	0
Riverside (SC)	2019	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	382.2706228	13216.64923	13216.64923	0	5455.002	1.515060471	0
Riverside (SC)	2019	T6 Instate Delivery Class 5	Aggregate	Aggregate	Natural Gas	0.692567672	23.63003813	23.63003813	0	9.882941	0.00276627	0
Riverside (SC)	2019	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	1170.777704	38132.71792	38132.71792	0	16707	4.247816971	0
Riverside (SC)	2019	T6 Instate Delivery Class 6	Aggregate	Aggregate	Natural Gas	4.140172515	137.7665658	137.7665658	0	59.08026	0.016362788	0
Riverside (SC)	2019	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	167.3683218	8789.386077	8789.386077	0	2388.346	0.950950223	0
Riverside (SC)	2019	T6 Instate Delivery Class 7	Aggregate	Aggregate	Natural Gas	1.89115188	105.2830812	105.2830812	0	26.98674	0.011744788	0
Riverside (SC)	2019	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	1616.970028	58358.31552	58358.31552	0	18692.17	6.639133593	0
Riverside (SC)	2019	T6 Instate Other Class 4	Aggregate	Aggregate	Natural Gas	1.757245508	77.94607934	77.94607934	0	20.31376	0.008966733	0
Riverside (SC)	2019	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	3388.619914	147422.2866	147422.2866	0	39172.45	16.81262499	0
Riverside (SC)	2019	T6 Instate Other Class 5	Aggregate	Aggregate	Natural Gas	6.204344778	277.7584027	277.7584027	0	71.72223	0.031632375	0
Riverside (SC)	2019	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	2614.387068	103062.1657	103062.1657	0	30222.31	11.60392033	0
Riverside (SC)	2019	T6 Instate Other Class 6	Aggregate	Aggregate	Natural Gas	5.484323334	240.771254	240.771254	0	63.39878	0.027691275	0
Riverside (SC)	2019	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	1231.916509	54180.8439	54180.8439	0	14240.95	6.101712093	0
Riverside (SC)	2019	T6 Instate Other Class 7	Aggregate	Aggregate	Natural Gas	15.98341046	1029.663009	1029.663009	0	184.7682	0.113749656	0
Riverside (SC)	2019	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	19.36795587	777.0150979	777.0150979	0	223.8936	0.087671067	0
Riverside (SC)	2019	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	404.2853799	23738.53492	23738.53492	0	4673.539	2.441493357	0
Riverside (SC)	2019	T6 Instate Tractor Class 7	Aggregate	Aggregate	Natural Gas	3.840383612	276.3663554	276.3663554	0	44.39483	0.030420111	0
Riverside (SC)	2019	T6 OOS Class 4	Aggregate	Aggregate	Diesel	2.349034614	154.6752499	154.6752499	0	53.98082	0.017169822	0
Riverside (SC)	2019	T6 OOS Class 5	Aggregate	Aggregate	Diesel	3.134448028	212.1866286	212.1866286	0	72.02962	0.023379844	0
Riverside (SC)	2019	T6 OOS Class 6	Aggregate	Aggregate	Diesel	8.545874391	554.4497312	554.4497312	0	196.3842	0.060507668	0
Riverside (SC)	2019	T6 OOS Class 7	Aggregate	Aggregate	Diesel	16.37118602	4031.538998	4031.538998	0	376.2099	0.412048665	0
Riverside (SC)	2019	T6 Public Class 4	Aggregate	Aggregate	Diesel	86.12784527	2695.741347	2695.741347	0	441.8358	0	

Riverside (SC)	2019 T6 Utility Class 7	Aggregate	Aggregate	Natural Gas	0.540118659	27.55075522	27.55075522	0	6.913519	0.002906038	0
Riverside (SC)	2019 T6TS	Aggregate	Aggregate	Gasoline	1421.462874	51297.92755	51297.92755	0	28440.63	10.50170922	0
Riverside (SC)	2019 T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1549.380665	331977.1715	331977.1715	0	35604.77	55.5929716	0
Riverside (SC)	2019 T7 CAIRP Class 8	Aggregate	Aggregate	Natural Gas	5.817582043	1296.59245	1296.59245	0	133.688	0.230924998	0
Riverside (SC)	2019 T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1434.68692	394661.0529	394661.0529	0	32969.11	65.99880297	0
Riverside (SC)	2019 T7 NOOS Class 8	Aggregate	Aggregate	Diesel	581.5576757	143301.8338	143301.8338	0	13364.2	24.13230747	0
Riverside (SC)	2019 T7 POLA Class 8	Aggregate	Aggregate	Diesel	1705.626206	227331.5951	227331.5951	0	27904.04	38.10077485	0
Riverside (SC)	2019 T7 POLA Class 8	Aggregate	Aggregate	Natural Gas	79.6766561	10624.17239	10624.17239	0	1303.51	1.934252726	0
Riverside (SC)	2019 T7 Public Class 8	Aggregate	Aggregate	Diesel	744.5349654	28725.59238	28725.59238	0	3819.464	5.047098	0
Riverside (SC)	2019 T7 Public Class 8	Aggregate	Aggregate	Natural Gas	96.87977586	5088.592007	5088.592007	0	496.9933	0.854567316	0
Riverside (SC)	2019 T7 Single Concrete/Transit	Aggregate	Aggregate	Diesel	1254.43242	87954.05123	87954.05123	0	11816.75	14.782823	0
Riverside (SC)	2019 T7 Single Concrete/Transit	Aggregate	Aggregate	Natural Gas	67.85521784	5532.370773	5532.370773	0	639.1962	0.909506051	0
Riverside (SC)	2019 T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	1114.471496	68191.46853	68191.46853	0	10498.32	11.43848816	0
Riverside (SC)	2019 T7 Single Dump Class 8	Aggregate	Aggregate	Natural Gas	59.28693866	4670.844872	4670.844872	0	558.483	0.788614968	0
Riverside (SC)	2019 T7 Single Other Class 8	Aggregate	Aggregate	Diesel	1056.727952	62512.90192	62512.90192	0	9954.377	10.48597064	0
Riverside (SC)	2019 T7 Single Other Class 8	Aggregate	Aggregate	Natural Gas	48.92117077	3878.789038	3878.789038	0	460.8374	0.655872012	0
Riverside (SC)	2019 T7 SWCV Class 8	Aggregate	Aggregate	Diesel	100.5032932	6518.798629	6518.798629	0	462.3151	2.44029839	0
Riverside (SC)	2019 T7 SWCV Class 8	Aggregate	Aggregate	Natural Gas	68.7288551	4457.859559	4457.859559	0	316.1527	0.801084818	0
Riverside (SC)	2019 T7 Tractor Class 8	Aggregate	Aggregate	Diesel	2943.211406	269022.8981	269022.8981	0	42764.86	43.77067781	0
Riverside (SC)	2019 T7 Tractor Class 8	Aggregate	Aggregate	Natural Gas	60.34240463	6237.000901	6237.000901	0	876.7751	1.089103366	0
Riverside (SC)	2019 T7 Utility Class 8	Aggregate	Aggregate	Diesel	108.9706784	5591.766203	5591.766203	0	1394.825	0.919354585	0
Riverside (SC)	2019 T7IS	Aggregate	Aggregate	Gasoline	21.13632953	688.4253412	688.4253412	0	422.8957	0.197050873	0
Riverside (SC)	2019 UBUS	Aggregate	Aggregate	Gasoline	144.3465888	18275.95602	18275.95602	0	577.3864	3.244868476	0
Riverside (SC)	2019 UBUS	Aggregate	Aggregate	Diesel	0.3117338	30.10971099	30.10971099	0	1.246935	0.002674589	0
Riverside (SC)	2019 UBUS	Aggregate	Aggregate	Electricity	0.030745281	2.969621933	0	2.969622	0.122981	0	6.001613347
Riverside (SC)	2019 UBUS	Aggregate	Aggregate	Natural Gas	248.9435626	30685.35112	30685.35112	0	995.7743	7.796468148	0

EMFAC Fuel Usage: Year 2045

Vehicle type	GAS			DSL			NG			ELEC		
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	kWh/day	Miles/kWh
All other buses	0	0	0.00	10,929	1,017	10.75	3,181	287	11.10	0	0	0.00
LDA	21,979,996	599,250	36.68	13,126	239	55.04	0	0	0.00	3,299,441	1,223,619	2.70
LDT1	1,391,313	43,924	31.68	16	1	29.92	0	0	0.00	57,500	20,599	2.79
LDT2	11,745,021	382,385	30.72	44,273	1,097	40.36	0	0	0.00	483,796	171,072	2.83
LHD1	414,169	24,112	17.18	286,030	13,076	21.87	0	0	0.00	549,812	310,707	1.77
LHD2	49,092	3,207	15.31	138,967	7,479	18.58	0	0	0.00	133,580	75,517	1.77
MCY	132,400	3,038	43.58	0	0	0.00	0	0	0.00	0	0	0.00
MDV	6,845,478	270,651	25.29	74,322	2,430	30.59	0	0	0.00	394,436	142,396	2.77
MH	17,816	3,646	4.89	10,520	1,023	10.29	0	0	0.00	0	0	0.00
Motor coach	0	0	0.00	5,832	891	6.55	0	0	0.00	0	0	0.00
OBUS	4,793	810	5.92	0	0	0.00	0	0	0.00	5,483	5,789	0.95
PTO	0	0	0.00	32,110	5,503	5.83	0	0	0.00	32,571	67,471	0.48
SBUS	7,639	799	9.56	3,112	372	8.36	8,445	1,811	4.66	12,125	14,020	0.86
T6	27,934	4,635	6.03	456,155	45,851	9.95	8,059	899	8.96	474,440	500,784	0.95
T7	97	19	5.23	2,659,717	354,074	7.51	63,536	9,459	6.72	506,842	910,980	0.56
UBUS	11,015	686	16.06	0	0	0.00	0	0	0.00	61,432	123,966	0.50
Total	42,626,763	1,337,163	31.88	3,735,109	433,051	8.63	83,221	12,456	6.68	6,011,457	3,566,918	1.69

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: Riverside (SC)

Calendar Year: 2045

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Fuel Consumption	Energy Consumption
Riverside (SC)	2045	All Other Buses	Aggregate	Aggregate	Diesel	213.0503454	10928.51423	10928.51423	0	1896.148	1.016832271	0
Riverside (SC)	2045	All Other Buses	Aggregate	Aggregate	Natural Gas	59.7198475	3180.5808	3180.5808	0	531.5066	0.286509111	0
Riverside (SC)	2045	LDA	Aggregate	Aggregate	Gasoline	509882.6807	21566774.17	21566774.17	0	2368211	585.3929513	0
Riverside (SC)	2045	LDA	Aggregate	Aggregate	Diesel	349.8405747	13126.41234	13126.41234	0	1546.165	0.238504296	0
Riverside (SC)	2045	LDA	Aggregate	Aggregate	Electricity	68905.5869	2701747.214	0	2701747.214	324341.7	0	1043097.412
Riverside (SC)	2045	LDA	Aggregate	Aggregate	Plug-in Hybrid	23839.06765	1010915.897	413222.125	597693.7717	98574.54	13.85691861	180521.3332
Riverside (SC)	2045	LDT1	Aggregate	Aggregate	Gasoline	34632.10893	1378229.577	1378229.577	0	156343.6	43.48243013	0
Riverside (SC)	2045	LDT1	Aggregate	Aggregate	Diesel	0.380295563	15.92326898	15.92326898	0	1.768296	0.000532117	0
Riverside (SC)	2045	LDT1	Aggregate	Aggregate	Electricity	970.2006641	38453.86724	0	38453.86724	4584.789	0	14846.36652
Riverside (SC)	2045	LDT1	Aggregate	Aggregate	Plug-in Hybrid	745.4141048	32129.72615	13083.60349	19046.12266	3082.287	0.44135929	5752.496709
Riverside (SC)	2045	LDT2	Aggregate	Aggregate	Gasoline	277860.8295	11616195.53	11616195.53	0	1285862	378.0249843	0
Riverside (SC)	2045	LDT2	Aggregate	Aggregate	Diesel	1050.615449	44272.77467	44272.77467	0	4887.952	1.097012084	0
Riverside (SC)	2045	LDT2	Aggregate	Aggregate	Electricity	10799.12809	296847.493	0	296847.493	51067.59	0	114607.6325
Riverside (SC)	2045	LDT2	Aggregate	Aggregate	Plug-in Hybrid	7433.560808	315773.4215	128825.4113	186948.0101	30737.77	4.36024418	56463.871
Riverside (SC)	2045	LHD1	Aggregate	Aggregate	Gasoline	12009.66815	414168.6108	414168.6108	0	178926.2	24.11248024	0
Riverside (SC)	2045	LHD1	Aggregate	Aggregate	Diesel	8758.016267	286030.1577	286030.1577	0	110164.8	13.07612821	0
Riverside (SC)	2045	LHD1	Aggregate	Aggregate	Electricity	12662.4412	549811.5698	0	549811.5698	177360.6	0	310706.5494
Riverside (SC)	2045	LHD2	Aggregate	Aggregate	Gasoline	1472.971045	49092.2567	49092.2567	0	21945.07	3.207392488	0
Riverside (SC)	2045	LHD2	Aggregate	Aggregate	Diesel	4537.908263	138966.902	138966.902	0	57081.18	7.478894321	0
Riverside (SC)	2045	LHD2	Aggregate	Aggregate	Electricity	3180.090734	133580.3338	0	133580.3338	42087.21	0	75517.41319
Riverside (SC)	2045	MCY	Aggregate	Aggregate	Gasoline	24396.85271	132399.5029	132399.5029	0	48793.71	3.038188842	0
Riverside (SC)	2045	MDV	Aggregate	Aggregate	Gasoline	170045.3305	6764250.161	6764250.161	0	775203.3	267.8621693	0
Riverside (SC)	2045	MDV	Aggregate	Aggregate	Diesel	1900.815524	74322.17767	74322.17767	0	8598.673	2.429621427	0
Riverside (SC)	2045	MDV	Aggregate	Aggregate	Electricity	10213.72312	276786.2049	0	276786.2049	48058.69	0	106862.3195
Riverside (SC)	2045	MDV	Aggregate	Aggregate	Plug-in Hybrid	4855.492874	198877.5537	81228.20814	117649.3456	20077.46	2.788564302	35533.60887
Riverside (SC)	2045	MH	Aggregate	Aggregate	Gasoline	1796.000777	17815.95675	17815.95675	0	179.6719	3.646498991	0
Riverside (SC)	2045	MH	Aggregate	Aggregate	Diesel	1233.984798	10519.8828	10519.8828	0	123.3985	1.022669838	0
Riverside (SC)	2045	Motor Coach	Aggregate	Aggregate	Diesel	45.92332952	5832.301835	5832.301835	0	1055.318	0.890811235	0
Riverside (SC)	2045	OBUS	Aggregate	Aggregate	Gasoline	187.6852496	4793.177046	4793.177046	0	3755.206	0.810062835	0
Riverside (SC)	2045	OBUS	Aggregate	Aggregate	Electricity	109.4970861	5483.4075	0	5483.4075	2190.818	0	5788.984331
Riverside (SC)	2045	PTO	Aggregate	Aggregate	Diesel	0	32109.60355	32109.60355	0	0	5.503281961	0
Riverside (SC)	2045	PTO	Aggregate	Aggregate	Electricity	0	32570.5637	0	32570.5637	0	0	67470.53399
Riverside (SC)	2045	SBUS	Aggregate	Aggregate	Gasoline	199.0198208	7638.563692	7638.563692	0	796.0793	0.799386437	0
Riverside (SC)	2045	SBUS	Aggregate	Aggregate	Diesel	148.2870568	3112.156038	3112.156038	0	2147.197	0.372299693	0
Riverside (SC)	2045	SBUS	Aggregate	Aggregate	Electricity	448.7865621	12125.07552	0	12125.07552	5803.709	0	14020.2411
Riverside (SC)	2045	SBUS	Aggregate	Aggregate	Natural Gas	405.4545835	8445.076566	8445.076566	0	5870.982	1.811133046	0
Riverside (SC)	2045	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	2.801033934	200.7099949	200.7099949	0	64.36776	0.019664775	0
Riverside (SC)	2045	T6 CAIRP Class 4	Aggregate	Aggregate	Electricity	3.694289954	283.1614177	0	283.1614177	84.89478	0	299.796184
Riverside (SC)	2045	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	3.444605706	275.8051205	275.8051205	0	79.15704	0.027011636	0
Riverside (SC)	2045	T6 CAIRP Class 5	Aggregate	Aggregate	Electricity	4.52536421	387.9794461	0	387.9794461	103.9929	0	410.7719136
Riverside (SC)	2045	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	15.61328682	717.4144022	717.4144022	0	358.7933	0.070504543	0
Riverside (SC)	2045	T6 CAIRP Class 6	Aggregate	Aggregate	Electricity	20.75051048	1017.073661	0	1017.073661	476.8467	0	1076.823266
Riverside (SC)	2045	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	40.7811822	8257.437247	8257.437247	0	937.1516	0.71090371	0
Riverside (SC)	2045	T6 CAIRP Class 7	Aggregate	Aggregate	Electricity	12.42017571	2616.71477	0	2616.71477	285.4156	0	2770.437827
Riverside (SC)	2045	T6 CAIRP Class 7	Aggregate	Aggregate	Natural Gas	0.026849503	5.43382181	5.43382181	0	0.617002	0.000492027	0
Riverside (SC)	2045	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	362.853826	11928.82114	11928.82114	0	5177.924	1.21873205	0
Riverside (SC)	2045	T6 Instate Delivery Class 4	Aggregate	Aggregate	Electricity	364.20934	12941.98729	0	12941.98729	5197.267	0	13649.54696
Riverside (SC)	2045	T6 Instate Delivery Class 4	Aggregate	Aggregate	Natural Gas	2.737735144	90.5895969	90.5895969	0	39.06748	0.010053373	0
Riverside (SC)	2045	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	346.9132096	11409.82078	11409.82078	0	4950.452	1.167313185	0
Riverside (SC)	2045	T6 Instate Delivery Class 5	Aggregate	Aggregate	Electricity	348.6190226	12398.08064	0	12398.08064	4974.793	0	13075.90404
Riverside (SC)	2045	T6 Instate Delivery Class 5	Aggregate	Aggregate	Natural Gas	2.570577178	85.31088645	85.31088645	0	36.68214	0.009455905	0
Riverside (SC)	2045	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	1003.798624	33002.69246	33002.69246	0	14324.21	3.370208458	0
Riverside (SC)	2045	T6 Instate Delivery Class 6	Aggregate	Aggregate	Electricity	1007.881684	35810.33242	0	35810.33242	14382.47	0	37768.14202
Riverside (SC)	2045	T6 Instate Delivery Class 6	Aggregate	Aggregate	Natural Gas	7.528174094	249.3258522	249.3258522	0	107.427	0.027653964	0
Riverside (SC)	2045	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	192.8815349	9771.289088	9771.289088	0	2752.42	0.991975163	0
Riverside (SC)	2045	T6 Instate Delivery Class 7	Aggregate	Aggregate	Electricity	111.5232046	6037.958894	0	6037.958894	1591.436	0	6368.064008
Riverside (SC)	2045	T6 Instate Delivery Class 7	Aggregate	Aggregate	Natural Gas	4.809136057	241.9405349	241.9405349	0	68.62637	0.026011503	0
Riverside (SC)	2045	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	1264.885008	48875.62666	48875.62666	0	14622.07	4.968087612	0
Riverside (SC)	2045	T6 Instate Other Class 4	Aggregate	Aggregate	Electricity	1270.91716	56204.40424	0	56204.40424	14691.8	0	59321.83674
Riverside (SC)	2045	T6 Instate Other Class 4	Aggregate	Aggregate	Natural Gas	9.471558337						

Riverside (SC)	2045 T6 Instate Tractor Class 7	Aggregate	Aggregate	Natural Gas	14.48366376	824.5480804	824.5480804	0	167.4312	0.085549393	0
Riverside (SC)	2045 T6 OOS Class 4	Aggregate	Aggregate	Diesel	3.810500797	279.1246702	279.1246702	0	87.56531	0.025653897	0
Riverside (SC)	2045 T6 OOS Class 5	Aggregate	Aggregate	Diesel	4.686212892	382.9088542	382.9088542	0	107.6892	0.035190441	0
Riverside (SC)	2045 T6 OOS Class 6	Aggregate	Aggregate	Diesel	21.22946384	1000.551791	1000.551791	0	487.8531	0.092153416	0
Riverside (SC)	2045 T6 OOS Class 7	Aggregate	Aggregate	Diesel	26.16866166	7275.255697	7275.255697	0	601.3558	0.598544466	0
Riverside (SC)	2045 T6 Public Class 4	Aggregate	Aggregate	Diesel	44.61653237	1526.652805	1526.652805	0	228.8828	0.162323679	0
Riverside (SC)	2045 T6 Public Class 4	Aggregate	Aggregate	Electricity	39.57795061	1566.872882	0	1566.872882	203.0349	0	1657.183918
Riverside (SC)	2045 T6 Public Class 4	Aggregate	Aggregate	Natural Gas	8.24868649	284.6897426	284.6897426	0	42.31576	0.033540419	0
Riverside (SC)	2045 T6 Public Class 5	Aggregate	Aggregate	Diesel	80.76983059	2766.450086	2766.450086	0	414.3492	0.296375628	0
Riverside (SC)	2045 T6 Public Class 5	Aggregate	Aggregate	Electricity	71.86627465	2845.543017	0	2845.543017	368.674	0	3009.553731
Riverside (SC)	2045 T6 Public Class 5	Aggregate	Aggregate	Natural Gas	17.01832263	574.9068522	574.9068522	0	87.304	0.068120384	0
Riverside (SC)	2045 T6 Public Class 6	Aggregate	Aggregate	Diesel	106.351412	3626.841404	3626.841404	0	545.5827	0.385659307	0
Riverside (SC)	2045 T6 Public Class 6	Aggregate	Aggregate	Electricity	92.866939	3660.859522	0	3660.859522	476.4074	0	3871.863249
Riverside (SC)	2045 T6 Public Class 6	Aggregate	Aggregate	Natural Gas	20.67215944	704.8096129	704.8096129	0	106.0482	0.083278234	0
Riverside (SC)	2045 T6 Public Class 7	Aggregate	Aggregate	Diesel	201.932943	8399.406537	8399.406537	0	1035.916	0.870548012	0
Riverside (SC)	2045 T6 Public Class 7	Aggregate	Aggregate	Electricity	142.7592327	6910.082373	0	6910.082373	732.3549	0	7308.364014
Riverside (SC)	2045 T6 Public Class 7	Aggregate	Aggregate	Natural Gas	39.24266536	1632.021321	1632.021321	0	201.3149	0.185756656	0
Riverside (SC)	2045 T6 Utility Class 5	Aggregate	Aggregate	Diesel	90.25823437	3580.109994	3580.109994	0	1155.305	0.357706987	0
Riverside (SC)	2045 T6 Utility Class 5	Aggregate	Aggregate	Electricity	124.2505037	5122.410363	0	5122.410363	1590.406	0	5417.654602
Riverside (SC)	2045 T6 Utility Class 5	Aggregate	Aggregate	Natural Gas	0.518829278	20.57946177	20.57946177	0	6.641015	0.002141639	0
Riverside (SC)	2045 T6 Utility Class 6	Aggregate	Aggregate	Diesel	17.06810781	676.8160691	676.8160691	0	218.4718	0.067627966	0
Riverside (SC)	2045 T6 Utility Class 6	Aggregate	Aggregate	Electricity	23.4744734	967.7826921	0	967.7826921	300.4733	0	1023.563515
Riverside (SC)	2045 T6 Utility Class 6	Aggregate	Aggregate	Natural Gas	0.098112201	3.890525834	3.890525834	0	1.255836	0.000404893	0
Riverside (SC)	2045 T6 Utility Class 7	Aggregate	Aggregate	Diesel	18.9546382	926.889312	926.889312	0	242.6194	0.092059976	0
Riverside (SC)	2045 T6 Utility Class 7	Aggregate	Aggregate	Electricity	26.11223156	1361.37886	0	1361.37886	334.2366	0	1439.845683
Riverside (SC)	2045 T6 Utility Class 7	Aggregate	Aggregate	Natural Gas	0.108956499	5.328015953	5.328015953	0	1.394643	0.000543237	0
Riverside (SC)	2045 T6TS	Aggregate	Aggregate	Gasoline	738.2810957	27933.839	27933.839	0	14771.53	4.63517321	0
Riverside (SC)	2045 T6TS	Aggregate	Aggregate	Electricity	623.2190344	32042.11589	0	32042.11589	12469.37	0	33838.26108
Riverside (SC)	2045 T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	2551.326696	536934.0326	536934.0326	0	58629.49	71.93211781	0
Riverside (SC)	2045 T7 CAIRP Class 8	Aggregate	Aggregate	Electricity	714.4030208	155947.2735	0	155947.2735	16416.98	0	280312.9962
Riverside (SC)	2045 T7 CAIRP Class 8	Aggregate	Aggregate	Natural Gas	9.335484673	1964.599462	1964.599462	0	214.5294	0.308844347	0
Riverside (SC)	2045 T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	2848.081761	822832.8969	822832.8969	0	65448.92	104.8043156	0
Riverside (SC)	2045 T7 NOOS Class 8	Aggregate	Aggregate	Diesel	1228.03631	298771.4702	298771.4702	0	28220.27	38.49071027	0
Riverside (SC)	2045 T7 POLA Class 8	Aggregate	Aggregate	Diesel	1978.211721	370390.5839	370390.5839	0	32363.54	51.03556349	0
Riverside (SC)	2045 T7 POLA Class 8	Aggregate	Aggregate	Electricity	362.1174592	67026.28868	0	67026.28868	5924.242	0	120417.2193
Riverside (SC)	2045 T7 POLA Class 8	Aggregate	Aggregate	Natural Gas	77.09130817	14430.52381	14430.52381	0	1261.214	2.018719678	0
Riverside (SC)	2045 T7 Public Class 8	Aggregate	Aggregate	Diesel	273.4351188	10472.81969	10472.81969	0	1402.722	1.641513634	0
Riverside (SC)	2045 T7 Public Class 8	Aggregate	Aggregate	Electricity	351.8103764	16704.03518	0	16704.03518	1804.787	0	30020.14442
Riverside (SC)	2045 T7 Public Class 8	Aggregate	Aggregate	Natural Gas	349.876768	14475.0335	14475.0335	0	1794.868	2.199084358	0
Riverside (SC)	2045 T7 Single Concrete/Transit	Aggregate	Aggregate	Diesel	646.8169969	42350.28164	42350.28164	0	6093.016	6.176786647	0
Riverside (SC)	2045 T7 Single Concrete/Transit	Aggregate	Aggregate	Electricity	835.1269358	59615.98572	0	59615.98572	7866.896	0	107217.8943
Riverside (SC)	2045 T7 Single Concrete/Transit	Aggregate	Aggregate	Natural Gas	50.52483189	3306.667596	3306.667596	0	475.9439	0.495945428	0
Riverside (SC)	2045 T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	855.817157	41324.69312	41324.69312	0	8061.798	6.292234094	0
Riverside (SC)	2045 T7 Single Dump Class 8	Aggregate	Aggregate	Electricity	582.9403326	37448.64145	0	37448.64145	5491.298	0	67350.467
Riverside (SC)	2045 T7 Single Dump Class 8	Aggregate	Aggregate	Natural Gas	68.25941546	3275.260473	3275.260473	0	643.0037	0.523384784	0
Riverside (SC)	2045 T7 Single Other Class 8	Aggregate	Aggregate	Diesel	1297.553033	66262.50778	66262.50778	0	12222.95	9.973715397	0
Riverside (SC)	2045 T7 Single Other Class 8	Aggregate	Aggregate	Electricity	1014.022689	66967.24194	0	66967.24194	9552.094	0	120438.949
Riverside (SC)	2045 T7 Single Other Class 8	Aggregate	Aggregate	Natural Gas	101.8222347	5190.971065	5190.971065	0	959.1655	0.814622496	0
Riverside (SC)	2045 T7 SWCV Class 8	Aggregate	Aggregate	Diesel	3.344395844	217.043035	217.043035	0	15.38422	0.078688898	0
Riverside (SC)	2045 T7 SWCV Class 8	Aggregate	Aggregate	Electricity	83.83837286	5421.395132	0	5421.395132	385.6565	0	9746.945746
Riverside (SC)	2045 T7 SWCV Class 8	Aggregate	Aggregate	Natural Gas	121.6060982	7882.471763	7882.471763	0	559.3881	1.011695359	0
Riverside (SC)	2045 T7 Tractor Class 8	Aggregate	Aggregate	Diesel	7061.801018	466264.9493	466264.9493	0	102608	63.06836754	0
Riverside (SC)	2045 T7 Tractor Class 8	Aggregate	Aggregate	Electricity	1288.599573	94616.60086	0	94616.60086	18723.35	0	169913.3384
Riverside (SC)	2045 T7 Tractor Class 8	Aggregate	Aggregate	Natural Gas	197.8926084	13010.65041	13010.65041	0	2875.38	2.086583773	0
Riverside (SC)	2045 T7 Utility Class 8	Aggregate	Aggregate	Diesel	94.91673472	3895.662682	3895.662682	0	1214.934	0.579499545	0
Riverside (SC)	2045 T7 Utility Class 8	Aggregate	Aggregate	Electricity	62.51014344	2992.204817	0	2992.204817	800.1298	0	5377.528231
Riverside (SC)	2045 T7IS	Aggregate	Aggregate	Gasoline	1.10608314	96.98952025	96.98952025	0	22.13051	0.018552714	0
Riverside (SC)	2045 T7IS	Aggregate	Aggregate	Electricity	0.824867986	102.565411	0	102.565411	16.50396	0	184.1658642
Riverside (SC)	2045 UBUS	Aggregate	Aggregate	Gasoline	119.3998058	11014.89224	11014.89224	0	477.5992	0.685709596	0
Riverside (SC)	2045 UBUS	Aggregate	Aggregate	Electricity	462.6529387	61431.63505	0	61431.63505	1850.612	0	123965.7173

We Can Model Regional Emissions, But Are the Results Meaningful for CEQA?

Authors: AEP Climate Change Committee (Michael Hendrix, Dave Mitchell, Haseeb Qureshi, Jennifer Reed, Brian Schuster, Nicole Vermillion, and Rich Walters)

On December 24, 2018, the California Supreme Court, *Sierra Club v. County of Fresno (Friant Ranch, L.P.)* (2018) 6 Cal.5th 502, Case No. S219783 (*Friant Ranch*), held that simply identifying that a project exceeds an emissions threshold is not sufficient to identify a project's significant effect on the environment relative to the health effects of project emissions. The Court found that an EIR should make a reasonable effort to substantively connect a project's criteria pollutant emissions to likely health consequences, or explain why it is not currently feasible to provide such an analysis. In 2019, there were several CEQA documents that included health effects modeling to provide additional analysis for projects with criteria air pollutant emissions that exceed a significance threshold. While it is technically possible to conduct this modeling, we argue that this additional layer of quantitative analysis may not always provide decision-makers and the public with additional meaningful information. It is the air districts that are best suited to provide frameworks for how to identify health effects of regional criteria pollutant emissions under CEQA.

Introduction

Significance thresholds for regional criteria pollutants used by California air districts and lead agencies represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard (AAQS). By analyzing the project's emissions against these thresholds, the CEQA document assesses whether these emissions directly contribute to any regional or local exceedances of the applicable AAQS and exposure levels. The basis of the ruling in *Friant Ranch* was that the EIR did not provide a meaningful analysis of the adverse health effects that would be associated with the project's criteria pollutant emissions, which were identified as being far above the relevant thresholds. The discussion of the adverse health effects in the EIR was general in nature and did not connect the levels of the pollutants that would be emitted by the project to adverse health effects.

The process of correlating project-related criteria pollutant emissions to health-based consequences is called a health impact assessment (HIA). An HIA involves two steps: 1) running a regional photochemical grid model (PGM) to estimate the small increases in concentrations of ozone and particulate matter (PM) in the region as a result of a project's emissions of criteria and precursor pollutants; and 2) running the U.S. EPA Benefits Mapping and Analysis Program (BenMAP) to estimate the resulting health impacts from these increases in concentrations of ozone and PM.

Limitations of Regional-Scale Dispersion Models

It is technically feasible to conduct regional-scale criteria pollutant modeling for a development project. Particulate matter (PM) can be divided into two categories: directly emitted PM and secondary PM. Secondary PM, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur oxides (SO_x) and NO_x. Ozone (O₃) is a secondary pollutant formed from the oxidation of reactive organic gases (ROGs) and nitrogen oxides (NO_x) in the presence of sunlight. Rates of ozone formation are a function of a variety of complex physical factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Secondary formation of PM and ozone can occur far from the original emissions source from regional transport due to wind and topography (e.g. low-level jet stream). As such, modeling concentrations of secondary PM and ozone require photochemical grid models (PGMs), such as CMAQ and CAMx. These models have a much larger "grid" system and much lower resolution than localized dispersion modeling (e.g., AERMOD). For example, common grid cells in PGMs are 4x4 kilometers, while AERMOD can identify concentrations at the meter-level.

Photochemical modeling also depends on all emission sources in the entire domain. Low resolution and spatial averaging produces “noise” and model uncertainty that can exceed a project’s specific emissions. Additionally, regional-scale models are highly contingent upon background concentrations. Factors such as meteorology and topography greatly affect the certainty levels of predicted concentrations at receptor points. As a result, there are statistical ranges of uncertainty through all the modeling steps. Due to these factors, it is difficult to predict ground-level secondary PM and ozone concentrations associated with relatively small emission sources with a high degree of certainty. While it is possible to use a regional-scale model to predict these regional concentrations, when a project’s emissions are less than the regional model’s resolution, the resultant ambient air quality concentrations will be within the margin of uncertainty. In CEQA terms, this would fit the definition of “speculative”. Only when the scale of emissions would result in changes in ambient air quality beyond the model margin of uncertainty would the results not be “speculative” as defined by CEQA.

Identifying Health Effects due to Ambient Air Quality Changes

BenMap is a model developed by the USEPA to understand the health effects from changes in ozone and PM concentrations. If there is an acceptable level of confidence that the results provided by the regional dispersion modeling are valid, then these concentrations can be translated into health outcomes using BenMap. The health outcomes in BenMap are based on changes in ambient air concentrations and the population exposed to these changes. Data provided by this analysis may indicate increased number of workdays lost to illness, hospital admissions (respiratory), emergency room visits (asthma), or mortality, among other health effects. These are called “health incidences.”

Translating the incremental increase in PM and ozone concentrations to specific health effects is also subject to uncertainty. For example, regional models assign the same toxicity to PM regardless of the source of PM (such as road dust as exhaust), and thus potentially overpredict adverse health effects of PM. BenMap also assumes that health effects can occur at any concentration, including small incremental concentrations, and assumes that impacts seen at large concentration differences can be linearly scaled down to small increases in concentration, with no consideration of potential thresholds below which health impacts may not occur. Additionally, BenMap is used for assessing impacts over large areas and populations and was not intended to be used for individual projects. For health incidences, the number of hospitalizations or increase in morbidity predicted by BenMap is greatly affected by the population characteristics.¹ Small increases in emissions in an area with a high population have a much greater affect than large increases in emissions over an area with a small population. As a result, the same amount of emissions generated in an urban area could result in greater health consequences than if the same emissions occurred on the urban periphery, where fewer people may be affected. This will also depend on other factors including meteorology and photochemistry, as discussed above. Emissions in areas with conditions that favor high air dispersion or unfavorable ozone formation will likely have relatively lower effects on ambient air quality and health outcomes.

While BenMap provides additional statistical information about health consequences requested by the Court in the Friant Ranch decision, this information is only meaningful when presented with the full health context of the region or locality at hand. For example, if the BenMap analysis says that the project would result in two additional hospital admissions, this result alone is not useful unless one identifies how many hospital admissions are caused by poor air quality now (without the project) and how many hospital admissions occur

¹ BenMap assigns prevalence rate for asthma and other health effects based on indicators such as gender, race, age, ethnicity, etc. The BenMap user manual specifically states that there are a wide range of variables that can be included in the health effect function. The health effect function was developed based on epidemiological studies, and specifically states that “there are a number of issues that arise when deriving and choosing between health effect functions that go well beyond this user manual. Hence, it is important to have a trained health researcher assist in developing the impact function data file.”

overall (due to air quality and other causes). Because health is not solely influenced by ambient air quality, and has many factors that are highly variable across geographies and populations, there is an added level of uncertainty in using a generalized identification of health effects due to air quality conditions overlaid onto a specific diverse set of health conditions and other factors. Regardless of the uncertainty levels, if regional health effects are identified for a project, then the CEQA analysis needs to provide a full health baseline for decision-makers and the public to be able to understand the marginal change due to project criteria pollutant emissions. Given the margin of uncertainty at each step in the process (regional scale modeling, existing ambient air quality effects on health, population health conditions vulnerability, and marginal health effects of air pollution), the identification of marginal health effects due to individual projects using regional air quality modelling and tools such as BenMap are likely to be within the level of uncertainty and thus defined as “speculative” per CEQA.

The Role of Air Districts

Regional, community, multiscale air quality modeling conducted by the air districts for each individual air basin or locality within the air basin would be the most appropriate indicator of health effects for projects. The AQMPs provide a forecast of regional emissions based on regional dispersion modeling for all sources within the air basin. Regional-scale models attempt to account for all emissions sources within an air basin.

The regional scale model requires inputs such as existing and future regional sources of pollutants and global meteorological data, which are generally not accessible by CEQA practitioners. Modeling of future years should consider future concentrations of air pollutants based on regional growth projections and existing programs, rules, and regulations adopted by Federal, State, and local air districts. In general, air pollution in California is decreasing as a result of Federal and State laws. Based on the air quality management plans (AQMPs) required for air districts in a nonattainment area, air quality in the air basins are anticipated to improve despite an increase in population and employment growth. Air districts are charged with assessing programs, rules, and regulations so that the increase in population and employment does not conflict with the mandate to achieve the AAQS. Because emissions forecasting and health outcomes based on the regional growth projections to achieve the AAQS is under the purview of the air districts, it should also fall on the air districts to identify the potential health outcomes associated with individual project’s criteria pollutant emissions.

The South Coast Air Quality Management District (South Coast AQMD) and the Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan AQMD) are exploring concepts for project-level analysis in light of Friant Ranch to assist local lead agencies.

- » South Coast AQMD is looking at the largest land use development project they have had in the air basin and doing a sensitivity analysis (using CAMx for photochemical grid modeling and BenMap for health outcomes) to see how locating a very large project in different parts of the air basin (Los Angeles, Inland Empire, v. Orange County) would affect the health incidence.
- » Sacramento Metropolitan AQMD is also looking at a screening process. Rather than looking at the upper end (i.e., largest project in the air basin), Sacramento Metropolitan AQMD is starting at the smallest project that exceeds the regional significance threshold and running CAMx and BenMap at different locations in the air basin to see how it affects regional health incidences.

Guidance from Air Districts would be the most effective way to incorporate meaningful information concerning regional health effects of project criteria pollutants in CEQA analyses, including guidance as to when modelling is and is not useful and meaningful, how modelling should be conducted, and how to best present additional information to inform decision-makers and the public about a project’s impacts.

So...until air districts do their part, what should we do?

PROJECTS WITH CRITERIA POLLUTANT EMISSIONS BELOW AIR DISTRICT THRESHOLDS

The Friant Ranch ruling was about providing disclosure of health effects of project emissions that were well over the significance thresholds. Since the air district thresholds are tied to a level the air districts find to not have a significant effect on ambient air quality, there should be no need to discuss the health effects of criteria pollutant emissions that are less than the significance thresholds.

PROJECTS WITH CRITERIA POLLUTANT EMISSIONS ABOVE AIR DISTRICT THRESHOLDS

Pursuant to Section 15125 of the CEQA Guidelines, the environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. For CEQA, the health effects associated with buildout of a project would occur at the project's horizon year. Because CEQA requires an analysis of the change from existing conditions, the change in effects would be associated with changes in ambient air quality and associated health outcomes between existing conditions and the project's horizon year. Therefore, in order to show how a project affects health outcomes in an air basin, the CEQA documents will need to qualitatively or quantitatively address: (1) existing ambient criteria pollutant concentrations, health incidences due to existing air quality, and health incidences overall; 2) future (without project) ambient criteria pollutant concentrations and health incidences, and 3) future (with project) ambient criteria pollutant concentrations and health incidences.

Projects with significant criteria pollutant emissions could use regional modelling and BenMap to identify health effects of project emissions, but it is likely that many (or most) projects that are not regionally substantial in scale will be shown to have minimal regional changes in PM and ozone concentrations and therefore minimal changes in associated health effects. In addition, many projects may have emissions that are less than the uncertainty level of regional air quality models and BenMap health effects modeling; in these cases, quantitative results will not be meaningful. Thus, absent better direction from air districts, CEQA lead agencies will have to determine on a case by case basis whether a qualitative discussion of health effects will suffice, or whether regional modeling, despite its limitations, should be conducted for the project.

Where a project has substantial criteria pollutant emissions when considered on a regional scale, and there is reason to believe that the modeling of ambient air quality and regional health effects would produce non-speculative results when considering modeling uncertainties, then CEQA lead agencies should use regional modelling.

Conclusion

The purpose of CEQA is to inform the public as to the potential for a project to result in one or more significant adverse effects on the environment (including health effects). A CEQA document must provide an understandable and clear environmental analysis and provide an adequate basis for decision making and public disclosure. Regional dispersion modeling of criteria pollutants and secondary pollutants like PM and ozone can provide additional information, but that information may be within the margin of modelling uncertainty and/or may not be meaningful for the public and decision-makers unless a full health context is presented in the CEQA document. Simply providing health outcomes based on use of a regional-scale model and BenMap may not satisfy the goal to provide decision-makers and the public with information that would assist in weighting the environmental consequences of a project. A CEQA document must provide an analysis that is understandable for decision making and public disclosure. Regional scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation.

In order to accurately connect the dots, we urge California air districts to provide more guidance on how to identify and describe the health effects of exceeding regional criteria pollutant thresholds. The air districts are the primary agency responsible for ensuring that the air basins attain the AAQS and ensure the health and welfare of its residents relative to air quality. Because emissions forecasting and health outcomes are based on the regional growth projections to achieve the AAQS is under the purview of the air districts, it should fall on the air districts to identify the potential health outcomes associated with exceeding the CEQA thresholds for projects. The air districts should provide lead agencies with a consistent, reliable, and meaningful analytical approach to correlate specific health effects that may result from a project's criteria pollutant emissions.

Glossary

AAQS – Ambient Air Quality Standards

BenMap – Benefits Mapping and Analysis Program

CAMx – Comprehensive Air Quality Model with extensions

CMAQ – Community Multiscale Air Quality

NOx – Nitrogen Oxides

PM – Particulate Matter

SOx – Sulfur Oxides

State – California

USEPA – United States Environmental Protection Agency

S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.

SUPREME COURT
FILED

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Frank A. McGuire Clerk
Deputy

After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

**APPLICATION OF THE SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT FOR LEAVE TO FILE
BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY
AND [*PROPOSED*] BRIEF OF *AMICUS CURIAE***

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TABLE OF CONTENTS

APPLICATION FOR LEAVE TO FILE <i>amicus curiae</i> brief.....	App-1
HOW THIS BRIEF WILL ASSIST THE COURT	App-1
STATEMENT OF INTEREST OF <i>AMICUS CURIAE</i>	App-3
CERTIFICATION REGARDING AUTHORSHIP & FUNDING	App-4
BRIEF OF AMICUS CURIAE.....	1
SUMMARY OF ARGUMENT	1
ARGUMENT	2
I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.	2
A. Air Quality Regulatory Background.....	2
B. The SCAQMD's Role Under CEQA.....	6
II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.....	8
III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.....	16
A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document.....	16
B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.....	23
IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS.....	26
CONCLUSION.....	29

TABLE OF AUTHORITIES

State Cases

<i>Association of Irrigated Residents v. County of Madera</i> (2003) 107 Cal App.4th 1383	1, 9
<i>Bakersfield Citizens for Local Control v. City of Bakersfield</i> (2004) 124 Cal.App.4th 1184	9, 22
<i>Berkeley Keep Jets Over the Bay v. Board of Port Commissioners</i> (2007) 91 Cal.App.4th 1344.....	21, 28
<i>Center for Biological Diversity v. County of San Bernardino</i> (2010) 185 Cal.App.4th 866.	20
<i>Citizens of Goleta Valley v. Bd. of Supervisors</i> (1990) 52 Cal.3d 553	8-9
<i>County of Amador v. El Dorado County Water Agency</i> (1999) 76 Cal.App.4th 931	23
<i>Crocker National Bank v. City and County of San Francisco</i> (1989) 49 Cal.3d 881	18
<i>Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection</i> (2008) 43 Cal.4th 936.....	21
<i>Fall River Wild Trout Foundation v. County of Shasta</i> , (1999) 70 Cal.App.4th 482	27, 28
<i>Gray v. County of Madera</i> (2008) 167 Cal.App.4th 1099	25
<i>Laurel Heights Improvement Assn. v. Regents of the Univ of Cal. ("Laurel Heights I")</i> (1988) 47 Cal.3d 376.....	1, 8, 19, 20, 21, 22
<i>Natural Res. Def. Council v SCAQMD</i> , Los Angeles Superior Court No. BS110792.....	12
<i>Neighbors for Smart Rail v. Exposition Metro Line</i> (2013) 57 Cal.4th 439	15, 20

State Cases (cont'd)

Orange County Air Pollution Control District v. Public Util. Com.
(1971) 4 Cal.3d 945.....27

Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors
(2001) 87 Cal.App.4th 99.....19

Schenck v. County of Sonoma (2011)
198 Cal.App.4th 94926, 27

Sierra Club v. County of Fresno (2014)
226 Cal.App.4th 704 (superseded by grant of review)
172 Cal.Rptr.3d 2719, 23

Sierra Club v. State Bd. Of Forestry (1994)
7 Cal.4th 121528

Uphold Our Heritage v. Town of Woodside (2007)
147 Cal.App.4th 58720

Vineyard Area Citizens for Responsible Growth, Inc.
v. City of Rancho Cordova (2007)
40 Cal.4th 4121, 17, 19, 24, 25, 26

Western Oil & Gas Assn. v. Monterey Bay Unified APCD (1989)
49 Cal.3d 4085

California Statutes

Health & Saf. Code § 39666 5

Health & Saf. Code § 40000 3

Health & Saf. Code § 40001 3

Health & Saf. Code § 40410 3

Health & Saf. Code §§ 40460, et seq 4

Health & Saf. Code § 41508 5

Health & Saf. Code §§ 42300, et seq 5

Health & Saf. Code § 44320 5

Health & Saf. Code § 44322 5

Health & Saf. Code § 44360 5

Pub. Resources Code § 20180.3..... 27

Pub. Resources Code § 21061..... 19

Pub. Resources Code § 21061.1..... 16

California Statutes (cont'd)

Pub. Resources Code § 21080..... 6
Pub. Resources Code § 21080.5..... 6
Pub. Resources Code § 21083.1..... 26
Pub. Resources Code § 21100..... 27
Pub. Resources Code § 21104..... 6, 7 26
Pub. Resources Code §§ 21150-21154 7
Pub. Resources Code § 21151.8..... 25
Pub. Resources Code § 21153 6, 7, 26

California Regulations

Cal. Code Regs., tit. 14, §§ 15000, et seq. ("CEQA Guidelines")

CEQA Guidelines § 15050.....6
CEQA Guidelines § 15051..... 1, 6
CEQA Guidelines § 15073..... 6
CEQA Guidelines § 15086..... 6
CEQA Guidelines § 15088.5.....28
CEQA Guidelines § 15096.....6
CEQA Guidelines § 15126.2.....25
CEQA Guidelines § 15131.....26
CEQA Guidelines § 15144..... 19, 24
CEQA Guidelines § 15151.....9, 18, 19
CEQA Guidelines § 15204..... 1, 9, 21
CEQA Guidelines § 15251..... 6
CEQA Guidelines § 15366.....7
CEQA Guidelines § 15381.....6

Cal. Code Regs., tit. 17, § 601043

Federal Statutes

42 U.S.C. § 7401; CAA § 101 4
42 U.S.C. § 7408; CAA § 108 3
42 U.S.C. § 7409; CAA § 109 4
42 U.S.C. § 7410; CAA § 110 4, 5
42 U.S.C. § 7412; CAA § 112 5
42 U.S.C. § 7502; CAA § 172 5, 13
42 U.S.C. § 7503; CAA § 173 5, 13
42 U.S.C. § 7511a; CAA § 182..... 13
42 U.S.C. § 7521; CAA § 202 4
42 U.S.C. § 7543; CAA § 209 4
42 U.S.C. § 7547; CAA § 213 4

Rules

SCAQMD Rule 1303 7
SCAQMD Rule 1401 5, 8, 9

Other

Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) (Appendix G, “Environmental Checklist Form.”24

CARB, *Health Impacts Analysis: PM Premature Death Relationship* 14

CARB, *Health Impacts Analysis: PM Mortality Relationship* 16

CARB, Resolution 98-35, Aug. 27, 1998 8

SCAQMD, *Air Quality Analysis Handbook* 13

SCAQMD, *Final 2012 AQMP (Feb. 2013)* 3, 11

SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011)* 14-15

SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System*, 12

SCAQMD Governing Board Agenda, April 3, 2015, Agenda Item 16, Attachment A 7

SCAQMD, Health Risk Assessment Summary form 10

SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics “Hot Spots” Information and Assessment Act (AB2588)* 10

U.S. EPA, Ground Level Ozone 11

U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2 11

U.S. EPA, *Health Effects of Ozone in the General Population*, Figure 9, 11

U.S. EPA, National Ambient Air Quality Standards (NAAQS) 4

U.S. EPA, Particulate Matter (PM) 4

**TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE
SUPREME COURT:**

APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this *amicus* brief in support of neither party.

HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed *amicus* brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

- 1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
- 2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review *de novo*.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

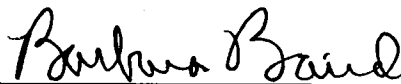
CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

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BRIEF OF AMICUS CURIAE

SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, “[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.” (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 [*“Laurel Heights I”*]) Accordingly, “an agency must use its best efforts to find out and disclose all that it reasonably can.” (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)¹). However, “[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible.” (*Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project’s pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

¹ The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq.*

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

ARGUMENT

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>; then follow “chapter 7” hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>; then follow “Executive Summary” hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called “criteria” document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called “criteria pollutants.” EPA must then establish “national ambient air quality standards” at levels “requisite to protect public health”,

allowing “an adequate margin of safety.” (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), <http://www.epa.gov/air/criteria.html> (last updated Oct. 21, 2014).)²

Under the Clean Air Act, EPA sets emission standards for motor vehicles and “nonroad engines” (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as “stationary sources.” The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified “major” stationary sources use technology to achieve the “lowest achievable emission rate,” and to control minor stationary sources as

² Particulate matter (PM) is further divided into two categories: fine particulate or PM_{2.5} (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate (PM₁₀) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), <http://www.epa.gov/airquality/particulatepollution/> (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called “hazardous air pollutants” calling for EPA to establish “maximum achievable control technology” (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as “toxic air contaminants” (TACs) which are subject to two state-required programs. The first program requires “air toxics control measures” for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare “health risk assessments” for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as “significant,” the facility must implement a “risk reduction plan” to bring its risk levels below “significant” levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, <http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv>; then follow “Rule 1401” hyperlink (last visited Apr. 1, 2015).)

B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the “lead agency” that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called “responsible” agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to “trustee agencies” and agencies “with jurisdiction by law” including “authority over resources which may be affected by the project.” (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.³

³ The SCAQMD's CEQA program for its rules is a “Certified Regulatory Program” under which it prepares a “functionally equivalent” document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.⁴ SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a “responsible agency” for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, <http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii>; then follow “Rule 1303” hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with “jurisdiction by law” over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

⁴ The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, <http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015>; then follow “16. Lead Agency Projects and Environmental Documents Received by SCAQMD” hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, <http://www.arb.ca.gov/regact/diesltac/diesltac.htm>; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, *supra*, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT’S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1*, *supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

Bd. of Supervisors (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must “draw[] a line that divides *sufficient* discussions from those that are *insufficient*.” (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that “[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis.” (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that “the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.” Case law reflects this: “Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible.” (*Association of Irrigated Residents v. County of Madera, supra*, 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be “feasible”; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a “health risk assessment” before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the “maximally exposed individual” (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588)*, pp. 11-16; (last visited Apr. 1, 2015) <http://www.aqmd.gov/home/library/documents-support-material>; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, <http://www.aqmd.gov/home/forms>; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants⁵, such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, <http://www.epa.gov/airquality/ozonepollution/> (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, <http://www.epa.gov/ttnamti1/archive/cpreldoc.html> (last visited Apr. 1, 2015).) NO_x and VOC are known as “precursors” of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population*, Figure 9, <http://www.epa.gov/apti/ozonehealth/population.html#levels> (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_x by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>; then follow “Appendix V: Modeling & Attainment Demonstrations” hyperlink,

⁵ See discussion of types of pollutants, *supra*, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_x and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts “internal bank” of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.⁶ The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day NO_x (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).⁷ (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6) at p. 4.1-35, Table 4.1-29.)

⁶ (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6*, <http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011>; the follow “26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System” (last visited April 1, 2015).)

⁷ The SCAQMD was able to establish the location of future NO_x and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of NO_x or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NO_x with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; <https://www.epa.gov/ttnamti1/archive/cpreldoc.html>; then search “Guideline on Ozone Monitoring Site Selection” click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA “significance” threshold for NO_x and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>; then follow “SCAQMD Air Quality Significance Thresholds” hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a “major” stationary source for “extreme” ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA “significance” finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of NO_x or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD’s thresholds of significance may determine

that many projects have “significant” air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter (PM_{2.5})⁸, another “criteria” pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of PM_{2.5}. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional PM_{2.5} in the District, up to 2.82 tons/day (5,650 lbs/day of PM_{2.5}, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this PM_{2.5} health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties.⁹ (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

⁸ SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for “PM_{2.5}” or particulate matter less than 2.5 microns in diameter.

⁹ Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011), <http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011>; then follow “Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project” hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small PM_{2.5} increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated PM_{2.5} emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the “normal” “existing conditions” CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.¹⁰

¹⁰ Whether a particular study would result in “informational value” is a part of deciding whether it is “feasible.” CEQA defines “feasible” as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.¹¹ Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, <http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm> (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

¹¹ In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, “a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts.” (*Vineyard Area Citizens v. City of Rancho Cordova, supra*, 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency’s action de novo under the “independent judgment” test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby “accord[ing] greater deference to the agency’s substantive factual conclusions.” (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project’s impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR’s analysis is sufficient to meet CEQA’s informational purposes,¹² while Friant Ranch contends that the substantial evidence standard applies to this question.

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¹² Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,¹³ containing two levels of inquiry that should be judged by different standards.¹⁴

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

¹³ Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

¹⁴ Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document*." (*Laurel Heights I, supra*, 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra*, 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses “in sufficient detail to enable meaningful participation and criticism by the public. ‘[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.’” (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, supra*, 57 Cal.4th 439, 448, 457:

whether “existing conditions” baseline would be misleading or uninformative judged by substantial evidence standard.¹⁵)

If the lead agency’s determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA’s information disclosure provisions, since it would be infeasible to provide additional information. This Court’s decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency’s finding that “the precise parameters of future herbicide use could not be predicted.” *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact “substantial”. (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

¹⁵ The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra*, 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA’s informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a “project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary.” (*Laurel Heights I, supra*, 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA “does not require a lead agency to conduct every test. . . recommended or demanded by commenters.”].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA’s informational purposes.¹⁶

¹⁶ We recognize that there is case law stating that the substantial evidence standard applies to “challenges to the scope of an EIR’s analysis of a topic” as well as the methodology used and the accuracy of the data relied on in the document “because these types of challenges involve factual questions.” (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra*, 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed “omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project.” *Bakersfield, supra*, 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra*, 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the “scope of the analysis” to be judged by the substantial evidence standard.

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra*, at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR" (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra*, at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, “Environmental Checklist Form.”¹⁷) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency’s noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts’ proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA’s prohibition on courts interpreting its provisions “in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines.” (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra*, at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project’s significant impacts on human health. However, except in certain particular circumstances,¹⁸ neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law’s requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe “health and safety problems caused by {a project’s} physical changes”].) Accordingly, courts must interpret CEQA as a whole to

¹⁷ Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

¹⁸ E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.¹⁹ Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck*, 198 Cal.App.4th at p. 959 (citations omitted).²⁰

¹⁹ We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131), or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

²⁰ Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta*, (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)²¹

districts should be considered “state agencies” for purposes of the requirement to consult with “trustee agencies” as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere “local agencies” whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id.* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

²¹ In *Schenck*, the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck*, 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district’s published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district’s published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra*, 91 Cal.App.4th 1344, 1369-1371.)

guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra*, 70 Cal.App.4th 482, 492.

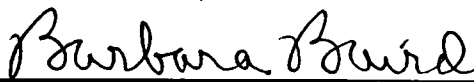
CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is “sufficient as an informational document” is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
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CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015

Respectfully submitted,


Barbara Baird

PROOF OF SERVICE

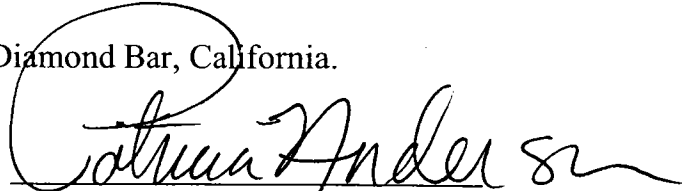
I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.


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SUPREME COURT COPY

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

SUPREME COURT
FILED

APR 13 2015

Frank A. McGuire Clerk
Deputy

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

**APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF
SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN
SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND
REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.**

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APPLICATION

Pursuant to California Rules of Court 8.520(f)(1), proposed Amicus Curiae San Joaquin Valley Unified Air Pollution Control District hereby requests permission from the Chief Justice to file an amicus brief in support of Defendant and Respondent, County of Fresno, and Defendant and Real Parties in Interest Friant Ranch, L.P. Pursuant to Rule 8.520(f)(5) of the California Rules of Court, the proposed amicus curiae brief is combined with this Application. The brief addresses the following issue certified by this Court for review:

Is an EIR adequate when it identifies the health impacts of air pollution and quantifies a project's expected emissions, or does CEQA further require the EIR to *correlate* a project's air quality emissions to specific health impacts?

As of the date of this filing, the deadline for the final reply brief on the merits was March 5, 2015. Accordingly, under Rule 8.520(f)(2), this application and brief are timely.

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District

The San Joaquin Valley Unified Air Pollution Control District ("Air District") regulates air quality in the eight counties comprising the San Joaquin Valley ("Central Valley"): Kern, Tulare, Madera, Fresno, Merced, San Joaquin, Stanislaus, and Kings, and is primarily responsible for attaining air quality standards within its jurisdiction. After billions of dollars of investment by Central Valley businesses, pioneering air quality regulations, and consistent efforts by residents, the Central Valley air basin has made historic improvements in air quality.

The Central Valley's geographical, topographical and meteorological features create exceptionally challenging air quality

conditions. For example, it receives air pollution transported from the San Francisco Bay Area and northern Central Valley communities, and the southern portion of the Central Valley includes three mountain ranges (Sierra, Tehachapi, and Coastal) that, under some meteorological conditions, effectively trap air pollution. Central Valley air pollution is only a fraction of what the Bay Area and Los Angeles produce, but these natural conditions result in air quality conditions that are only marginally better than Los Angeles, even though about ten times more pollution is emitted in the Los Angeles region. Bay Area air quality is much better than the Central Valley's, even though the Bay Area produces about six times more pollution. The Central Valley also receives air pollution transported from the Bay Area and northern counties in the Central Valley, including Sacramento, and transboundary anthropogenic ozone from as far away as China.

Notwithstanding these challenges, the Central Valley has reduced emissions at the same or better rate than other areas in California and has achieved unparalleled milestones in protecting public health and the environment:

- In the last decade, the Central Valley became the first air basin classified by the federal government under the Clean Air Act as a “serious nonattainment” area to come into attainment of health-based National Ambient Air Quality Standard (“NAAQS”) for coarse particulate matter (PM10), an achievement made even more notable given the Valley’s extensive agricultural sector. Unhealthy levels of particulate matter can cause and exacerbate a range of chronic and acute illnesses.
- In 2013, the Central Valley became the first air basin in the country to improve from a federal designation of “extreme” nonattainment to

actually attain (and quality for an attainment designation) of the 1-hour ozone NAAQS; ozone creates “smog” and, like PM10, causes adverse health impacts.

- The Central Valley also is in full attainment of federal standards for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The Central Valley continues to make progress toward compliance with its last two attainment standards, with the number of exceedences for the 8-hour ozone NAAQS reduced by 74% (for the 1997 standard) and 38% (for the 2008 standard) since 1991, and for the small particulate matter (PM2.5) NAAQS reduced by 85% (for the 1997 standard) and 61% (for the 2006 standard).

Sustained improvement in Central Valley air quality requires a rigorous and comprehensive regulatory framework that includes prohibitions (e.g., on wood-burning fireplaces in new residences), mandates (e.g., requiring the installation of best available pollution reduction technologies on new and modified equipment and industrial operations), innovations (e.g., fees assessed against residential development to fund pollution reduction actions to “offset” vehicular emissions associated with new residences), incentive programs (e.g., funding replacements of older, more polluting heavy duty trucks and school buses)¹, ongoing planning for continued air quality improvements, and enforcement of Air District permits and regulations.

The Air District is also an expert air quality agency for the eight counties and cities in the San Joaquin Valley. In that capacity, the Air District has developed air quality emission guidelines for use by the Central

¹ San Joaquin’s incentive program has been so successful that through 2012, it has awarded over \$ 432 million in incentive funds and has achieved 93,349 tons of lifetime emissions reductions. See SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2012 PM2.5 PLAN, 6-6 (2012) available at <http://www.valleyair.org/Workshops/postings/2012/12-20-12PM25/FinalVersion/06%20Chapter%206%20Incentives.pdf>.

Valley counties and cities that implement the California Environment Quality Act (CEQA).² In its guidance, the Air District has distinguished between toxic air contaminants and criteria air pollutants.³ Recognizing this distinction, the Air District's CEQA Guidance has adopted distinct thresholds of significance for *criteria* pollutants (i.e., ozone, PM2.5 and their respective precursor pollutants) based upon scientific and factual data which demonstrates the level that can be accommodated on a cumulative basis in the San Joaquin Valley without affecting the attainment of the applicable NAAQS.⁴ For *toxic air* pollutants, the District has adopted different thresholds of significance which scientific and factual data demonstrates has the potential to expose sensitive receptors (i.e., children, the elderly) to levels which may result in localized health impacts.⁵

The Air District's CEQA Guidance was followed by the County of Fresno in its environment review of the Friant Ranch project, for which the Air District also served as a commenting agency. The Court of Appeal's holding, however, requiring correlation between the project's criteria

² See, e.g., SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PLANNING DIVISION, GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2015), available at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf ("CEQA Guidance").

³ Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health, they are distinguishable from toxic air contaminants and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of toxic air contaminants occurs solely under section 112 of the Act. Compare 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 with 42 U.S.C. § 7411.

⁴ See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 64-66, 80.

⁵ See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 66, 99-101.

pollutants and local health impacts, departs from the Air District's Guidance and approved methodology for assessing criteria pollutants. A close reading of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants (for which a local health risk assessment is feasible and routinely performed) and criteria air pollutants (for which a local health risk assessment is not feasible and would result in speculative results).⁶ The Air District has a direct interest in ensuring the lawfulness and consistent application of its CEQA Guidance, and will explain how the Court of Appeal departed from the Air District's long-standing CEQA Guidance in addressing criteria pollutants and toxic air contaminants in this amicus brief.

2. How the Proposed Amicus Curiae Brief Will Assist the Court

As counsel for the proposed amicus curiae, we have reviewed the briefs filed in this action. In addition to serving as a "commentary agency" for CEQA purposes over the Friant Ranch project, the Air District has a strong interest in assuring that CEQA is used for its intended purpose, and believes that this Court would benefit from additional briefing explaining the distinction between criteria pollutants and toxic air contaminants and the different methodologies employed by local air pollution control agencies such as the Air District to analyze these two categories of air pollutants under CEQA. The Air District will also explain how the Court of Appeal's opinion is based upon a fundamental misunderstanding of these two different approaches by requiring the County of Fresno to correlate the project's *criteria* pollution emissions with *local* health impacts. In doing

⁶ CEQA does not require speculation. *See, e.g., Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 6 Cal. 4th 1112, 1137 (1993) (upholding EIR that failed to evaluate cumulative toxic air emission increases given absence of any acceptable means for doing so).

so, the Air District will provide helpful analysis to support its position that at least insofar as criteria pollutants are concerned, CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible.

Rule 8.520 Disclosure

Pursuant to Cal. R. 8.520(f)(4), neither the Plaintiffs nor the Defendant or Real Party In Interest or their respective counsel authored this brief in whole or in part. Neither the Plaintiffs nor the Defendant or Real Party in Interest or their respective counsel made any monetary contribution towards or in support of the preparation of this brief.

CONCLUSION

On behalf of the San Joaquin Valley Unified Air Pollution Control District, we respectfully request that this Court accept the filing of the attached brief.

Dated: April 2, 2015



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SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

**AMICUS CURIAE BRIEF OF
SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN
SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND
REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.**

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TABLE OF CONTENTS

APPLICATION.....1

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District.....1

2. How the Proposed Amicus Curiae Brief Will Assist the Court5

CONCLUSION.....6

I. INTRODUCTION1

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.....3

A, Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project’s Air Emissions and Specific Human Health Impacts.....4

B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants11

III. CONCLUSION.....15

CERTIFICATE OF WORD COUNT.....17

TABLE OF AUTHORITIES

CASES

Bakersfield Citizens for Local Control v. City of Bakersfield
(2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203 15

Citizens for Responsible Equitable Environmental Development
v. City of San Diego, (2011) 196 Cal.App.4th 515, 527
129 Cal.Rptr.3d 512, 52114

Kings County Farm Bureau v. City of Hanford (1990)
221 Cal.App.3d 692, 717 n. 8.10

Sierra Club v. City of Orange (2008) 163 Cal.App.4th
523, 535, 78 Cal.Rptr.3d 1, 1314

Sierra Club v. City of Orange,163 Cal.App.4th at 536..... 15

Sierra Club v. County of Fresno (2014) 172 Cal.Rptr.3d 271, 306..... 12

Sierra Club, supra, 172 Cal.Rptr.3d at 303; AR 45548

FEDERAL STATUTES

United States Environmental Protection Agency (“EPA”)
Clean Air Act. 42 U.S.C. § 74121,2,5,6

42 U.S.C. § 7412.....1

U.S.C. §§ 7407 – 7411.....1

U.S.C. §§ 7501 – 7515.....1

42 U.S.C. § 7411.....1

42 U.S.C. § 7412(b).....1,2

42 U.S.C. § 7409(b)(1) 2, 6

CALIFORNIA STATUTES

California Environmental Quality Act
 (“CEQA”).....*passim*

OTHER AUTHORITIES

United States Environmental Protection Agency,
Ground-level Ozone: Basic Information,
available at: <http://www.epa.gov/airquality/ozonepollution/basic.html>
(visited March 10, 015).....4

San Joaquin Valley Air Pollution Control District 2007 Ozone Plan,
Executive Summary p. ES-6, available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).....5

United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at:
<http://www.epa.gov/airquality/particulatepollution/basic.html>
(visited March 10, 2015).....5

United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at:
<http://www.epa.gov/air/criteria.html#3> (visited March 10, 2015)6

San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard, Ch. 2 p. 2-16,
available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).....6

Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM2.5 Plan*,
Appendix F, pp. F-2 – F-5, available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).....6

San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at:
<http://www.valleyair.org/rules/currnrules/Rule22010411.pdf>
(visited March 19, 2015).....7

San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts, (March 19, 2015) p. 22,
available at:
<http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf> (visited March 30, 2015).....7

San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).....8

San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan, Appendix B pp. B-6, B-9, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).....9

I. INTRODUCTION.

The San Joaquin Valley Unified Air Pollution Control District (“Air District”) respectfully submits that the Court of Appeal erred when it held that the air quality analysis contained in the Environmental Impact Report (“EIR”) for the Friant Ranch development project was inadequate under the California Environmental Quality Act (“CEQA”) because it did not include an analysis of the correlation between the project’s criteria air pollutants and the potential adverse human health impacts. A close reading of the portion of the administrative record that gave rise to this issue demonstrates that the Court’s holding is based on a misunderstanding of the distinction between toxic air contaminants and criteria air pollutants.

Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants (hereinafter referred to as “TACs”) regulated by the United States Environmental Protection Agency (“EPA”) and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health,

they are distinguishable from TACs and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of TACs occurs solely under section 112 of the Act. *Compare* 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 *with* 42 U.S.C. § 7411.

The most relevant difference between criteria pollutants and TACs for purposes of this case is the manner in which human health impacts are accounted for. While it is common practice to analyze the correlation between an individual facility's TAC emissions and the expected localized human health impacts, such is not the case for criteria pollutants. Instead, the human health impacts associated with criteria air pollutants are analyzed and taken into consideration when EPA sets the national ambient air quality standard ("NAAQS") for each criteria pollutant. 42 U.S.C. § 7409(b)(1). The health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility / health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.

It is clear from a reading of both the administrative record and the Court of Appeal's decision that the Court did not have the expertise to fully

appreciate the difference between TACs and criteria air pollutants. As a result, the Court has ordered the County of Fresno to conduct an analysis that is not practicable and not likely yield valid information. The Air District respectfully requests that this portion of the Court of Appeal's decision be reversed.

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.

Although the Air District does not take lightly the amount of air emissions at issue in this case, it submits that the Court of Appeal got it wrong when it required Fresno County to revise the Friant Ranch EIR to include an analysis correlating the criteria air pollutant emissions associated with the project with specific, localized health-impacts. The type of analysis the Court of Appeal has required will not yield reliable information because currently available modeling tools are not well suited for this task. Further, in reviewing this issue de novo, the Court of Appeal failed to appreciate that it lacked the scientific expertise to appreciate the significant differences between a health risk assessment commonly performed for toxic air contaminants and a similar type of analysis it felt should have been conducted for criteria air pollutants.

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A. Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.

In order to appreciate the problematic nature of the Court of Appeals' decision requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated.

Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight.¹ Once formed, ozone can be transported long distances by wind.² Because of the complexity of ozone formation, a specific tonnage amount of NO_x or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NO_x or VOCs can have high levels of ozone concentration simply due to wind transport.³ Conversely, the San Francisco Bay Area has six times more NO_x and VOC emissions per square mile than the San Joaquin Valley, but experiences lower

¹ See United States Environmental Protection Agency, *Ground-level Ozone: Basic Information*, available at: <http://www.epa.gov/airquality/ozonepollution/basic.html> (visited March 10, 2015).

² *Id.*

³ *Id.*

concentrations of ozone (and better air quality) simply because sea breezes disperse the emissions.⁴

Particulate matter (“PM”) can be divided into two categories: directly emitted PM and secondary PM.⁵ While directly emitted PM can have a localized impact, the tonnage emitted does not always equate to the local PM concentration because it can be transported long distances by wind.⁶ Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SO_x) and NO_x.⁷ Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the *tonnage* of precursor pollutants (NO_x, SO_x and VOCs) and the *concentration* of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Indeed, the national ambient air quality standards (“NAAQS”), which are statutorily required to be set by the United States Environmental Protection

⁴ *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, Executive Summary p. ES-6, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).

⁵ United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at: <http://www.epa.gov/airquality/particlepollution/basic.html> (visited March 10, 2015).

⁶ *Id.*

⁷ *Id.*

Agency (“EPA”) at levels that are “requisite to protect the public health,” 42 U.S.C. § 7409(b)(1), are established as concentrations of ozone or particulate matter and not as tonnages of their precursor pollutants.⁸

Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period.⁹ Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District’s tools and plans for attaining the NAAQS are regional in nature.

For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NO_x, SO_x and VOCs) and the atmospheric chemistry and meteorology of the Valley.¹⁰ At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor

⁸ See, e.g., United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at: <http://www.epa.gov/air/criteria.html#3> (visited March 10, 2015).

⁹ *San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16, available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).

¹⁰ *Id.* at Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM_{2.5} Plan*, Appendix F, pp. F-2 – F-5, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).

emissions Valley wide.¹¹ Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.

The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which *all* of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.¹²

Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the Valley can accommodate without affecting the attainment date for the NAAQS.¹³ The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources permitted by the Air District must "offset" their emissions.¹⁴ This "offset"

¹¹ *Id.*

¹² Although the Air District does have a dispersion modeling tool used during its air permitting process that is used to predict whether a particular project's directly emitted PM will either cause an exceedance of the PM NAAQS or contribute to an existing exceedance, this model bases the prediction on a worst case scenario of emissions and meteorology and has no provision for predicting any associated human health impacts. Further, this analysis is only performed for stationary sources (factories, oil refineries, etc.) that are required to obtain a New Source Review permit from the Air District and not for development projects such as Friant Ranch over which the Air District has no preconstruction permitting authority. See San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at: <http://www.valleyair.org/rules/currntrules/Rule22010411.pdf> (visited March 19, 2015).

¹³ *San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22, available at: <http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf> (visited March 30, 2015).

¹⁴ *Id.* at pp. 22, 25.

level allows for growth while keeping the cumulative effects of all new sources at a level that will not impede attainment of the NAAQS.¹⁵ In the Valley, these thresholds are 15 tons per year of PM, and 10 tons of NOx or VOC per year. *Sierra Club, supra*, 172 Cal.Rptr.3d at 303; AR 4554. Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, “cumulative impacts.”

Accordingly, the significance thresholds applied in the Friant Ranch EIR (15 tons per year of PM and 10 tons of NOx or VOCs) are not intended to be indicative of any localized human health impact that the project may have. While the health effects of air pollution are of primary concern to the Air District (indeed, the NAAQS are established to protect human health), the Air District is simply not equipped to analyze whether and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area. This is true even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.

For instance, according to the EIR, the Friant Ranch project is estimated to emit 109.52 tons per year of ROG (VOC), 102.19 tons per year of NOx, and 117.38 tons per year of PM. Although these levels well

¹⁵ ¹⁵ *San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines* (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).

exceed the Air District's CEQA significance thresholds, this does not mean that one can easily determine the concentration of ozone or PM that will be created at or near the Friant Ranch site on a particular day or month of the year, or what specific health impacts will occur. Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single "point source," but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site.

In addition, it would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have. As discussed above, the currently available modeling tools are equipped to model the impact of *all* emission sources in the Valley on attainment. According to the most recent EPA-approved emission inventory, the NO_x inventory for the Valley is for the year 2014 is 458.2 tons per day, or 167,243 tons per year and the VOC (or ROG) inventory is 361.7 tons per day, or 132,020.5 tons per year.¹⁶ Running the photochemical grid model used for predicting ozone attainment with the

¹⁶ *San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan*, Appendix B pp. B-6, B-9, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AO_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).

emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved.

Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level.

For these reasons, it is not the norm for CEQA practitioners, including the Air District, to conduct an analysis of the localized health impacts associated with a project's criteria air pollutant emissions as part of the EIR process. When the accepted scientific method precludes a certain type of analysis, "the court cannot impose a legal standard to the contrary." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717 n. 8. However, that is exactly what the Court of Appeal has done in this case. Its decision upends the way CEQA air quality analysis of criteria pollutants occurs and should be reversed.

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B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants.

The Court of Appeal's error in requiring the new health impact analysis for criteria air pollutants clearly stems from a misunderstanding of terms of art commonly used in the air pollution field. More specifically, the Court of Appeal (and Appellants Sierra Club et al.) appear to have confused the health risk analysis ("HRA") performed to determine the health impacts associated with a project's toxic air contaminants ("TACs"), with an analysis correlating a project's criteria air pollutants (ozone, PM and the like) with specific localized health impacts.

The first type of analysis, the HRA, is commonly performed during the Air District's stationary source permitting process for projects that emit TACs and is, thus, incorporated into the CEQA review process. An HRA is a comprehensive analysis to evaluate and predict the dispersion of TACs emitted by a project and the potential for exposure of human populations. It also assesses and quantifies both the individual and population-wide health risks associated with those levels of exposure. There is no similar analysis conducted for criteria air pollutants. Thus, the second type of analysis (required by the Court of Appeal), is not currently part of the Air District's process because, as outlined above, the health risks associated

with exposure to criteria pollutants are evaluated on a regional level based on the region's attainment of the NAAQS.

The root of this confusion between the types of analyses conducted for TACs versus criteria air pollutants appears to stem from a comment that was presented to Fresno County by the City of Fresno during the administrative process.

In its comments on the draft EIR, the City of Fresno (the only party to raise this issue) stated:

[t]he EIR must disclose the human health related effects of the Project's air pollution impacts. (CEQA Guidelines section 15126.2(a).) The EIR fails completely in this area. The EIR should be revised to disclose and determine the significance of TAC impacts, and of human health risks due to exposure to Project-related air emissions.

(AR 4602.)

In determining that the issue regarding the correlation between the Friant Ranch project's criteria air pollutants and adverse health impacts was adequately exhausted at the administrative level, the Court of Appeal improperly read the first two sentences of the City of Fresno's comment in isolation rather than in the context of the entire comment. *See Sierra Club v. County of Fresno* (2014) 172 Cal.Rptr.3d 271, 306. Although the comment first speaks generally in terms of "human health related effects" and "air pollution," it requests only that the EIR be revised to disclose "the significance of TACs" and the "human health risks due to exposure."

The language of this request in the third sentence of the comment is significant because, to an air pollution practitioner, the language would only have indicated only that a HRA for TACs was requested, and not a separate analysis of the health impacts associated with the project's criteria air pollutants. Fresno County clearly read the comment as a request to perform an HRA for TACs and limited its response accordingly. (AR 4602.)¹⁷ The Air District submits that it would have read the City's comment in the same manner as the County because the City's use of the terms "human health risks" and "TACs" signal that an HRA for TACs is being requested. Indeed, the Air District was also concerned that an HRA be conducted, but understood that it was not possible to conduct such an analysis until the project entered the phase where detailed site specific information, such as the types of emission sources and the proximity of the sources to sensitive receptors became available. (AR 4553.)¹⁸ The City of Fresno was apparently satisfied with the County's discussion of human health risks, as it did not raise the issue again when it commented on the final EIR. (AR 8944 – 8960.)

¹⁷ Appellants do not challenge the manner in which the County addressed TACs in the EIR. (Appellants' Answer Brief p. 28 fn. 7.)

¹⁸ Appellants rely on the testimony of Air District employee, Dan Barber, as support for their position that the County should have conducted an analysis correlating the project's criteria air pollutant emissions with localized health impacts. (Appellants Answer Brief pp. 10-11; 28.) However, Mr. Barber's testimony simply reinforces the Air District's concern that a risk assessment (HRA) be conducted once the actual details of the project become available. (AR 8863.) As to criteria air pollutants, Mr. Barber's comments are aimed at the Air District's concern about the amount of emissions and the fact that the emissions will make it "more difficult for Fresno County and the Valley to reach attainment which means that the health of Valley residents maybe [sic] adversely impacted." Mr. Barber says nothing about conducting a separate analysis of the localized health impacts the project's emissions may have.

The Court of Appeal's holding, which incorrectly extrapolates a request for an HRA for TACs into a new analysis of the localized health impacts of the project's criteria air pollutants, highlights two additional errors in the Court's decision.

First, the Court of Appeal's holding illustrates why the Court should have applied the deferential substantial evidence standard of review to the issue of whether the EIR's air quality analysis was sufficient. The regulation of air pollution is a technical and complex field and the Court of Appeal lacked the expertise to fully appreciate the difference between TACs and criteria air pollutants and tools available for analyzing each type of pollutant.

Second, it illustrates that the Court likely got it wrong when it held that the issue regarding the criteria pollutant / localized health impact analysis was properly exhausted during the administrative process. In order to preserve an issue for the court, '[t]he "exact issue" must have been presented to the administrative agency....' [Citation.] *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13. "[T]he objections must be sufficiently specific so that the agency has the

opportunity to evaluate and respond to them.’ [Citation.]” *Sierra Club v. City of Orange*, 163 Cal.App.4th at 536.¹⁹

As discussed above, the City’s comment, while specific enough to request a commonly performed HRA for TACs, provided the County with no notice that it should perform a new type of analysis correlating criteria pollutant tonnages to specific human health effects. Although the parties have not directly addressed the issue of failure to exhaust administrative remedies in their briefs, the Air District submits that the Court should consider how it affects the issues briefed by the parties since “[e]xhaustion of administrative remedies is a jurisdictional prerequisite to maintenance of a CEQA action.” *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203.

III. CONCLUSION

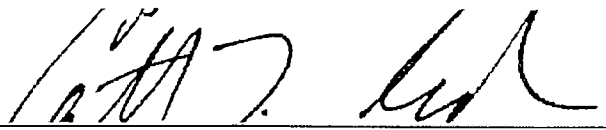
For all of the foregoing reasons, the Air District respectfully requests that the portion of the Court of Appeal’s decision requiring an analysis correlating the localized human health impacts associated with an individual project’s criteria air pollutant emissions be reversed.

¹⁹ *Sierra Club v. City of Orange*, is illustrative here. In that case, the plaintiffs challenged an EIR approved for a large planned community on the basis that the EIR improperly broke up the various environmental impacts by separate project components or “piecemealed” the analysis in violation of CEQA. In evaluating the defense that the plaintiffs had failed to adequately raise the issue at the administrative level, the Court held that comments such as “*the use of a single document for both a project-level and a program-level EIR [is] ‘confusing’*,” and “[t]he lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project,” were too vague to fairly raise the argument of piecemealing before the agency. *Sierra Club v. City of Orange*, 163 Cal.App.4th at 537.

correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

Respectfully submitted,

Dated: April 2, 2015



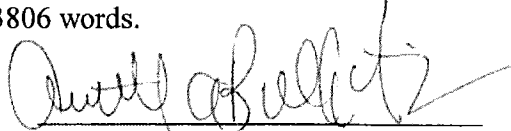
Catherine T. Redmond
Attorney for Proposed Amicus
Curiae

SAN JOAQUIN VALLEY
UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.204 of the California Rules of Court, I hereby certify that this document, based on the Word County feature of the Microsoft Word software program used to compose and print this document, contains, exclusive of caption, tables, certificate of word count, signature block and certificate of service, 3806 words.

Dated: April 2, 2015



Annette A. Ballatore-Williamson
District Counsel (SBN 192176)

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

PROOF OF SERVICE

I am over the age of 18 years and not a party to the above-captioned action; that my business address is San Joaquin Valley Unified Air Pollution Control District located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

On April 2, 2015, I served the document described below:

**APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF
SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN
SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO**

On all parties to this action at the following addresses and in the following manner:

PLEASE SEE ATTACHED SERVICE LIST

- (XX) **(BY MAIL)** I caused a true copy of each document(s) to be laced in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United State Postal Service collection box for pick-up and delivery that same day.
- () **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via electronic mail transfer system in place at the San Joaquin Valley Unified Air Pollution Control District ("District"), originating from the undersigned at 1990 E. Gettysburg Avenue, Fresno, CA, to the address(es) indicated below.
- () **(BY OVERNIGHT MAIL)** I caused a true and correct copy to be delivered via Federal Express to the following person(s) or their representative at the address(es) listed below.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I executed this document on April 2, 2015, at Fresno, California.



Esthela Soto

SERVICE LIST

Sierra Club et al, v. County of Fresno, et al

Supreme Court of California Case No.: S219783

Fifth District Court of Appeal Case No.: F066798

Fresno County Superior Court Case No.: 11CECG00726

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<p>Jennifer L. Hernandez, Esq. HOLLAND & KNIGHT LLP 50 California Street, Suite 2800 San Francisco, California 94111</p>	<p>On behalf of Amicus Curiae, CEQA Research Council</p>

Telephone: (415) 743-6927 Facsimile: (415) 743-6910 Email: Jennifer.hernandez@hklaw.com	
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Appendix 5.4-1 Biological Resources Assessment

Appendices

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Biological Resources Assessment for the City of Wildomar General Plan Update

Riverside County, California

Prepared For:

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3 MacArthur Place, Suite 1100
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Prepared By:



2861 Pullman Street
Santa Ana, California 92705

November 2023 (revised March 2024)

TABLE OF CONTENTS

1.0 INTRODUCTION 1

 1.1 City Location 1

 1.2 Project Description 1

 1.3 Purpose of this General Plan Update 5

 1.4 MSHCP Context 5

 1.4.1 Conserved Lands and Criteria Cells 5

 1.4.2 Public/Quasi-Public Lands 7

 1.4.3 MSHCP Conserved Lands 7

 1.4.4 Covered Roads 9

 1.4.5 Wildlife Crossings 9

 1.5 Reserve Assembly Analysis 9

 1.5.1 Conservation Goals of Area Plans within and adjacent to the City 15

 1.5.2 Conservation within Criteria Cells 17

 1.5.3 Public Quasi-Public Lands 21

2.0 REGULATORY SETTING 22

 2.1 Federal Regulations 22

 2.1.1 Federal Endangered Species Act 22

 2.1.2 Migratory Bird Treaty Act 23

 2.1.3 Bald and Golden Eagle Protection Act 24

 2.1.4 Federal Clean Water Act 24

 2.1.5 Magnuson-Stevens Fishery Conservation and Management Act 25

 2.1.6 Federal Rivers and Harbors Act 25

 2.1.7 Executive Order 11990- Protection of Wetlands 25

 2.1.8 Executive Order 13112- Invasive Species Protection 25

 2.1.9 National Environmental Policy Act 26

 2.2 State Regulations 26

 2.2.1 California Endangered Species Act 26

 2.2.2 Fully Protected Species 26

 2.2.3 Native Plant Protection Act 27

 2.2.4 California Fish and Game Code 27

 2.2.5 California Wild and Scenic Rivers Act 29

 2.2.6 Porter-Cologne Water Quality Control Act 29

 2.2.7 California Environmental Quality Act 29

 2.3 Local Policies, Ordinances, and Other Plans 32

 2.3.1 Riverside County/Wildomar General Plan 32

2.3.2	Riverside County Oak Tree Management Guidelines	36
2.3.3	Western Riverside County Multiple Species Habitat Conservation Plan.....	36
2.3.4	Stephens' Kangaroo Rat Conservation Plan	38
3.0	METHODS.....	39
3.1	Literature Review.....	39
4.0	RESULTS.....	40
4.1	Site Characteristics and Land Use.....	40
4.2	Soils	40
4.3	Vegetation Communities and Land Cover Types.....	61
4.3.1	Agricultural Land	62
4.3.2	Chaparral.....	62
4.3.3	Coastal Sage Scrub	78
4.3.4	Grassland	78
4.3.5	Meadows and Marshes	78
4.3.6	Riparian Scrub, Woodland, and Forest	78
4.3.7	Water.....	79
4.3.8	Woodland and Forests	79
4.3.9	Developed/Disturbed	79
4.4	Aquatic Resources	79
4.5	Special-Status Species Documented to Occur in the City.....	96
4.5.1	Plants.....	96
4.5.2	Wildlife.....	103
4.6	Critical Habitat and Essential Fish Habitat.....	113
4.7	Riparian Habitats and Sensitive Natural Communities.....	113
4.8	Wildlife Movement/Corridors and Nursery Sites	114
5.0	RECOMMENDATIONS.....	115
5.1	General Biological Measures	115
5.2	Special-Status Species.....	116
5.2.1	Wildlife.....	116
5.3	Riparian Habitat/Riverine Areas, and Vernal Pools.....	120
5.4	Aquatic Resources, Including Waters of the U.S. and State.....	120
5.5	Wildlife Movement/Corridors and Nursery Sites	121
5.6	Local Policies, Ordinances, and Other Plans.....	121
6.0	REFERENCES.....	122

LIST OF TABLES

Table 1. Criteria Cell Reserve Assembly Analysis Acreages 11

Table 2. Conservation within Criteria Cells 17

Table 3. NRCS Soil Types 40

Table 4. Vegetation Communities and Land Cover Types 61

Table 5. Special-Status Plant Species Identified in the Literature Review 98

Table 6. Special-Status Wildlife Species Identified in the Literature Review 107

LIST OF FIGURES

Figure 1. Project Location and Vicinity 2

Figure 2A. MSHCP Reserve Assembly 6

Figure 2B. MSHCP Criteria Area Species, Critical Habitat, and Conserved Lands 8

Figure 2C. RCA Information 10

Figure 3. Natural Resources Conservation Service Soil Types 46

Figure 4. Vegetation Communities and Land Cover Types 63

Figure 5. National Wetlands Inventory 81

LIST OF APPENDICES

Appendix A – Biological Resources Recommendations Flow Charts

Appendix B – 2024 MSHCP Fee Schedule

Appendix C – SKR Plan Area

Appendix D – Literature Review And Database Results

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
amsl	Above Mean Sea Level
BA	Biological Assessment
BCC	USFWS Bird of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations

Term	Definition
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ECORP	ECORP Consulting, Inc.
EFH	Essential Fish Habitat
EO	Executive Order
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FMP	Fishery Management Plan
HANS	Habitat Evaluation and Acquisition Negotiation Process
HCP	Habitat Conservation Plan
I	Interstate
IA	Implementing Agreement
IPaC	Information for Planning and Conservation
ITP	Incidental Take Permit
MBTA	Migratory Bird Treaty Act
MSHCP	Multiple Species Habitat Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High-Water Mark
PQP	Public Quasi-Public
RCA	Regional Conservation Authority
RCD	Resource Conservation District
RCHCA	Riverside County Habitat Conservation Agency
RCIP	Riverside County Integrative Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SKR	Stephens' kangaroo rat
SSC	California Species of Special Concern
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

On behalf of the City of Wildomar (City), ECORP Consulting, Inc. is providing this General Plan Update. The City of Wildomar (City) does not currently have its own General Plan; instead, it refers to the County of Riverside General Plan (Riverside County Integrative Project [RCIP] 2003a). This current General Plan will be the first City-specific update of the General Plan. The purpose of this General Plan is to provide information on the current biological resources within the City; evaluate the potential for special-status species and their habitats to occur within the City; assess potential biological-related constraints to future development; identify potential avoidance, minimization, and mitigation measures for the City's review; and provide this information within the context of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

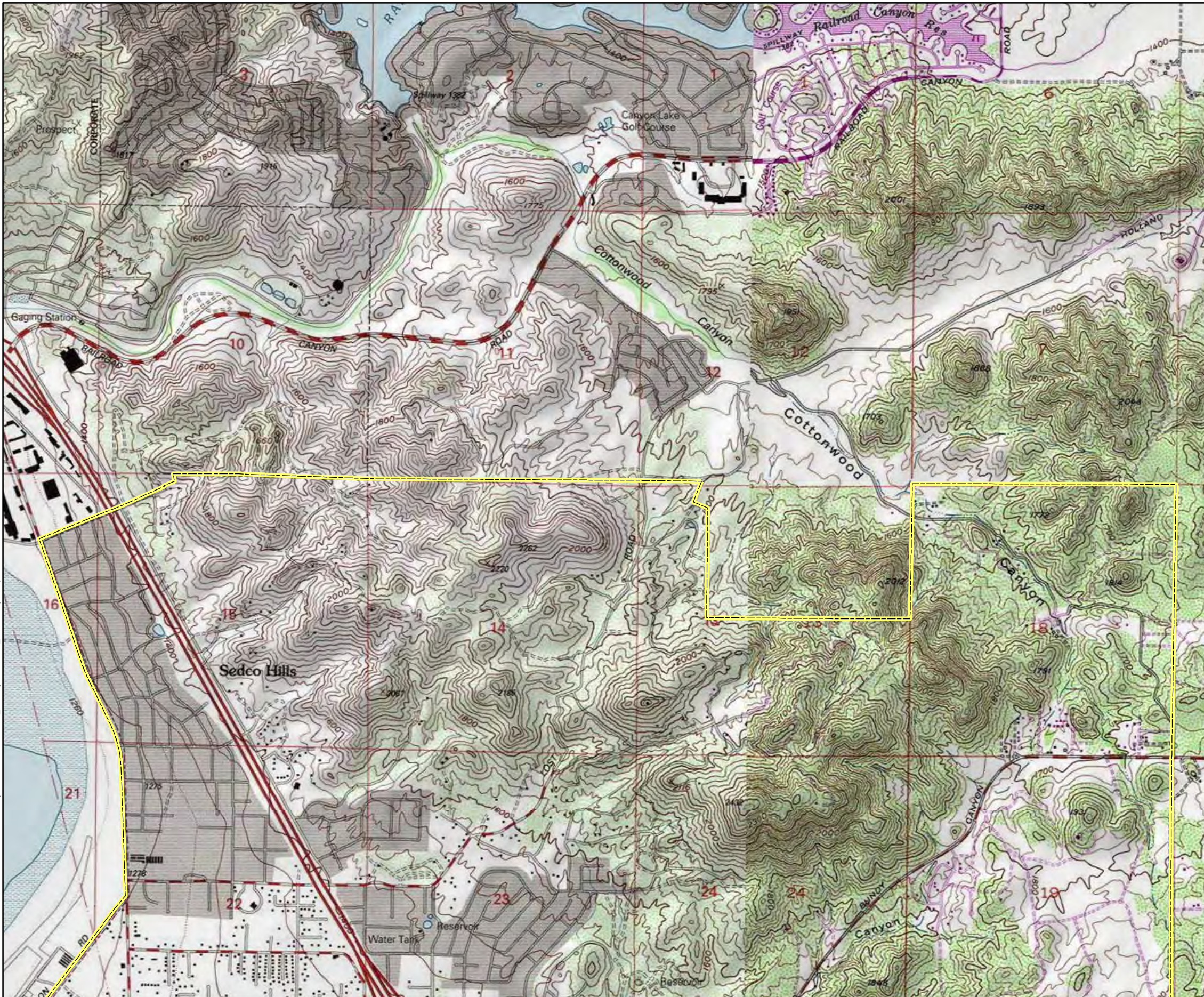
1.1 City Location

The City is within the County of Riverside, south of Lake Elsinore and north of Murrieta (Figure 1). Riverside County is the fourth largest county in California encompassing approximately 7,300 square miles. The western half of the County is more populated than the eastern half; located in the western half of the County, the population of Wildomar was documented at 36,445 in 2019 and has been experiencing a steady incline since. The City is bisected by Interstate (I) 15, which runs northwest–southeast and is located just east of the Santa Ana Mountains and Elsinore Mountains. Due to its location at the foothill of these mountain ranges, the topography varies throughout the City. The City is depicted on the U.S. Geological Survey Wildomar, Murrieta, Romoland, and Lake Elsinore 7.5-minute topographic quadrangles. Elevations range from 2,324 to 1,566 feet above mean sea level (amsl) from west to east and 1,187 to 1,777 feet amsl from south to north.

1.2 Project Description

The City currently utilizes the Adopted Riverside County General Plan which was published in 2003 and has since undergone numerous amendments. Its latest full revision was in 2015 (Riverside County Planning Department 2015). A summary of amendments, pertaining primarily to land use designation, can be found at the Riverside County Planning Department website (Riverside County Planning Department 2021a). The 2015 revisions to the Riverside County General Plan included the development of Area Plans. The City of Wildomar is included within the Elsinore Area Plan (Riverside County Planning Department 2021b), and this document, along with the 2003 Riverside County General Plan and 2015 Riverside County General Plan Amendment, are the City's principal policy documents for future conservation and development.

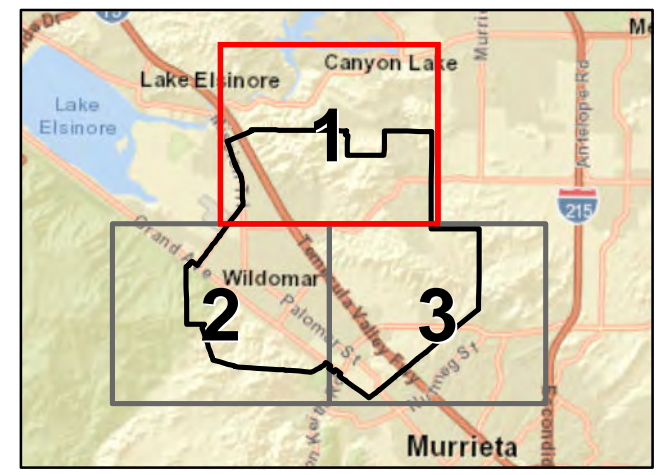
This document will be used for the City of Wildomar's Envision Wildomar 2040 and will serve as the first City-specific General Plan since the City was incorporated in 2008.



Map Features
 City Limits

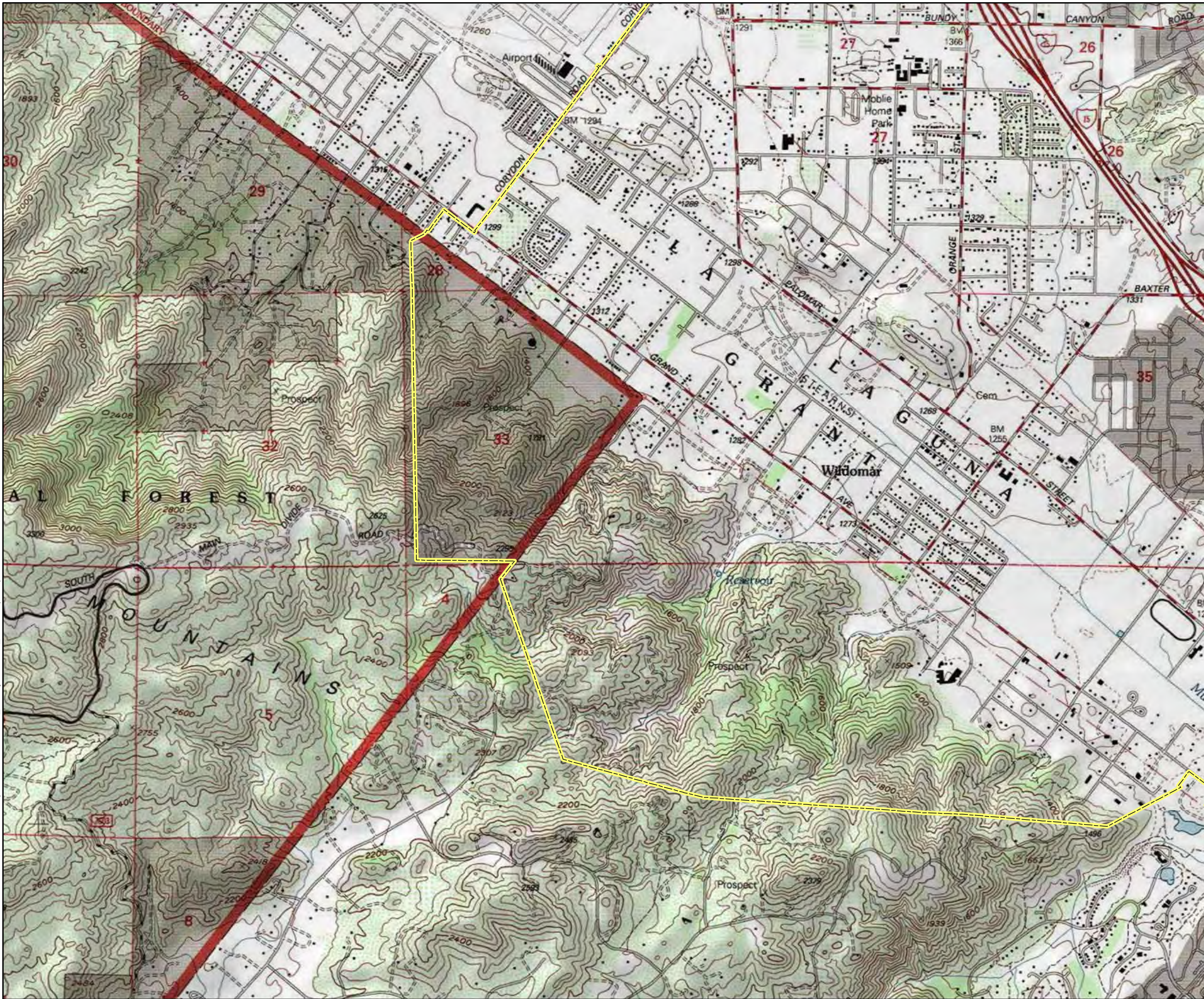
Riverside County, California
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 27, 28, 32, 33, 34, 35, 36 T06S R04W SBBM
 §5, 6, 7 T07S R03W SBBM
 §1, 4 T07S R04W SBBM
 La Laguna (Stearns), Temecula, and
 Santa Rosa (Morino) Land Grants
 Latitude (NAD83): 33.614977°
 Longitude (NAD83): -117.253996°

Murietta (1988, rev 1997, NAD27)
Romoland (1988, rev 1997, NAD27)
Wildomar (1953, rev 1979, NAD27)
Lake Elsinore (1953, rev 1979, NAD27)
 CA 7.5-minute Topographic Quadrangle
 US Geological Survey



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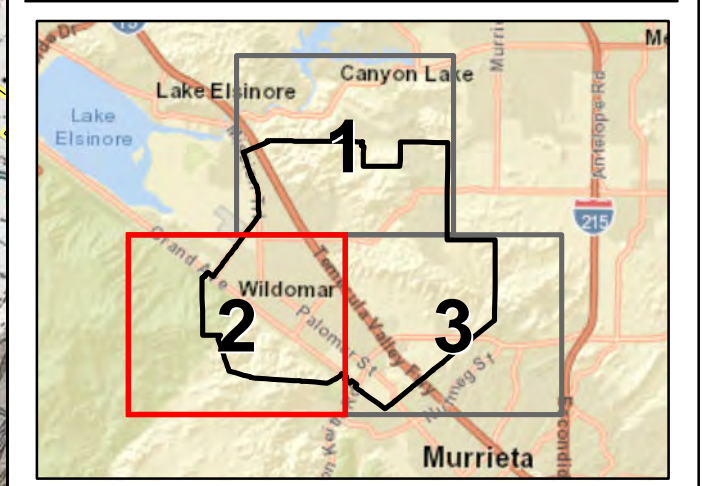


Map Features

City Limits

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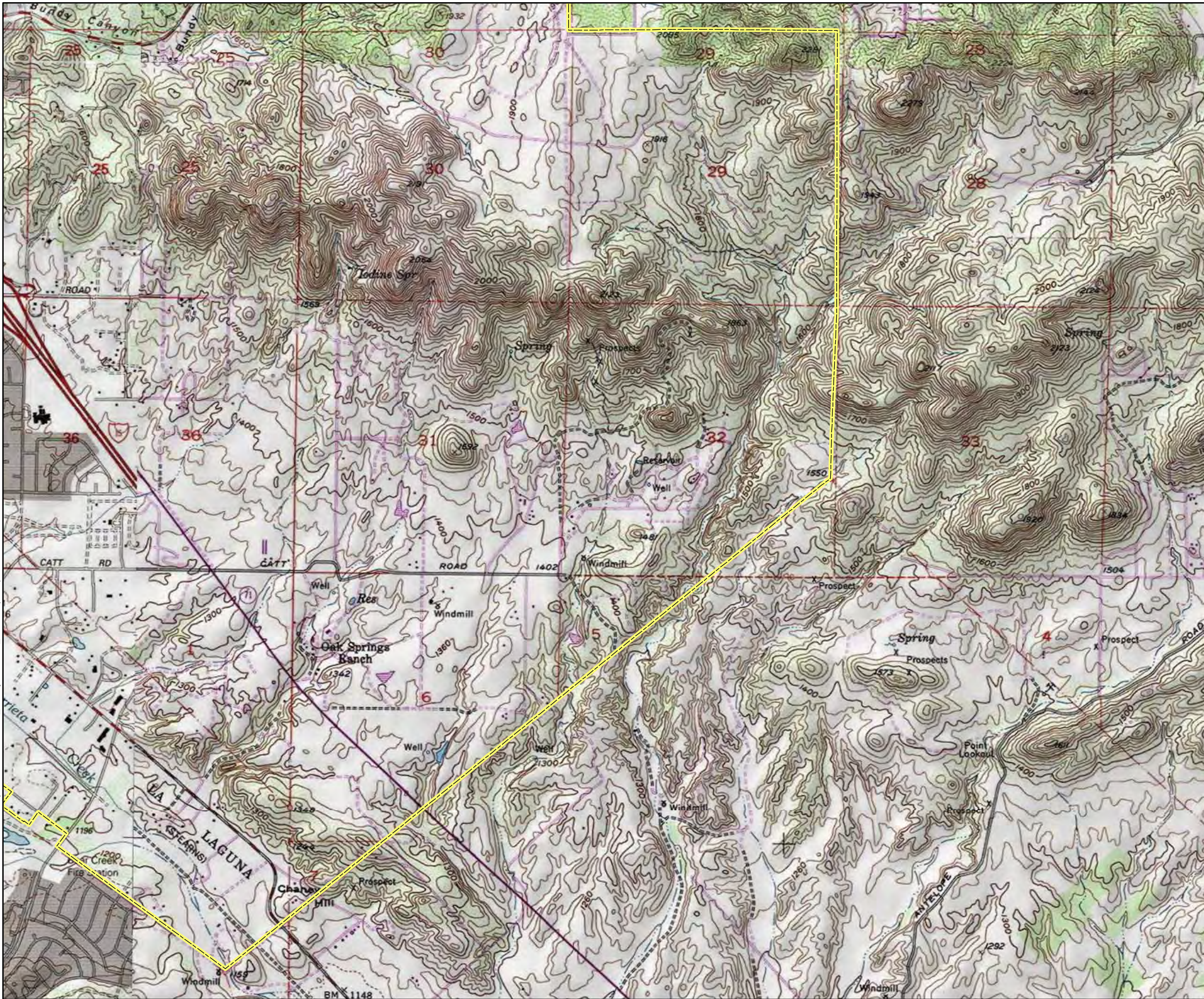
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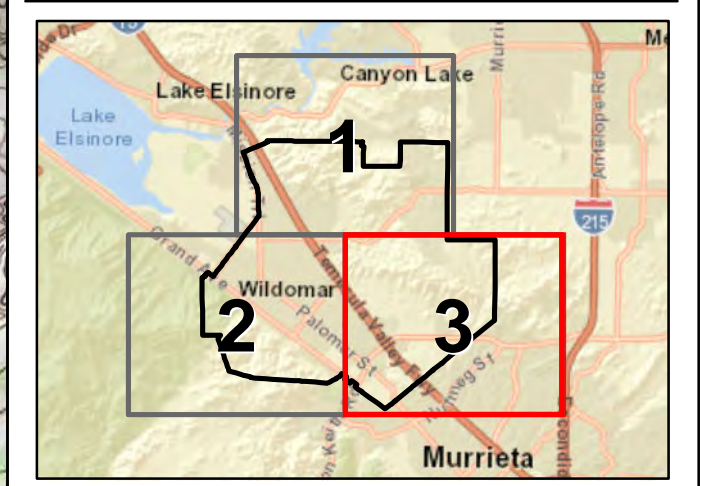




Map Features
 City Limits

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Map Date: 10/6/2023



1.3 Purpose of this General Plan Update

To better guide development in the City, the Wildomar General Plan strategy is to identify existing and future biological resources in the City and ensure compliance with applicable laws before these resources are altered or impacted. This document summarizes the existing biological resources that will serve as the basis for development of the comprehensive General Plan and associated Programmatic Environmental Impact Report.

1.4 MSHCP Context

The City of Wildomar is located within the Western Riverside County MSHCP. The MSHCP provides information on plant and wildlife species of concern and their associated habitats to the County of Riverside (Planning Species) and outlines goals for their conservation while addressing the requirements of the state and federal Endangered Species Acts. Information on the MSHCP can be found at www.rctlma.org (Riverside County Land Management Agency 2023).

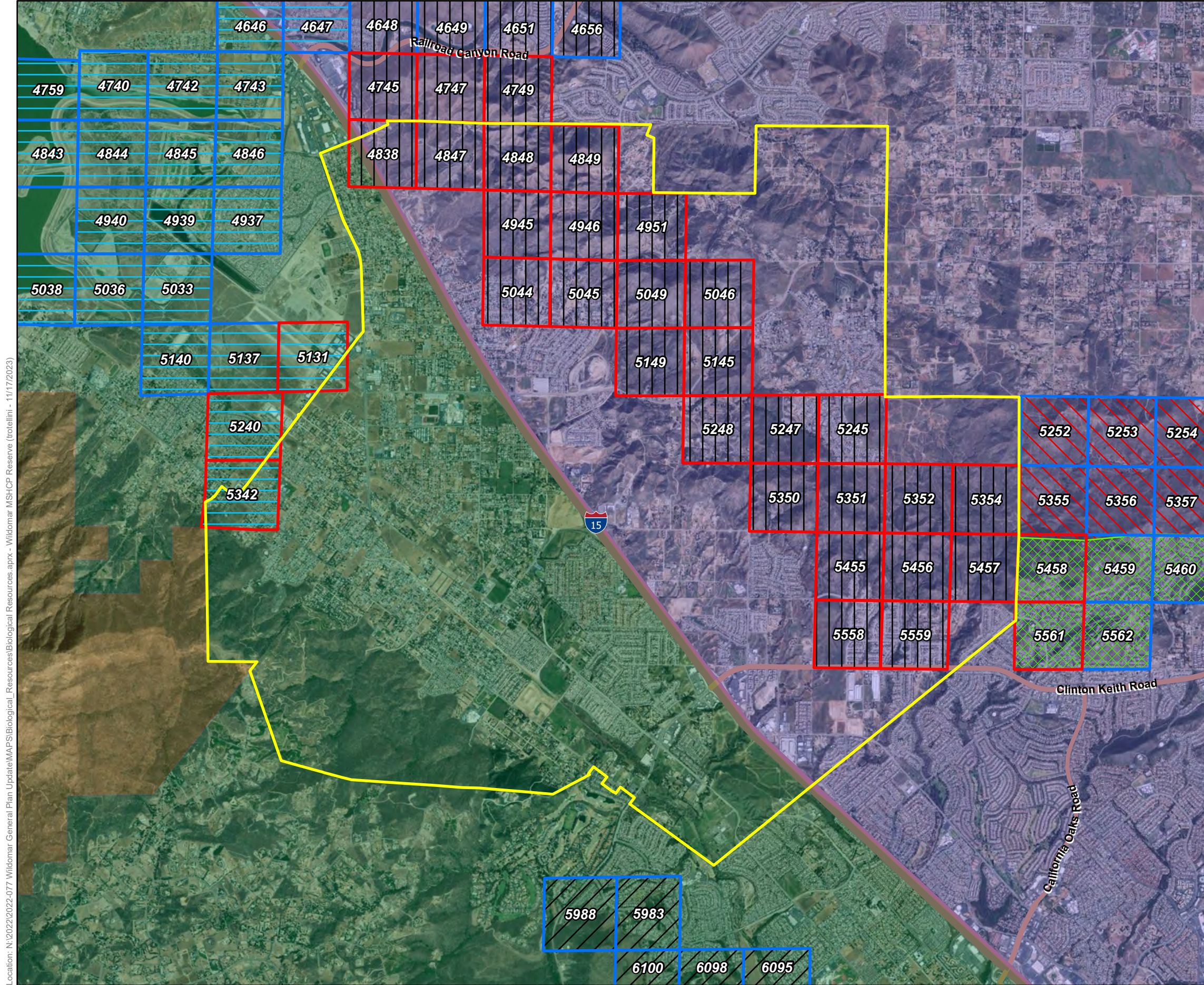
To guide the City and its residents on navigating the MSHCP, flow charts depicting the steps to development within the context of the MSHCP are provided in Appendix A. These flowcharts help guide development by providing an overview of and recommendations for: development applications; special-status plant and wildlife species; riparian/riverine habitat and sensitive natural communities; wildlife corridors and movement; and covered roads.

Generally, any entity looking to construct a project first needs to determine if their property is located within a Criteria Cell. This will influence what permits or additional applications an entity may need to complete. As required by Regional Conservation Authority (RCA) Board Resolution No. 06-05, permit applicants are responsible for the costs of a Joint Project Review and an initial deposit is required with the submittal of the application. Costs and expenditures incurred during the process will be billed against the deposit amount. The applicant will be billed any difference should the costs exceed the initial deposit amount. The applicant will be refunded any difference should the costs be less than the initial deposit amount. MSHCP Fees are adjusted annually using the Consumer Price Index. A copy of the 2024 Fiscal Year Fee Schedule is provided in Appendix B. The latest MSHCP Fee Schedule can be located at <https://www.wrc-rca.org/development-applications/permits-and-fees/>.

Section 7 of the MSHCP outlines covered activities and allowable uses as they pertain to Conserved Lands, Criteria Areas, and Public/Quasi-Public (PQP) Lands. Each of these, in the context of the City, will be described below.

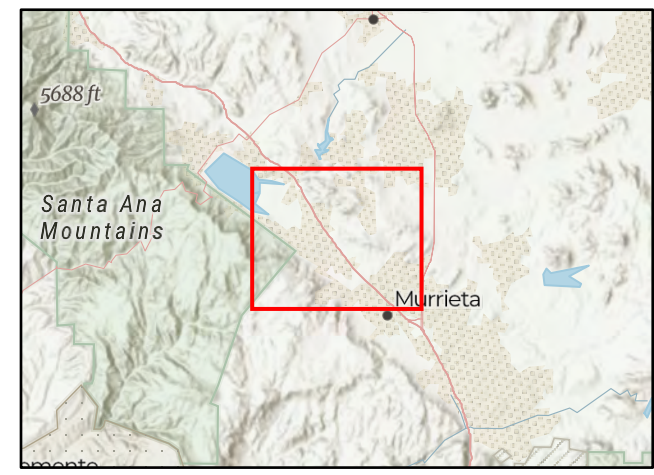
1.4.1 Conserved Lands and Criteria Cells

The City overlaps with all or portions of the following Criteria Cells: 5342, 5240, 5131, 4838, 4847, 4848, 4849, 4745, 4747, 4749, 4945, 4946, 4951, 5044, 5045, 5049, 5046, 5149, 5145, 5248, 5247, 5245, 5350, 5351, 5352, 5354, 5455, 5456, 5457, 5558, 5559, 5458, and 5561. The locations of the Criteria Cells are depicted on Figure 2A.



- Map Contents**
- City Limits
 - WRMSHCP Reserve Assembly**
 - Wildomar WRMSHCP Criteria Cells
 - WRMSHCP Criteria Cells
 - Area Plan Subunits - Within City Limits**
 - SU3 - Elsinore
 - SU4 - Sedco Hills
 - Area Plan Subunits - Outside City Limits**
 - SU1 - Murrieta Creek
 - SU2 - Lower Sedco Hills
 - SU5 - French Valley/Lower Sedco Hills
 - Habitat Management Units**
 - Forest Service Trabuco
 - Meniffee
 - Santa Ana Mountains

Sources: ESRI, Placeworks, RCIT
Other Related Info if Needed



Location: N:\2022\2022-077 Wildomar General Plan Update\Map\SI\Biological_Resources\Biosh\Biosh Reserve (tr02ellini - 11/17/2023)

Map Date: 11/17/2023

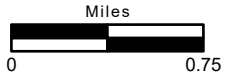


Figure 2A. MSHCP Reserve Assembly

Covered activities within the Criteria Area are discussed in Section 7.3 of the MSHCP. Covered activities include:

- Public and private development consistent with MSHCP Criteria (MSHCP Section 7.3.1)
- Single-family homes on existing parcels within the Criteria Area (MSHCP Section 7.3.2)
- Agricultural Lands within the Criteria Area (MSHCP Section 7.3.3)
- Existing roads within the Criteria Area (MSHCP Section 7.3.4); for additional information on covered road maintenance activities within the Criteria Area, please reference MSHCP, Section 7.3.4.
- Planned roads within the Criteria Area (MSHCP Section 7.3.5)
- State Park facilities (MSHCP Section 7.3.6)
- Flood control facilities (MSHCP Section 7.3.7)
- Waste management facilities (MSHCP Section 7.3.8)
- Future facilities necessary to support planned development including water/wastewater facilities, electrical utility facilities, and natural gas facilities (MSHCP Section 7.3.9)

1.4.2 Public/Quasi-Public Lands

PQP Lands exist within the eastern portion of the City. These are listed in Table 1.

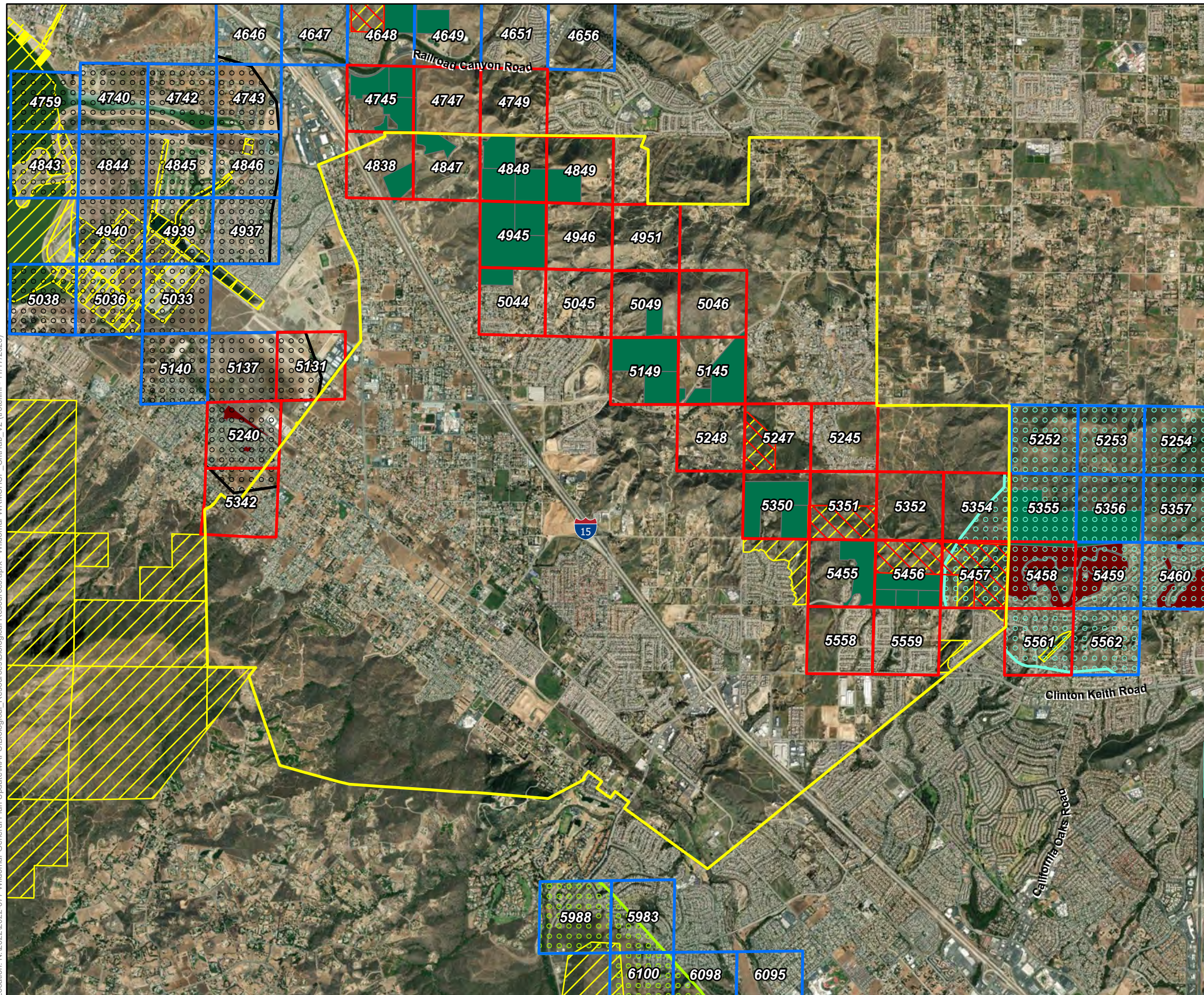
According to Section 7.2 of the MSHCP, covered activities within existing PQP Lands include:

- Existing roadways such as interstates, freeways, State highways, city and county-maintained roads, and local roads not city or county maintained that provide property access; for additional information on covered road maintenance activities within PQP Lands, please reference MSHCP, Section 7.2.1.
- Planned roads within existing PQP Lands (MSHCP Section 7.2.2)
- Future facilities including water, sewer, electrical, gas and solid waste facilities (MSHCP Section 7.2.4)
- Maintenance of other existing facilities (MSHCP Section 7.2.5)
- Existing Agricultural Uses (Section MSHCP 7.2.6)

1.4.3 MSHCP Conserved Lands

There are currently 842 acres of MSHCP Conserved Lands throughout the MSHCP Plan Area. Conserved Lands are located throughout the City and depicted in Figure 2B.

Location: N:\2022\2022-077 Wildomar General Plan Update\MAPS\Biological Resources\aprx - Wildomar WRMSHCP_CritHabit_V2 (Iroileini - 11/17/2023)



Map Contents

- City Limits
- Wildomar WRMSHCP Criteria Cells
- WRMSHCP Criteria Cells

Critical Habitat

- Coastal California gnatcatcher

Western Riverside MSHCP Conserved Lands

- Public Quasi-Public (PQP) Conserved Lands
- MSHCP Conserved Lands
- MSHCP Easements

Western Riverside MSHCP Criteria Area Species Areas

- San Jacinto valley crownscale (*Atriplex coronata* var. *notator*), Parish's saltbush (*Atriplex parishii*), Davidson's saltbush (*Atriplex serenana* var. *davidsonii*), Thread leaved brodiaea (*Brodiaea filifolia*), Round leaved filaree (*Erodium macrophyllum*), Smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Little mouse tail (*Myosurus minimus*) Area
- Davidson's saltbush (*Atriplex serenana* var. *davidsonii*), Parish's saltbush (*Atriplex parishii*), Thread leaved brodiaea (*Brodiaea filifolia*), Smooth tarplant (*Centromadia pungens* ssp. *laevis*), Round leaved filaree (*Erodium macrophyllum*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Little mouse tail (*Myosurus minimus*) Area
- Davidson's saltbush (*Atriplex serenana* var. *davidsonii*), Parish's saltbush (*Atriplex parishii*), Round leaved filaree (*Erodium macrophyllum*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) Santa ana pitchersage (*Lepechinia cardiophylla*), Prostrate navaretia (*Navarretia prostrata*) Area

Sources: ESRI, Placeworks, RCIT, USFWS
Other Related Info if Needed

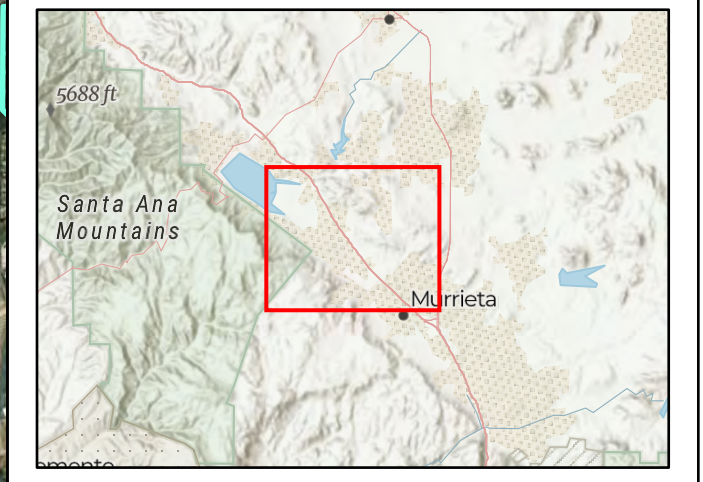


Figure 2B. MSHCP Criteria Area Species, Critical Habitat, and Conserved Lands

According to Section 7.4 of the MSHCP, the following uses are considered allowable uses within the MSHCP Conservation Area:

- Reserve management, monitoring, and scientific research activities (MSHCP Section 7.4.1)
- Emergency, safety, and police services (MSHCP Section 7.4.1)
- Emergency repairs (MSHCP Section 7.4.1)
- Conditionally compatible uses such as public access and recreation (MSHCP Section 7.4.2)

1.4.4 Covered Roads

The City includes numerous Covered Roads according to the MSHCP. These include Major, Arterial, Secondary, Collector, and Urban Arterial roads (Figure 2C). These are summarized in Table 1.

1.4.5 Wildlife Crossings

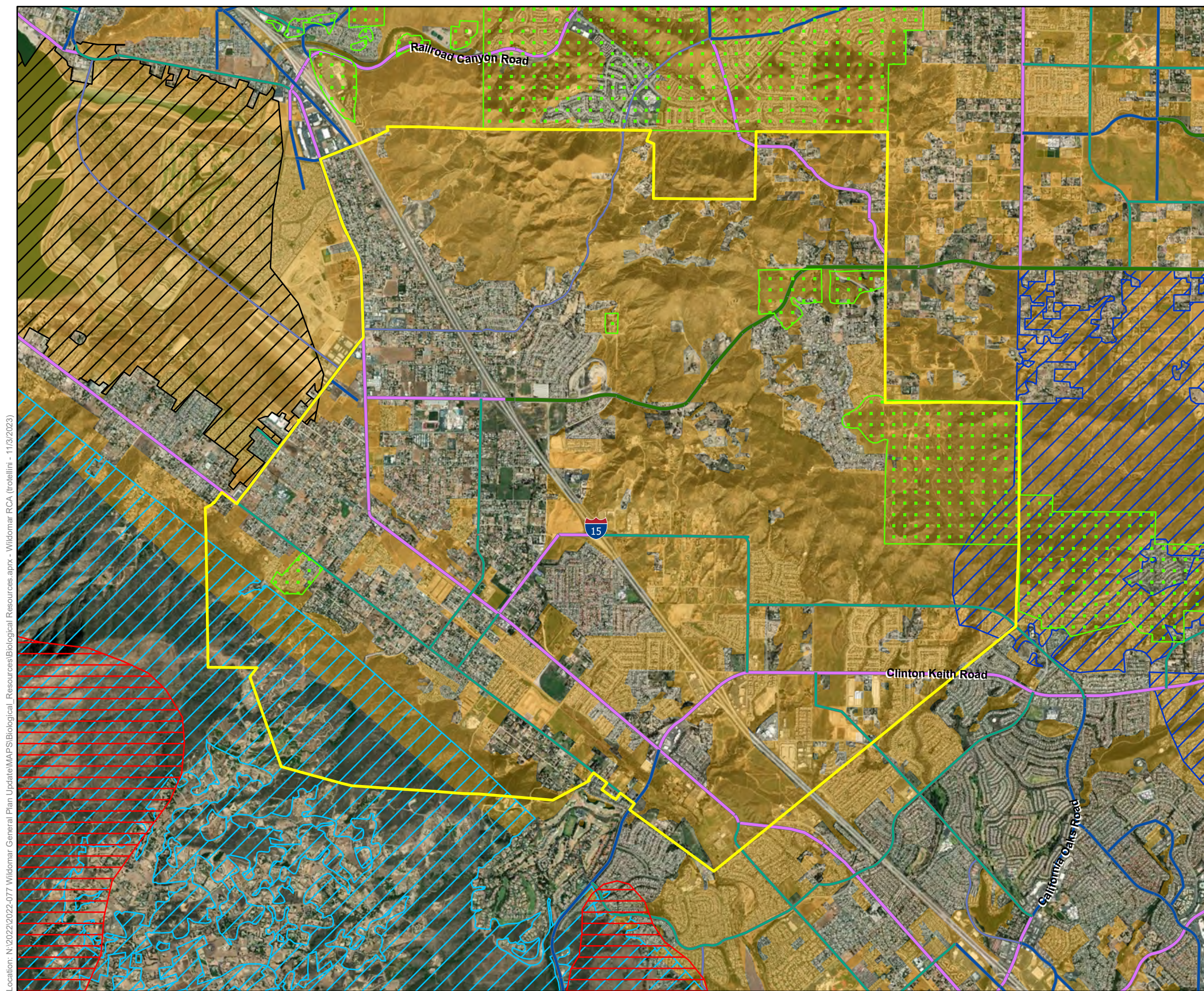
As it pertains to wildlife crossings within the Criteria Area and PQP Lands, Section 7.5.2 of the MSHCP outlines guidelines for the construction of wildlife crossings for various wildlife species.

1.5 Reserve Assembly Analysis

The City is located in the Elsinore Area Plan and within Subunit 3- Elsinore and Subunit 4- Sedco Hills. The City is also adjacent to Subunit 1- Murrieta Creek, Subunit 2- Lower Sedco Hills, and Subunit 5- French Valley/Lower Sedco Hills. The City is within the Santa Ana Mountains and Meniffee Habitat Management Units and adjacent to the Forest Service Trabuco Habitat Management Unit.

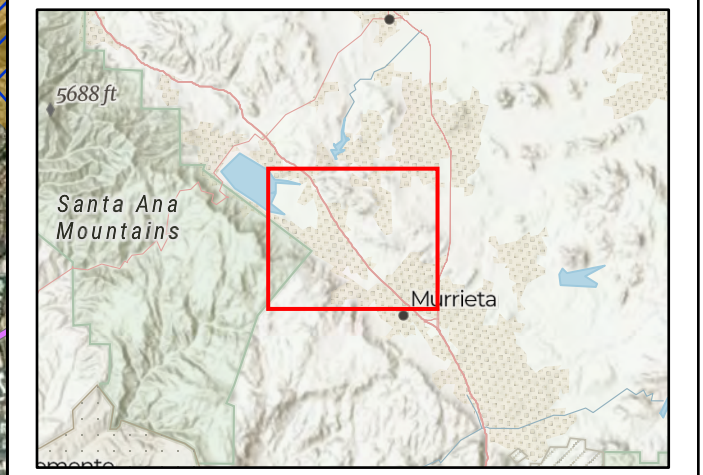
The City is within Species Survey Areas for Narrow Endemic Plants, Criteria Area Species, and Burrowing Owl. The City is within the Criteria Area Species Survey Area for San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex sernana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), round-leaved filaree (*California macrophylla*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), little mousetail (*Myosurus minimus* ssp. *apus*), and mud nama (*Nama stenocarpa*). The City is within the Narrow Endemic Plants Survey Area for Munz' onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Table 1 contains acreage summaries for each Criteria Cell.

The City is adjacent to the Cleveland National Forest of which portions of this area are PQP lands. Table 1 summarizes information related to Criteria Cells, Covered Roads, PQP Lands, and Additional Reserve Lands within the City according to Criteria Cell Number.



- Map Contents**
- City Limits
- RCA Information**
- Stephens' kangaroo rat Habitat
 - Burrowing Owl Survey Area
- Amphibian Survey Areas**
- California Red-legged Frog
- Narrow Endemic Plant Survey Areas**
- Many-stemmed dudleya, California Orcutt grass, Spreading navarretia, San Miguel savory, Hammitt's clay-cess, Wright's trichocoronis
 - Munz's onion, San Diego ambrosia, Many-stemmed dudleya, Spreading navarretia, California Orcutt grass, Wright's trichocoronis
 - Munz's onion, San Diego ambrosia, Many-stemmed dudleya, spreading navarretia, California orcutt grass, Hammitt's clay-cess, Wright's trichocoronis
- MSHCP Covered Roads**
- Urban Arterial
 - Arterial
 - Major
 - Secondary
 - Collector

Sources: ESRI, Placeworks, RCIT
Other Related Info if Needed



Location: N:\2022\2022-077 Wildomar General Plan Update\MAPS\Biological Resources.aprx - Wildomar RCA (trotellini - 11/3/2023)

Map Date: 11/3/2023

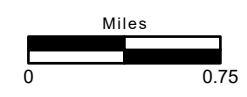


Figure 2C. RCA Information
2022-077 Wildomar General Plan Update

Table 1. Criteria Cell Reserve Assembly Analysis Acreages						
Criteria Cell Number	Criteria Cell Size Total (acres)	Criteria Cell Size within the City (acres)	Subunit	Covered Roads and Type (acres)	PQP Lands (acres)*	Additional Reserve Lands within City (acres)*
4745	159.50	0.02	Sedco Hills	–	–	–
4747	159.83	0.08	Sedco Hills	–	–	Archer, Timothy, & Marlene = 0.06
4749	160.73	0.53	Sedco Hills	–	–	Archer = 0.01
4838	159.66	140.96	Sedco Hills	Casino Dr (Major) = 0.03 Malaga Rd (Major) = 0.33	–	Patterson, Kenneth, & Patricia = 25.86
4847	159.70	159.22	Sedco Hills	–	–	Archer, Timothy, & Marlene = 21.11 Patterson, Kenneth, & Patricia = 2.12
4848	159.19	158.85	Sedco Hills	–	–	Archer = 37.07 Nelson, Jack = 37.78 Tet Sedco Hills Conservation Bank = 39.38
4849	158.93	158.93	Sedco Hills	Lost Rd (Collector) = 2.29	–	Nelson, Jack = 41.81
4945	158.28	158.28	Sedco Hills	–	–	Nelson, Jack = 37.63 Tet Sedco Hills Conservation bank = 118.73
4946	158.02	158.02	Sedco Hills	Lost Rd (Connector) = 4.73 Lost Rd (Secondary) = 0.31	–	Nelson, Jack = 1.75 Tet Sedco Hills Conservation Bank = 1.42
4951	161.24	161.24	Sedco Hills	–	–	
5044	159.46	159.46	Sedco Hills	Lemon St (Collector) = 3.54 Lost Rd (Collector) = 0.97	–	Tet Sedco Hills Conservation Bank = 21.53

Table 1. Criteria Cell Reserve Assembly Analysis Acreages						
Criteria Cell Number	Criteria Cell Size Total (acres)	Criteria Cell Size within the City (acres)	Subunit	Covered Roads and Type (acres)	PQP Lands (acres)*	Additional Reserve Lands within City (acres)*
5045	159.09	159.09	Sedco Hills	Lost Rd (Collector) = 3.42 Lost Rd (Secondary) = 0.04	–	Tet Sedco Hills Conservation Bank = 0.02
5046	162.29	162.29	Sedco Hills	Bundy Canyon Rd (Urban Arterial) = 1.88	–	Casa Modelo = 1.20
5049	162.37	162.37	Sedco Hills	–	–	Hunter = 18.97
5131	167.14	19.72	Elsinore	Corydon St (Arterial) = 2.67 Garden St (Major) = 2.19	–	–
5145	162.46	162.46	Sedco Hills	Bundy Canyon Rd (Urban Arterial) = 11.87	–	Casa Modelo = 68.94 Clark = 3.97 Katz, William = 12.24 Rullo = 0.61
5149	162.66	162.66	Sedco Hills	Bundy Canyon Rd (Urban Arterial) = 2.47	–	Clark = 40.23 Hunter = 0.21 Rullo = 79.82
5240	176.07	5.33	Elsinore	Corydon St (Arterial) = 1.36 Palomar St (Secondary) = 0.00	–	–
5245	163.53	163.43	Sedco Hills	–	–	–
5247	161.53	161.53	Sedco Hills	–	USA 362 = 52.05	–

Table 1. Criteria Cell Reserve Assembly Analysis Acreages						
Criteria Cell Number	Criteria Cell Size Total (acres)	Criteria Cell Size within the City (acres)	Subunit	Covered Roads and Type (acres)	PQP Lands (acres)*	Additional Reserve Lands within City (acres)*
5248	162.18	162.18	Sedco Hills	Bundy Canyon Rd (Urban Arterial) = 0.70	USA 362 = 1.38	Casa Modelo = 1.26 Clark = 0.03 Katz, William = 0.56
5342	179.66	121.08	Elsinore	Corydon St (Arterial) = 2.65 Grand Ave (Arterial) = 0.38	-	-
5350	162.01	162.01	Sedco Hills	-	USA 362 and Riv Co Parks & OS = 3.96	Borchard = 32.07 Borchard, Tr = 76.34
5351	163.63	163.63	Sedco Hills	-	USA 362 = 78.94	Schleuniger = 0.93
5352	163.91	163.91	Sedco Hills	-	USA 362 = 0.40	-
5354	164.32	162.74	Sedco Hills	—		Evandel- Bergstein = 0.02
5455	160.60	160.60	Sedco Hills	La Estrella St (Secondary) = 5.72	USA 362 = 0.96	Delgado Phase 1 = 0.52 Delgado Phase 4 = 0.53 Schleuniger = 57.60
5456	160.24	160.24	Sedco Hills	La Estrella St (Secondary) = 5.28	USA 362 = 78.34	Delgado (Phase 2) = 13.17 Delgado Phase 1 = 39.32 Delgado Phase 3 = 13.29 Delgado Phase 4 = 12.89

Table 1. Criteria Cell Reserve Assembly Analysis Acreages						
Criteria Cell Number	Criteria Cell Size Total (acres)	Criteria Cell Size within the City (acres)	Subunit	Covered Roads and Type (acres)	PQP Lands (acres)*	Additional Reserve Lands within City (acres)*
5457	158.77	158.77	Sedco Hills	La Estrella St (Secondary) = 2.35	RCA and USA 362 = 133.58	Evandel – Bergstein = 0.00
5458	161.41	0.77	French Valley/ Lower Sedco Hills	–	RCA and USA 362 = 0.73	Lennar Greer Ranch = 0.03 Evandel– Begstein = 0.00
5558	159.52	159.52	Sedco Hills	Clinton Keith Rd (Arterial) = 6.32 La Estrella St (Secondary) = 0.42	–	Schleuniger = 0.10
5559	160.13	160.13	Sedco Hills	Clinton Keith Rd (Arterial) = 6.80 La Estrella St (Secondary) = 0.76	RCA = 0.03	–
5561	162.51	0.58	French Valley/ Lower Sedco Hills	La Estrella Rd (Secondary) = 0.00 La Estrella St (Secondary) = 0.07	Team RCD and RCA = 0.35	–

Note: This information is current as of October 3, 2023. Acreages are subject to change based on coordination with RCA. Coordination with RCA is recommended for exact acreages.

RCA = Regional Conservation Authority; RCD = Resource Conservation District

*Taken from the MSHCP Geographic Information Systems data; names and/or acronyms were not always defined – provided as “Project Names.”

1.5.1 Conservation Goals of Area Plans within and adjacent to the City

1.5.1.1 Elsinore Area Plan

Conservation goals of the Elsinore Area Plan that pertain to the City include preserving core areas and linkages as well as sensitive plant and wildlife species and their habitat. The target conservation acreage range for this Area Plan is 66,500 to 73,315 acres. This includes approximately 54,800 acres of existing PQP Lands and 11,700 to 18,515 acres of Additional Reserve Lands (RCIP 2003b).

Subunit 3 — Elsinore

The target acreage range for Additional Reserve Lands within the Elsinore subunit is 925 to 1,815 acres. Species of conservation focus within this subunit are American bittern (*Botaurus lentiginosus*), Bell's sage sparrow (*Artemisiospiza belli*), black-crowned night heron (*Nycticorax nycticorax*), double-crested cormorant (*Phalacrocorax auritus*), least Bell's vireo (*Vireo bellii pusillus*), loggerhead shrike (*Lanius ludovicianus*), mountain plover (*Charadrius montanus*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), southwestern willow flycatcher (*Empidonax traillii extimus*), white-faced ibis (*Plegadis chihi*), white-tailed kite (*Elanus leucurus*), Quino checkerspot butterfly (*Euphydryas Editha quino*), Riverside fairy shrimp (*Streptocephalus woottoni*), bobcat (*Lynx rufus*), western pond turtle (*Actinemys marmorata*), Munz's onion, San Diego ambrosia, and smooth tarplant. Biological issues and considerations from the MSHCP are:

- Conserve wetlands including Temescal Wash, Collier Marsh, Alberhill Creek, Lake Elsinore, and the floodplain east of Lake Elsinore (including marsh habitats) and maintain water quality.
- Conserve clay soils that support Munz's onion.
- Conserve Travers-Willow-Domino soil series.
- Conserve foraging habitat for raptors, providing a sage scrub-grassland ecotone.
- Conserve grassland habitat for mountain plover.
- Conserve breeding habitat for northern harrier.
- Maintain linkage areas for bobcat.
- Conserve San Diego ambrosia at Alberhill and Nichols Road or finding new populations that would allow for the loss of known populations.
- Maintain core and linkage habitats for western pond turtle.
- Maintain core areas for Riverside fairy shrimp.
- Maintain opportunities for core and linkage habitat for Quino checkerspot butterfly.

Subunit 4 — Sedco Hills

The target acreage range for Additional Reserve Lands within the Sedco Hills subunit is 2,415 to 3,845 acres. Species of conservation focus within this subunit are Bell's sage sparrow, coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), southwestern willow flycatcher, Quino checkerspot butterfly, bobcat, Stephens' kangaroo rat (*Dipodomys stephensi*), and western pond turtle. Biological issues and considerations from the MSHCP are:

- Provide a northwest-southeast connection between Estelle Mountain and Sedco Hills for sage scrub species including coastal California gnatcatcher.
- Conserve habitat in Sedco Hills to maintain the connection between Granite Hills and Bundy Canyon Road.
- Conserve wetlands in lower San Jacinto River.
- Provide upland linkage connections for Sedco Hills to Wildomar.
- Conserve foraging habitat for raptors, providing a sage scrub-grassland ecotone.
- Maintain core and linkage habitat for bobcat and Stephens' kangaroo rat.
- Maintain linkage areas for western pond turtle.
- Maintain opportunities for linkage areas for Quino checkerspot butterfly.

1.5.1.2 Southwest Area Plan

Conservation goals of the Southwest Area Plan that pertain to the City include preserving core areas and linkages as well as sensitive plant and wildlife species and their habitat (RCIP 2003c). The target conservation acreage range for this Area Plan is 58,295 to 72,155 acres. This includes approximately 35,795 acres of existing PQP Lands and 22,500 to 36,360 acres of Additional Reserve Lands. Criteria Cells within this Area Plan are adjacent to the City and are included in conservation considerations for Criteria Cells within the City, hence their discussion and inclusion here.

Subunit 5 — French Valley/Lower Sedco Hills

The target acreage range for Additional Reserve Lands within this subunit is 4,630 to 7,395 acres. Species of conservation focus within this subunit are Bell's sage sparrow, California horned lark, coastal California gnatcatcher, Swainson's hawk (*Buteo swainsoni*), grasshopper sparrow, southern California rufous-crowned sparrow, Quino checkerspot butterfly, bobcat, Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), western pond turtle, long-spined spine flower (*Chorizanthe polygonoides* var. *longispina*), Munz's onion, Palmer's grapplinghook (*Harpagonella palmeri*). Biological issues and considerations from the MSHCP are:

- Conserve large blocks of habitat east of I-215 and south of Scott Road for narrow endemic species.

- Provide connection to the Southwestern Riverside County Multi Species Reserve.
- Conserve clay soils supporting long-spined spine flower, Munz’s onion, and Palmer’s grapplinghook.
- Maintain core and linkage habitat for bobcat and Quino checkerspot butterfly.
- Determine presence of potential core areas for Los Angeles pocket mouse along Warm Springs Creek.
- Maintain core areas for western pond turtle and Riverside fairy shrimp.

1.5.2 Conservation within Criteria Cells

Table 2 summarizes the conservation criteria within Criteria Cells within the City and as outlined in the MSHCP.

Table 2. Conservation within Criteria Cells	
Criteria Cell Number	Conservation Criteria
4745	Conservation within this cell will contribute to the assembly of Proposed Linkage 8. Conservation within this cell will focus on riparian scrub, woodland, and forest habitat associated with the San Jacinto River and adjacent coastal sage scrub and chaparral habitat. Areas conserved within this cell will be connected to coastal sage scrub, riparian scrub, woodland, and forest habitat proposed for conservation in cell 4648 to the north and to coastal sage scrub and chaparral habitat proposed for conservation in cell 4838 to the south and in Cell Group F' to the east. Conservation within this cell will range from 70% to 80% of the cell focusing in the northern and eastern portions of the cell.
4747	Conservation within this Cell Group will contribute to the assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, and grassland habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group D' to the north, in cell 4745 and 4838 both to the west, and in Cell Groups E' and G' both to the east. Conservation within this Cell Group will range from 70% to 80% of the Cell Group focusing in the northern portion of the Cell Group.
4749	Conservation within this cell will contribute to the assembly of Proposed Linkage 8. Conservation within this cell will focus on riparian scrub, woodland, and forest habitat associated with the San Jacinto River and adjacent coastal sage scrub and chaparral habitat. Areas conserved within this Cell Group will be connected to chaparral, coastal sage scrub, riparian scrub, woodland and forest habitat proposed for conservation in Cell Group D' to the west and cell 4559 to the east, to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group G' to the south, and to chaparral, coastal sage scrub, and grassland habitat proposed for conservation in Cell Group F' to the west and in cell 4656 to the east. Conservation within this cell group will range from 60% to 70% of the Cell Group focusing in the southern and eastern portions of the Cell Group.

Table 2. Conservation within Criteria Cells	
Criteria Cell Number	Conservation Criteria
4838	Conservation within this cell will contribute to the assembly of Proposed Linkage 8. Conservation within this cell will focus on chaparral and coastal sage scrub habitat. Areas conserved will be connected to chaparral and coastal sage scrub habitat proposed for conservation in cell 4745 to the north and in Cell Group F' to the east. Conservation within this cell will range from 15% to 25% of the cell focusing in the northeastern portion of the cell.
4847	Conservation within this Cell Group will contribute to the assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, and grassland habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group D' to the north, in cell 4745 and 4838 both to the west, and in Cell Groups E' and G' both to the east. Conservation within this Cell Group will range from 70% to 80% of the Cell Group focusing in the northern portion of the Cell Group.
4848, 4945, 5044	Conservation within this Cell Group will contribute to the assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups F' to the west, E' to the north, and H' to the east. Conservation within this Cell Group will range from 65% to 75% of the Cell Group, focusing in the northern portion of the Cell Group.
4849, 4946, 5045	Conservation within this Cell Group will contribute to the assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups G' to the west and I' to the east. Conservation within this Cell Group will range from 60% to 70% of the Cell Group focusing in the northern portion of the Cell Group.
4951, 5049	Conservation within this Cell Group will contribute to the assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group H' to the west and to chaparral habitat proposed for conservation in cell #5149 to the south and in Cell Group J' to the east. Conservation within this Cell Group will range from 50% to 60% of the Cell Group focusing in the southern portion of the Cell Group.

Table 2. Conservation within Criteria Cells	
Criteria Cell Number	Conservation Criteria
5046, 5145, 5248	Conservation within this Cell Group will contribute to the assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, grassland, woodland, and forest habitat. Areas conserved within this Cell Group will be connected to chaparral habitat proposed for conservation in the Cell Group and in cell #5149 both to the west and to chaparral, woodland and forest habitat proposed for conservation in Cell Group K' to the east. Conservation within this Cell Group will range from 50% to 60% of the Cell Group focusing in the northern portion of the Cell Group.
5131	Conservation within this cell will contribute to assembly of Proposed Extension of Existing Core 3. Conservation within this cell will focus on grassland habitat. Areas conserved within this cell will be connected to grassland habitat proposed for conservation in cell #5137 to the west. Conservation within this cell will range from 30% to 40% of the cell focusing in the southwestern portion of the cell.
5149	Conservation within this cell will contribute to assembly of Proposed Linkage 8. Conservation within this cell will focus on chaparral, woodland, and forest habitat. Areas conserved within this cell will be connected to chaparral habitat proposed for conservation in Cell Groups I' to the north and J' to the east. Conservation within this cell will range from 70% to 80% of the cell focusing in the northern and eastern portions of the cell.
5240	Conservation within this cell will contribute to assembly of Proposed Extension of Existing Core 3. Conservation within this cell will focus on grassland and coastal sage scrub habitat. Areas conserved within this cell will be connected to grassland habitat proposed for conservation in cell #5137 to the north and to coastal sage scrub habitat proposed for conservation in cell #5342 to the south. Conservation within this cell will range from 45% to 55% of the cell focusing in the northern and central portions of the cell.
5245	Conservation within this Cell Group will contribute to assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, grassland, woodland, and forest habitat. Areas conserved within this Cell Group will be connected to chaparral, coastal sage scrub, woodland, and forest habitat proposed for conservation in Cell Group J' to the west and to coastal sage scrub habitat proposed for conservation in Cell Group L' to the south and in cell #5352 to the east. Conservation within this Cell Group will range from 40% to 50% of the Cell Group focusing in the southwestern portion of the Cell Group.
5247, 5350, 5351	No conservation criteria listed.
5342	Conservation within this cell will contribute to assembly of Proposed Extension of Existing Core 3. Conservation within this cell will focus on coastal sage scrub habitat. Areas conserved within this cell will be connected to coastal sage scrub habitat proposed for conservation in cell #5240 to the north. Conservation within this cell will range from 5% to 15% of the cell focusing in the northern central portion of the cell.

Table 2. Conservation within Criteria Cells	
Criteria Cell Number	Conservation Criteria
5352	Conservation within this cell will contribute to assembly of Proposed Linkage 8. Conservation within this cell will focus on coastal sage scrub, riparian scrub, woodland, and forest habitat. Areas conserved within this cell will be connected to coastal sage scrub habitat proposed for conservation in cell #5354 to the east and to existing Public/Quasi-Public lands in Cell Group K' to the west and in cell #5456 to the south. Conservation within this cell will range from 45% to 55% of the cell focusing in the southern portion of the cell.
5354	Conservation within this cell will contribute to assembly of Proposed Linkage 8. Conservation within this cell will focus on coastal sage scrub, riparian scrub, woodland, and forest habitat. Areas conserved within this cell will be connected to coastal sage scrub, riparian scrub, woodland and forest habitat proposed for conservation in cell #5352 to the west, to existing Public/Quasi-Public lands in cell#5457 to the south and to chaparral, coastal sage scrub, woodland and forest habitat proposed for conservation in Cell Group C in the Sun City/Menifee Area Plan to the east. Conservation within this cell will range from 40% to 50% of the cell focusing in the southern portion of the cell.
5456	Conservation within this cell will contribute to assembly of Proposed Linkage 8. Conservation within this cell will focus on coastal sage scrub habitat. Areas conserved within this cell will be connected to coastal sage scrub habitat proposed for conservation in Cell Group L' to the west and in Cell #5457 to the east and to grassland habitat proposed for conservation in cell #5559 to the south. Conservation within this cell will range from 45% to 55% of the cell focusing in the southern portion of the cell.
5457	Conservation within this cell will contribute to assembly of Proposed Linkage 8. Conservation within this cell will focus on coastal sage scrub, riparian scrub, woodland, and forest habitat. Areas conserved within this cell will be connected to coastal sage scrub habitat proposed for conservation in cell #5456 to the west. Conservation within this cell will range from 20% to 30% of the cell focusing in the southwestern portion of the cell.
5458, 5561	Conservation within this Cell Group will contribute to assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on coastal sage scrub and grassland habitat. Areas conserved within this Cell Group will be connected to coastal sage scrub habitat proposed for conservation in Cell Group I' to the east and in Cell Group C in the Sun City/Menifee Area Plan to the north, and to existing Public/Quasi-Public land in cell #5457 in the Elsinore Area Plan to the west. Conservation within this Cell Group will range from 55% to 65% of the Cell Group focusing in the northern portion of the Cell Group.

Table 2. Conservation within Criteria Cells	
Criteria Cell Number	Conservation Criteria
5455, 5558	Conservation within this Cell Group will contribute to assembly of Proposed Linkage 8. Conservation within this Cell Group will focus on coastal sage scrub, grassland, riparian scrub, woodland, and forest habitat. Areas conserved within this Cell Group will be connected to coastal sage scrub and grassland habitat proposed for conservation in cell #5558 to the east, to coastal sage scrub habitat proposed for conservation in cell #5456 also to the east and to existing Public/Quasi-Public lands in Cell Group K' to the north. Conservation within this Cell Group will range from 60% to 70% of the Cell Group focusing in the northeastern portion of the Cell Group.
5559	Conservation within this cell will contribute to assembly of Proposed Linkage 8. Conservation within this cell will focus on coastal sage scrub and grassland habitat. Areas conserved within this cell will be connected to coastal sage scrub habitat proposed for conservation in cell #5456 to the north and to grassland, coastal sage scrub, riparian scrub, woodland, and forest habitat proposed for conservation in Cell Group L' to the west. Conservation within this cell will be approximately 5% of the cell focusing in the northwestern portion of the cell.

A majority of the portion of the City north of I-15 is within a Criteria Area (i.e., contains Criteria Cells). Table 2 provides a summary of the conservation criteria outlined in the MSHCP for each of these Criteria Cells.

1.5.3 Public Quasi-Public Lands

1.5.3.1 Public/Quasi-Public Lands in Reserve Assembly Analysis

The eastern portion of the City contains PQP Lands. These are located north of I-15 and consist of PQP Lands owned by RCA; these areas are listed with respect to the Criteria Cells they overlap with or are adjacent to in Table 1.

The City also contains Additional Reserve Lands. These are located throughout the northern portion of the City, north of I-15. These are listed with respect to the Criteria Cells they overlap with or are adjacent to in Table 1.

A portion of the City is located in an area designated as Rural/Mountainous in the MSHCP Area; this area corresponds to where Bundy Canyon and Iodine Springs are found. The City is not located within areas designated as American Indian Lands or Lake.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U. S. Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its Critical Habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

2.1.1.1 Critical Habitat

Critical habitat is defined in Section 3 of the ESA as:

1. the specific areas within the geographical area, occupied by a species at the time it is listed in accordance with the ESA, that contain physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and
2. specific areas outside the geographical area, occupied by a species at the time it is listed, after a determination that such areas are essential for the conservation of the species.

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known and using the best scientific data available, the physical or biological features needed for life processes. Physical and biological features that are essential to the conservation of the species may require special management considerations or protection. These include, but are not limited to:

- space for individual and population growth and for normal behavior;
- food, water, air, light, minerals, or other nutritional or physiological requirements;
- cover or shelter;
- sites for breeding, reproduction, or rearing (or development) of offspring; or

- habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

2.1.1.2 Section 7

Section 7 of the ESA mandates that all federal agencies consult with USFWS or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. If adverse effects to a species or its critical habitat are likely, the applicant must conduct a Biological Assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The USFWS or NMFS reviews the BA; if it concludes that the project may adversely affect a listed species or its habitat, it prepares a Biological Opinion (BO). Through consultation and the issuance of a BO, the USFWS or NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. The BO may require implementation of "reasonable and prudent measures" to avoid or minimize adverse impacts on the species population(s) or adverse modification of critical habitat.

2.1.1.3 Section 10

When no discretionary action is being taken by a federal agency, but a project may result in the take of listed species, an Incidental Take Permit (ITP) under Section 10 of the federal ESA is necessary. The purpose of the ITP is to authorize the take of federally listed species that may result from an otherwise lawful activity. In order to obtain an ITP under Section 10, an application must be submitted that includes an HCP. In some instances, applicants, USFWS, or NMFS may determine that an HCP is necessary or prudent, even if a discretionary federal action will occur. The purpose of the HCP planning process associated with the permit application is to ensure that adequate minimization and mitigation for impacts to listed species and/or their habitat will occur.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, and any of their parts, eggs, and nests, from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit (USFWS 1918). As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (e.g., rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds in Sections 3503, 3503.5, 3513, and 3800 of the California Fish and Game Code.

2.1.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act was enacted in 1940 and prohibits anyone, without a permit, from “taking” bald or golden eagles including their parts, nests, or eggs. Take is defined as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. In addition to these protections, the Bald and Golden Eagle Protection Act provides protection for nesting sites. Nesting sites are protected not only when active but also when previously used. These nests are protected in the event that an eagle may return to the same nesting site.

2.1.4 Federal Clean Water Act

The U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). *Discharges of fill material* is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR Section 328.2(f)].

In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. Section 401 Certification, “gives states and authorized tribes the authority to grant or waive certification of proposed federal licenses or permits that may discharge into waters of the U.S.” (33 USC 1251).

On May 25, 2023, the Supreme Court of the United States adopted a narrower definition of Waters of the U.S. in the case *Sackett v. Environmental Protection Agency*. Under the majority opinion, Waters of the U.S. refers to “geographical features that are described in ordinary parlance as ‘streams, oceans, rivers, and lakes’ and to adjacent wetlands that are “indistinguishable” from those bodies of water due to a continuous surface connection.”

On August 29, 2023, the Agencies issued a final rule to amend the final “Revised Definition of ‘Waters of the United States’” rule, published in the Federal Register on September 8, 2023. This final rule conforms the definition of “waters of the United States” to the U.S. Supreme Court’s May 25, 2023 decision in the case of *Sackett v. Environmental Protection Agency*. Parts of the January 2023 Rule are invalid under the Supreme Court’s interpretation of the CWA in the *Sackett* decision. Therefore, the Agencies have amended key aspects of the regulatory text to conform it to the Court’s decision.

Substantial impacts to wetland and non-wetland Waters of the U.S. (over 0.5 acre of impact) may require an individual permit. Projects that only minimally affect Waters of the U.S. (less than 0.5 acre of impact) may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions. In California, this certification or waiver is typically issued by the Regional Water Quality Control Board (RWQCB). However, in the case of tribal lands that are held in trust, this certification or waiver is issued by the USACE.

2.1.5 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (Magnuson-Stevens Act), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), establishes a requirement to describe and identify "Essential Fish Habitat" (EFH) in each federal Fishery Management Plan (FMP). EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 USC Section 1802[10]). Only species in a fishery management unit managed under a federal FMP are covered under EFH. The Magnuson-Stevens Act requires federal agencies to consult with the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service (also known as the NMFS) when any activity proposed to be authorized, funded, or undertaken by a federal agency may adversely affect designated EFH. An adverse effect includes direct or indirect physical, chemical, or biological alteration and includes adverse changes to waters or substrate, species and their habitat, other ecosystem components, and quality and/or quantity of EFH.

2.1.6 Federal Rivers and Harbors Act

The Rivers and Harbors Appropriation Act of 1899, commonly known as the Rivers and Harbors Act, requires permits for all structures such as bridges, causeways, riprap and for other activities such as dredging which occur within navigable waters of the U.S. Navigable waters are defined as those that are subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. The USACE grants or denies permits based on the effects on navigation.

2.1.7 Executive Order 11990- Protection of Wetlands

President Carter signed Executive Order (EO) 11990 on May 24, 1977, requiring federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The term "wetlands" is defined as those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Examples of wetlands are also provided in the EO: wetlands generally include swamps, marshes, bogs, and similar areas, such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. An Individual EO 11990 "Wetlands Only Practicable Alternative Finding" is required from the Federal Highway Administration (FHWA) if a state project is federally aided and involves fill in wetlands requiring a USACE Section 404 Individual or Nationwide Permit. An additional requirement is to provide early public involvement in projects affecting wetlands.

2.1.8 Executive Order 13112- Invasive Species Protection

President Clinton signed EO 13112 on February 3, 1999, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "...any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999, directs the use of

the state's noxious weed list to define the invasive plants that must be considered as part of California Environmental Quality Act (CEQA) analysis for a proposed project.

2.1.9 National Environmental Policy Act

Signed into law on January 1, 1970, the National Environmental Policy Act (NEPA) requires all federal agencies to analyze the environmental impacts related to their proposed actions prior to making and implementing decisions or actions. This framework for evaluation of environmental and associated economic and social effects of proposed actions, described in 42 USC 4321, also provides the public opportunity to review and comment. Actions that are covered by NEPA include decision-making related to publicly owned facilities such as highways, permit applications, and federal land management.

2.2 State Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA also applies the take prohibitions to species proposed for listing (called *candidates* by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of Endangered, Threatened, or Candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any Endangered or Threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Fully protected species are identified in the California Fish and Game Code Section 4700 for mammals, Section 3511 for birds, Section 5050 for reptiles and amphibians, and Section 5515 for fish. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing ITPs for fully protected species, except for necessary scientific research.

On July 10, 2023, Governor Gavin Newsom signed Senate Bill 147 into law and thereby amending California's statutes for fully protected species. The amendments create a temporary, 10-year permitting regime that allows proponents of a limited, defined set of projects to pursue authorization from CDFW to proceed even where there could be *take* of one or more fully protected species. Activities for which project proponents may seek a permit are:

- A maintenance, repair, or improvement project to the State Water Project undertaken by the Department of Water Resources.
- A maintenance, repair, or improvement project to critical regional or local water agency infrastructure.
- A transportation project undertaken by a state, regional, or local agency, that does not increase highway or street capacity for automobile or truck travel.
- A wind project and any appurtenant infrastructure improvement.
- A solar photovoltaic project and any appurtenant infrastructure improvement.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code Sections 1900-1913) was created with the intent to “*preserve, protect and enhance rare and endangered plants in this State.*” The NPPA is administered by CDFW. The California Fish and Game Commission (Commission) has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 California Fish and Game Code

2.2.4.1 Section 86, 2000, and 3007

Section 86 defines “take” as hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. Section 2000 states that it is unlawful to take a bird, mammal, fish, reptile, or amphibian. Section 3007 states that it is unlawful to take a bird or mammal without a license or entitlement to do so.

2.2.4.2 Section 1600

Section 1600 provides for the protection and conservation of fish and wildlife resources throughout the state.

2.2.4.3 Section 1602

Section 1602 requires any person, state, local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify CDFW before beginning the project. A Lake or Streambed Alteration Agreement is required if activities will result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or adversely affect existing fish and wildlife resources. In Title 14 of the California Code of Regulations (CCR), Section 1.72, the CDFW defines a *stream* (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This

includes watercourses having a surface or subsurface flow that support or has supported riparian vegetation.”

CDFW jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the top of bank. It also includes areas that support intermittent, perennial, or subsurface flows; supports fish or other aquatic life; or supports riparian or hydrophytic vegetation.

CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

2.2.4.4 Section 2014

Section 2014 states that it is the policy of the State to conserve its natural resources and prevent the willful or negligent destruction of birds, mammals, fish, reptiles, or amphibians. The Section further explains that the State may recover damages if destruction is caused to these resources and outlines how damages are measured, actions to recover damages, persons or agencies that are excluded from coverage of this Section, and a definition of local agency.

2.2.4.5 Section 4150

Section 4150 of the California Fish and Game Code prohibits incidental or deliberate “take” of non-game mammals, including bats. Disturbance (e.g., noise, lighting) and displacement of bats from roosts and important foraging areas can potentially result in increased susceptibility to predation, reduced quality of thermal and social environments, reduced foraging efficiencies, and reduced reproductive success of maternity roosts (California Department of Transportation [Caltrans] 2016).

2.2.4.6 Special Protection for Birds

In addition to protections contained within the California ESA, the California Fish and Game Code includes several sections that specifically protect certain birds:

- Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.

- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic non-native species, or any part of these birds.
- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

2.2.5 California Wild and Scenic Rivers Act

The California Wild and Scenic Rivers Act establishes a policy that certain rivers which possess extraordinary scenic, recreational, fishery, or wildlife values be preserved in their free-flowing state, together with their immediate environments. Where applicable, FHWA consults with the managing agencies on projects that affect designated rivers or their immediate environments to reduce potential conflicts with wild and scenic river values that are protected by the act.

2.2.6 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act requires “any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State to file a report of discharge” with the RWQCB through State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) (California Code of Regulations [CCR], title 23, Section 3855) (State Water Resources Control Board 2021). *Waters of the State* is defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050[e]). Pollution is defined as an alteration of the quality of the waters of the State by waste to a degree that unreasonably affects its beneficial uses (California Water Code Section 13050) and includes filling in waters of the State. Note that CCR, title 23, Section 3855 applies only to individual water quality certifications, but the new Procedures extend the application of Section 3855 to individual waste discharge requirements for discharges of dredged or fill material to waters of the State and waivers thereof.

2.2.7 California Environmental Quality Act

In accordance with CEQA Guidelines Section 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the CEQA Guidelines. These criteria parallel the definitions used in the ESA, California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under the ESA, California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as Species of Special Concern (SSC) by CDFW, birds identified as Birds of Conservation Concern (BCC) by USFWS, and plants identified by the California Native Plant Society (CNPS) as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

2.2.7.1 *Species of Special Concern*

CDFW defines an SSC as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the federal ESA, California ESA, or California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.
- The species is federally (but not state) listed as threatened or endangered or meets the state definition of threatened or endangered but has not been formally listed.
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that, if realized, could lead to declines that would qualify it for state threatened or endangered status.
- SSC are typically associated with habitats that are threatened.

Depending on the policy of the lead agency, projects that result in substantial impacts to SSC may be considered significant under CEQA.

2.2.7.2 *California Rare Plant Ranks*

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2023a), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six California Rare Plant Ranks (CRPRs). The ranking system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDDB). The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.
- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution.

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the

least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California) and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (more than 80 percent of occurrences threatened/high degree and immediacy of threat).
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat).
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2023a).

Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, 2, and 3 are typically considered significant under CEQA Guidelines Section 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

2.2.7.3 Sensitive Natural Communities

The CDFW maintains the California Natural Community List (CDFW 2023a), which provides a list of vegetation alliances, associations, and special stands as defined in *The Manual of California Vegetation* (CNPS 2023b), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

2.2.7.4 California Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act was passed in 2001 and provides funding for conservation and protection of California oak woodlands. This act mandates the California Wildlife Conservation Board to establish a grant program designed to protect and restore oak woodlands using conservation easements, cost-share and long-term agreements, technical assistance, and public education and outreach. The grant program provides incentives designed to foster the voluntary conservation of oak woodlands.

To participate in the Oak Woodlands Conservation Program, a county or city shall adopt an Oak Woodlands Management Plan through a resolution. The county or city must prepare statements expressing support for landowners that participate in the Oak Woodlands Conservation Program and must certify that individual proposals are consistent with the county or city Oak Woodlands Management Plan.

2.2.7.5 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- 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;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.3 Local Policies, Ordinances, and Other Plans

2.3.1 Riverside County/Wildomar General Plan

The City of Wildomar does not currently have an independent, city-specific General Plan. Rather, it has adopted the Riverside County General Plan (Riverside County/Wildomar General Plan). The Riverside County/Wildomar General Plan is currently the City's principal policy document for future conservation and development. The General Plan addresses all aspects of development, including land use; circulation and transportation; open space, natural resources, and conservation; public facilities and services; safety; and noise.

2.3.1.1 Open Space, Habitat, and Natural Resource Preservation

Within the Riverside County General Plan the following policies are in place to allow for the preservation of open space, habitat, and natural resources. Those that pertain to biological resources are listed below; however, a complete list can be found in the General Plan document (RCIP 2003a):

- LU 8.1 Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, and scenic and recreational values.*
- LU 8.2 Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and Federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.*
- LU 8.4 Allow development clustering and/or density transfers in order to preserve open space, natural resources, and/or biologically sensitive resources.*
- OS 5.5 New development shall preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses. Incentives shall be utilized to the maximum extent possible.*
- OS 5.6 Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.*
- OS 6.1 During the development review process, ensure compliance with the Clean Water Act's Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.*
- OS 6.2 Preserve buffer zones around wetlands where feasible and biologically appropriate.*
- OS 6.3 Consider wetlands for use as natural water treatment areas that will result in improvement of water quality.*
- OS 8.1 Cooperate with federal and state agencies to achieve the sustainable conservation of forest land as a means of providing open space and protecting natural resources and habitat lands included within the MSHCPs.*

The following policies were adopted in the update to the Riverside County General Plan in 2021 for the Land Use Element section. Those that pertain to biological resources are listed below, however, a complete list can be found in the updated General Plan document (Riverside County Planning Department 2015):

- LU 9.1 Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.*

- LU 9.2 Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and federal and state regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.*
- LU 9.4 Allow development clustering and/or density transfers in order to preserve open space, natural resources, cultural resources, and biologically-sensitive resources. Wherever possible, development on parcels containing 100-year floodplains, blueline streams, and other higher-order watercourses, and areas of steep slopes adjacent to them shall be clustered to keep development out of watercourse and adjacent steep slope areas, and to be compatible with other nearby land uses.*
- LU 24.1 With respect to properties designated either as Open Space-Conservation, Open Space-Conservation Habitat, or Open Space- Water on the area plan land use maps: Cooperate with the CDFW, USFWS, and any other appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats.*

The following policies were adopted in the update to the Riverside County General Plan in 2021 for the Multipurpose Open Space Element section. Those that pertain to biological resources are listed below; however, a complete list can be found in the updated General Plan document (Riverside County Planning Department 2015):

- OS 5.1 Substantially alter floodways or implement other channelization only as a "last resort," and limit the alteration to:*
- c. projects where the primary function is improvement of fish and wildlife habitat.*
- OS 5.2 If substantial modification to a floodway is proposed, design it to reduce adverse environmental effects to the maximum extent feasible, considering the following factors:*
- c. wildlife habitat and linkages.*
- OS 5.3 Based upon site, specific study, all development shall be set back from the floodway boundary a distance adequate to address the following issues:*
- c. riparian or wetland buffer;*
 - d. wildlife movement corridor or linkage.*
- OS 5.6 Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.*

- OS 6.1 *During the development review process, ensure compliance with the Clean Water Act’s Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.*
- OS 6.2 *Preserve buffer zones around wetlands where feasible and biologically appropriate.*
- OS 6.3 *Consider wetlands for use as natural water treatment areas that will result in improvement of water quality.*
- OS 8.1 *Cooperate with federal and state agencies to achieve the sustainable conservation of forest land as a means of providing open space and protecting natural resources and habitat lands included within the MSHCPs.*
- OS 8.2 *Support conservation programs to reforest privately held forest lands.*

2.3.1.2 Watersheds, Floodplains, and Watercourse Policies

The Elsinore Area Plan, part of the Riverside County General Plan, addresses conservation policies that pertain to cities within its sphere of influence. Watersheds, such as the Santa Margarita River watershed, and watercourses, such as Murrieta Creek, are described as providing corridors for wildlife movement and linkage to open spaces. To protect these areas the following policy is in place to protect these areas:

- ELAP 14.1 *Protect the Santa Margarita watershed and habitat and provide recreational opportunities and flood protection through adherence to the policies found in the Open Space, Habitat, and Natural Resources Preservation section of the General Plan Land Use Element and the Environmentally Sensitive Lands, Floodplain and Riparian Area Management, Wetlands, and Open Space, Parks and Recreation sections of the Multipurpose Open Space Element (Riverside County Planning Department 2015).*

2.3.1.3 Oak Tree Preservation

The Elsinore Area Plan contains significant oak woodland areas that it aims to protect with the following policy:

- ELAP 16.1 *Protect viable oak woodlands through adherence to the Oak Tree Management Guidelines adopted by Riverside County and the Vegetation section of the Multipurpose Open Space Element of the General Plan (Riverside County Planning Department 2015).*

The Riverside County General Plan (RCIP 2003a) also lists the following policies related to oak tree and native tree preservation:

- OS 9.3 *Maintain and conserve superior examples of native trees, natural vegetation, stands of established trees, and other features for ecosystems, aesthetic, and water conservation purposes.*
- OS 9.4 *Conserve the oak tree resources in the County.*

The following policies were adopted in the update to the Riverside County General Plan in 2021 for the Open Space Element section and relate to Vegetation (Riverside County Planning Department 2015):

OS 9.6 *Conserve important traditional Native American plant gathering resource areas.*

2.3.2 Riverside County Oak Tree Management Guidelines

The guidelines presented in this section are meant to “address the treatment of oak woodlands in areas where zoning and/or general plan density restrictions will allow the effective use of clustering.” These guidelines are meant to reduce project impacts to oak trees to a level to a low level of significance, however, they do not exempt a project from being reviewed pursuant to CEQA.

Below is a summary of the guidelines. A complete list of all definitions and guidelines can be found here:

<https://planning.rctlma.org/riverside-county-oak-tree-management-guidelines#:~:text=Landscaping%2C%20trenching%20or%20irrigation%20systems,oak%20tree%20shall%20be%20avoided.>

- A biological study will be required for all applications on properties that contain oak trees. This will include an inventory of vegetation including the location and size of individual oak trees that are two inches diameter-at-breast-height or larger. This includes the evaluation of dead or dying trees for their potential value to cavity nesting birds.
- Impacts of the proposed development identified and quantified.
- Options for mitigation measures if impacts cannot be avoided.
- A biological report including mitigation, consistent with CEQA and applicable State or County codes and ordinances.

2.3.3 Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional HCP focusing on conservation of species and their associated habitats in western Riverside County. The MSHCP identifies 146 species, referred to as “Covered Species,” for which the federal and California ESAs “take” authorization has been granted to signatories to the plan as long as they comply with its requirements. Of the 146 Covered Species within the MSHCP, 118 are considered to be “adequately conserved.” The remaining 28 Covered Species will be considered to be adequately conserved when certain landmark conservation requirements are met during the course of future development. The goal of the MSHCP is to maintain the biological and ecological diversity within a rapidly urbanizing region while also improving the future economic development in the county by providing an efficient, streamlined regulatory process through which development can proceed in an efficient way.

The approval of the MSHCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue “take” authorizations for all species covered by the MSHCP, including state- and federally listed species, as well as other identified sensitive species and/or their habitats. Each city of local jurisdiction will impose a Development Mitigation Fee for projects within their jurisdiction. With payment of the mitigation fee to the county and compliance with the survey requirements of the

MSHCP where required, full mitigation in compliance with CEQA, NEPA, the California ESA, and the ESA will be granted. The Development Mitigation Fee varies according to project size and project description and is dependent on development density (Riverside County Ordinance No. 810.2). Payment of the mitigation fee and compliance with the requirements of Section 6.0 of the MSHCP are intended to provide full mitigation under CEQA, NEPA, and the California and federal ESAs for impacts to the species and habitats covered by the MSHCP, pursuant to agreements with USFWS, CDFW, and/or any other appropriate participating regulatory agencies as set forth in the IA for the MSHCP.

2.3.3.1 Multipurpose Open Space Element

Within the Riverside County General Plan the following policies are in place to allow for the preservation of open space, habitat, and natural resources. Those that pertain to biological resources are listed below; however, a complete list can be found in the General Plan document (RCIP 2003a):

- OS 17.1 *Enforce the provisions of applicable MSHCP's, if adopted, when conducting review of development applications.*
- OS 17.2 *Enforce the provisions of applicable MSHCP's, if adopted, when developing transportation or other infrastructure projects that have been designated as covered activities in the applicable MSHCP.*
- OS 17.3 *Enforce the provisions of applicable MSHCP's, if adopted, when conducting review of possible general plan amendments and/or zoning changes.*
- OS 17.4 *Require the preparation of biological reports in compliance with Riverside County Planning Department Biological Report Guidelines for development related uses that require discretionary approval to assess the impacts of such development and provide mitigation for impacts to biological resources until such time as the Coachella Valley MSHCP and/or Western Riverside County MSHCP are adopted or should one or both MSHCP's not be adopted.*
- OS 17.5 *Establish baseline ratios for mitigating the impacts of development related uses to rare, threatened, and endangered species and their associated habitats to be used until such time as the Coachella Valley MSHCP and/or Western Riverside County MSHCP are adopted or should one or both MSHCP's not be adopted.*
- OS 18.1 *Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCP's, if adopted.*
- OS 18.2 *Provide incentives to landowners that will encourage the protection of significant resources in the County beyond the preservation and/or conservation required to mitigate project impacts.*

The following policies were adopted in the update to the Riverside County General Plan in 2021 for the Multipurpose Open Space Element section. Those that pertain to biological resources are listed below,

however, a complete list can be found in the updated General Plan document (Riverside County Planning Department 2015):

- OS 17.1 *Enforce the provisions of applicable MSHCP's and implement related Riverside County policies when conducting review of possible legislative actions such as general plan amendments, zoning ordinance amendments, etc. including policies regarding the handling of private and public stand alone applications for general plan amendments, lot line adjustments and zoning ordinance amendments that are not accompanied by, or associated with, an application to subdivide or other land use development application. Every stand alone application shall require an initial Habitat Evaluation and Acquisition Negotiation Process (HANS) assessment and such assessment shall be made by the Planning Department's Environmental Programs Division. Habitat assessment and species specific focused surveys shall not be required as part of this initial HANS assessment for stand alone applications but will be required when a development proposal or land use application to subsequently subdivide, grade or build on the property is submitted to the County.*
- OS 17.2 *Enforce the provisions of applicable MSHCP's and implement related Riverside County policies when conducting review of development applications.*
- OS 17.3 *Enforce the provisions of applicable MSHCP's and implement related Riverside County policies when developing transportation or other infrastructure projects that have been designated as covered activities in the applicable MSHCP.*
- OS 18.1 *Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCP's and through implementing related Riverside County policies.*
- OS 18.2 *Provide incentives to landowners that will encourage the protection of significant resources in the county beyond the preservation and/pr conservation required to mitigate project impacts.*
- OS 18.3 *Prohibit the planting or introduction of invasive, non-native species to watercourses, their banks, riparian areas, or buffering setbacks.*

2.3.4 Stephens' Kangaroo Rat Conservation Plan

Within Riverside County there is an established Long-Term Stephens' kangaroo rat HCP (Appendix C). The Stephens' kangaroo rat conservation plan is administered by the Riverside County Habitat Conservation Agency (RCHCA) and aims to conserve 15,000 acres of occupied Stephens' kangaroo rat habitat. To date, more than 46,000 acres have been assembled in western Riverside County for this species. The RCHCA has a Section 10A permit granted by USFWS that allows for *take* of Stephens' kangaroo rat as part of development activity. The federal ESA defines *take* as any attempt to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct as it relates to Stephens' kangaroo rat. As individual projects are proposed and approved in the Stephens' kangaroo rat Plan Area, public and private land developers are required to pay a Stephens' kangaroo rat mitigation fee for land

that is developed and removes Stephens' kangaroo rat habitat. This streamlined process benefits developers in the Stephens' kangaroo rat Plan Area because projects within this area do not require individual review and approval by the wildlife agencies.

Developers benefit from the streamlined process in the Stephens' kangaroo rat Plan Area because projects within this area do not require individual review and approval by the wildlife agencies. The activities covered by the plan fall into three categories:

1. Actions by private landowners, local and regional public agencies, public and private utilities, and farmers that are otherwise lawful but constitute incidental take of Stephens' kangaroo rat as defined by the federal and California ESA;
2. Establishment and management of permanent Stephens' kangaroo rat reserves by the RCHCA in cooperation with other public agencies and individual landowners; and
3. Implementation by the RCHCA and its member agencies of the conservation, mitigation, and monitoring measures specified in this plan.

The Mitigation Fee is \$500 per gross acre of the parcels proposed for development within the Stephens' kangaroo rat HCP Fee Area.

3.0 METHODS

3.1 Literature Review

The following resources were reviewed to determine the special-status species that have been documented in or in the vicinity of the City and therefore have a potential to occur within the City or may be potentially affected by activities within the City.

- CDFW CNDDDB for City of Wildomar County, California (CDFW 2023b).
- Calflora Plant Database (Calflora 2023).
- USFWS Information, Planning, and Consultation System (IPaC) Resource Report List for City of Wildomar, California (USFWS 2023a).
- CNPS Electronic Inventory of Rare and Endangered Plants of California data for City of Wildomar, California (CNPS 2023a).
- NMFS Resources data for City of Wildomar, California (NOAA 2023a).
- NOAA Essential Fish Habitat Mapper (NOAA 2023b).
- USFWS National Wetland Inventory (NWI; USFWS 2023b).
- USFWS Online Critical Habitat Mapper (USFWS 2023c).
- Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2023a and 2023b).

- 2003 County of Riverside General Plan (RCIP 2003a).
- 2015 County of Riverside General Plan (Riverside County Planning Department 2015).
- Elsinore Area Plan (Riverside County Planning Department 2021b).

The results of the database queries are included in Appendix D.

4.0 RESULTS

This section includes an overview of the existing conditions of the City. The majority of the information in this section is from the Riverside County General Plan (2003, 2015) and Elsinore Area Plan (2021).

4.1 Site Characteristics and Land Use

The City is located south of the City of Lake Elsinore in a valley between the Santa Ana Mountains and Gavilan and Sedco Hills. The City has an elevational range of approximately 2,324 to 1,566 feet amsl from west to east and 1,187 to 1,777 feet amsl from south to north. Due to its location, there is a variety of biological communities. The City includes one geographic subregion: Peninsular Ranges (Jepson eFlora 2023).

4.2 Soils

According to the NRCS, there are 112 soil units mapped within the City. Of these mapped soil units, there are 13 soil units that have a hydric rating and/or may contain hydric components. These are summarized in Table 3 and shown in Figure 3.

Table 3. NRCS Soil Types		
Map Unit Symbol	Map Unit Name	Hydric Rating
145	Cieneba-Rock outcrop complex, 30 to 75 percent slopes	–
147	Corralitos loamy sand, moderately fine substratum	Predominantly non-hydric
156	Hanford sandy loam, 2 to 9 percent slopes	–
187	Ramona gravelly fine sandy loam, 9 to 15 percent slopes	–
198	Soboba cobbly loamy sand, 0 to 15 percent slopes	Predominantly non-hydric
AtC2	Arlington and Greenfield fine sandy loams, 2 to 8 percent slopes, eroded	–
AtD2	Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded	–

Table 3. NRCS Soil Types		
Map Unit Symbol	Map Unit Name	Hydric Rating
AtF3	Arlington and Greenfield fine sandy loams, 15 to 35 percent slopes, severely eroded	–
AyF	Auld cobbly clay, 8 to 50 percent slopes	–
CaC2	Cajalco fine sandy loam, 2 to 8 percent slopes, eroded	–
CaD2	Cajalco fine sandy loam, 8 to 15 percent slopes, eroded	–
CaF2	Cajalco fine sandy loam, 15 to 35 percent slopes, eroded	–
CbD2	Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded	–
CbF2	Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded	–
Ce	Chino silt loam, drained	–
Cf	Chino silt loam, drained, saline-alkali	–
Cg	Chino silt loam, drained, strongly saline-alkali	–
ChC	Cieneba sandy loam, 5 to 8 percent slopes	–
ChD2	Cieneba sandy loam, 8 to 15 percent slopes, eroded	–
ChF2	Cieneba sandy loam, 15 to 50 percent slopes, eroded	–
CkD2	Cieneba rocky sandy loam, 8 to 15 percent slopes, eroded	–
CkF2	Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded	–
EcD2	Escondido fine sandy loam, 8 to 15 percent slopes, eroded	–
EcE2	Escondido fine sandy loam, 15 to 25 percent slopes, eroded	–
EnC2	Exeter sandy loam, 2 to 8 percent slopes, eroded	–
EoB	Exeter sandy loam, slightly saline-alkali, 0 to 5 percent slopes	–
EpA	Exeter sandy loam, deep, 0 to 2 percent slopes	–
EwB	Exeter very fine sandy loam, 0 to 5 percent slopes	–
FaD2	Fallbrook sandy loam, 8 to 15 percent slopes, eroded	–
FbC2	Fallbrook sandy loam, shallow, 5 to 8 percent slopes, eroded	–

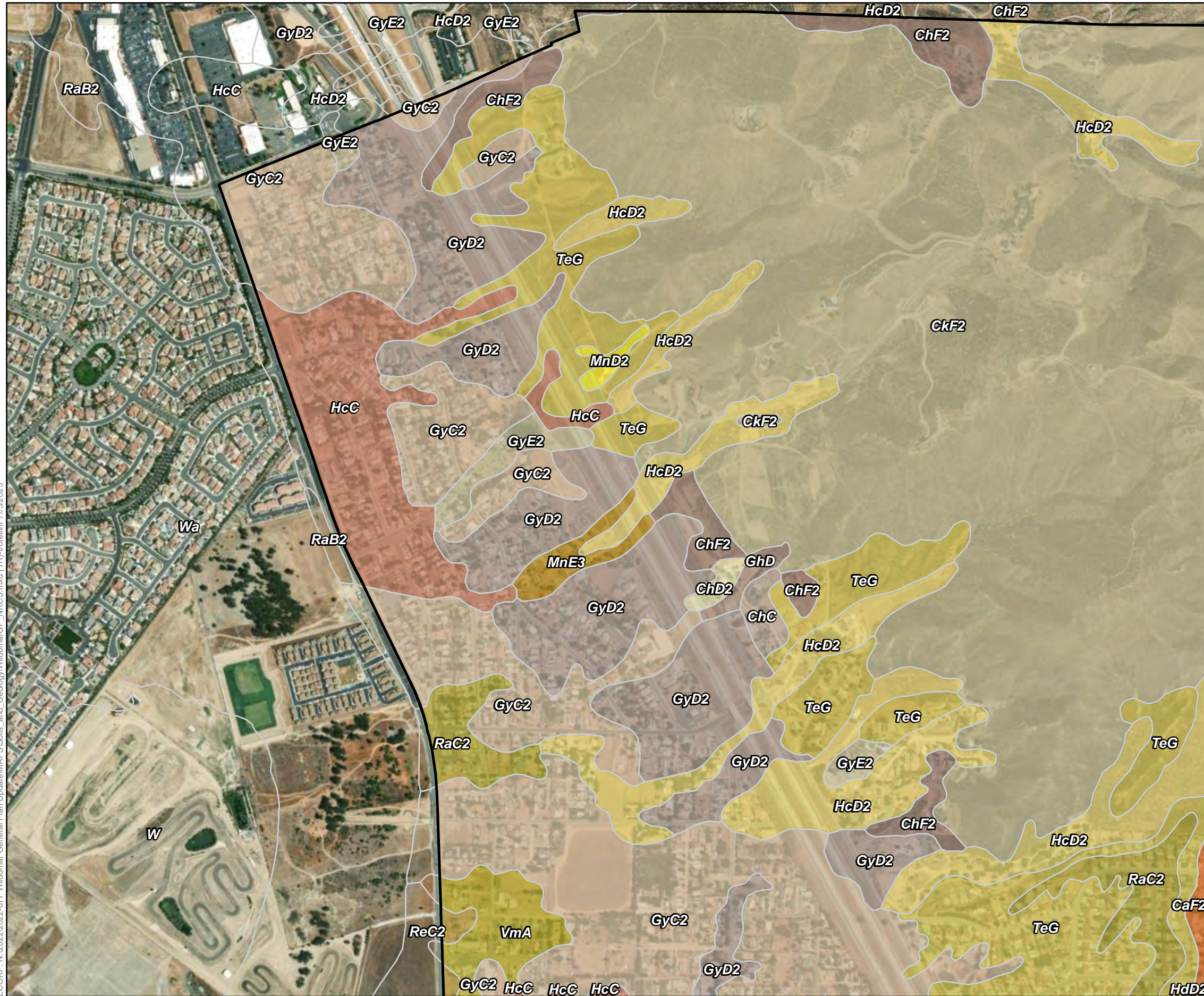
Table 3. NRCS Soil Types		
Map Unit Symbol	Map Unit Name	Hydric Rating
FbF2	Fallbrook sandy loam, shallow, 15 to 35 percent slopes, eroded	–
FcF2	Fallbrook rocky sandy loam, shallow, 15 to 50 percent slopes, eroded	–
FfC2	Fallbrook fine sandy loam, 2 to 8 percent slopes, eroded	–
FkD2	Fallbrook fine sandy loam, shallow, 8 to 15 percent slopes, eroded	–
FwE2	Friant fine sandy loam, 5 to 25 percent slopes, eroded	–
GdD2	Garretson gravelly very fine sandy loam, 8 to 15 percent slopes, eroded	–
GhC	Gorgonio loamy sand, 0 to 8 percent slopes	–
GhD	Gorgonio loamy sand, 8 to 15 percent slopes	–
GkD	Gorgonio loamy sand, channeled, 2 to 15 percent slopes	Predominately non-hydric
GIC	Gorgonio loamy sand, deep, 2 to 8 percent slopes	–
GP	Gravel pits	–
GtA	Grangeville fine sandy loam, drained, 0 to 2 percent slopes	–
GuB	Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes	Predominately non-hydric
GvB	Grangeville fine sandy loam, saline-alkali, 0 to 5 percent slopes	–
GyA	Greenfield sandy loam, 0 to 2 percent slopes	–
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	–
GyD2	Greenfield sandy loam, 8 to 15 percent slopes, eroded	–
GyE2	Greenfield sandy loam, 15 to 25 percent slopes eroded	–
GzG	Gullied land	–
HcA	Hanford coarse sandy loam, 0 to 2 percent slopes	–
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	–
HcD2	Hanford coarse sandy loam, 8 to 15 percent slopes, eroded	–

Table 3. NRCS Soil Types		
Map Unit Symbol	Map Unit Name	Hydric Rating
HdD2	Hanford cobbly coarse sandy loam, 2 to 15 percent slopes, eroded	Predominately non-hydric
HfD	Hanford sandy loam, 2 to 15 percent slopes	Predominately non-hydric
HgA	Hanford fine sandy loam, 0 to 2 percent slopes	–
HnC	Honcut sandy loam, 2 to 8 percent slopes	–
HnD2	Honcut sandy loam, 8 to 15 percent slopes	–
HuC2	Honcut loam, 2 to 8 percent slopes, eroded	–
LaC	Las Posas loam, 2 to 8 percent slopes	–
LaC2	Las Posas loam, 5 to 8 percent slopes, eroded	–
LaD2	Las Posas loam, 8 to 15 percent slopes, eroded	–
LaE3	Las Posas loam, 9 to 25 percent slopes, severely eroded	–
LcD2	Las Posas stony loam, 8 to 15 percent slopes, eroded	–
LkD2	Las Posas rocky loam, 8 to 15 percent slopes, eroded	–
LkF3	Las Posas rocky loam, 15 to 50 percent slopes, severely eroded	–
LoF2	Lodo gravelly loam, 15 to 50 percent slopes, eroded	–
LpE2	Lodo rocky loam, 9 to 25 percent slopes, eroded	–
LpF2	Lodo rocky loam, 25 to 50 percent slopes, eroded	–
MmB	Monserate sandy loam, 0 to 5 percent slopes	–
MmC2	Monserate sandy loam, 5 to 8 percent slopes, eroded	–
MmD2	Monserate sandy loam, 8 to 15 percent slopes, eroded	–
MmE3	Monserate sandy loam, 15 to 25 percent slopes, severely eroded	–
MnD2	Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded	–
MnE3	Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded	–
PaA	Pachappa fine sandy loam, 0 to 2 percent slopes	–

Table 3. NRCS Soil Types		
Map Unit Symbol	Map Unit Name	Hydric Rating
PaC2	Pachappa fine sandy loam, 2 to 8 percent slopes, eroded	–
PIB	Placentia fine sandy loam, 0 to 5 percent slopes	Predominantly non-hydric
PID	Placentia fine sandy loam, 5 to 15 percent slopes	Predominantly non-hydric
PoC	Porterville clay, 0 to 8 percent slopes	–
PsC	Porterville clay, moderately deep, 2 to 8 percent slopes	–
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded	–
RaB3	Ramona sandy loam, 0 to 5 percent slopes, severely eroded	–
RaC2	Ramona sandy loam, 5 to 8 percent slopes, eroded	–
RaC3	Ramona sandy loam, 5 to 8 percent slopes, severely eroded	–
RaD2	Ramona sandy loam, 8 to 15 percent slopes, eroded	–
RaD3	Ramona sandy loam, 8 to 15 percent slopes, severely eroded	–
RaE3	Ramona sandy loam, 15 to 25 percent slopes, severely eroded	–
RdD2	Ramona sandy loam, moderately deep, 8 to 15 percent slopes, eroded	–
ReC2	Ramona very fine sandy loam, 0 to 8 percent slopes, eroded	–
RmE3	Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded	–
RnD2	Ramona and Buren loams, 5 to 15 percent slopes, eroded	–
RnE3	Ramona and Buren loams, 5 to 25 percent slopes, severely eroded	–
RsC	Riverwash	Hydric
RuF	Rough broken land	–
SmE2	San Timoteo loam, 8 to 25 percent slopes, eroded	–
TeG	Terrace escarpments	–
Tt2	Traver fine sandy loam, strongly saline-alkali, eroded	–

Table 3. NRCS Soil Types		
Map Unit Symbol	Map Unit Name	Hydric Rating
TvC	Tujunga loamy sand, channeled, 0 to 8 percent slopes	Predominately non-hydric
VmA	Visalia fine sandy loam, 0 to 2 percent slopes	–
VmC	Visalia fine sandy loam, 2 to 8 percent slopes	–
VsC	Vista coarse sandy loam, 2 to 8 percent slopes	–
VsD2	Vista coarse sandy loam, 8 to 15 percent slopes, eroded	–
VsF2	Vista coarse sandy loam, 15 to 35 percent slopes, eroded	–
VtF2	Vista rocky coarse sandy loam, 2 to 35 percent slopes, eroded	–
Wf	Willows silty clay	–
Wg	Willow silty clay, saline-alkali	–
WxD2	Wyman fine sandy loam, 8 to 15 percent slopes, eroded	–
WyC2	Wyman loam, 2 to 8 percent slopes, eroded	–
YbC	Yokohl loam, 2 to 8 percent slopes	Predominately non-hydric
YbD2	Yokohl loam, 8 to 15 percent slopes, eroded	Predominately non-hydric
YbE3	Yokohl loam, 8 to 25 percent slopes, severely eroded	Predominately non-hydric
YsE3	Ysidora gravelly very fine sandy loam, 8 to 25 percent slopes, severely eroded	–

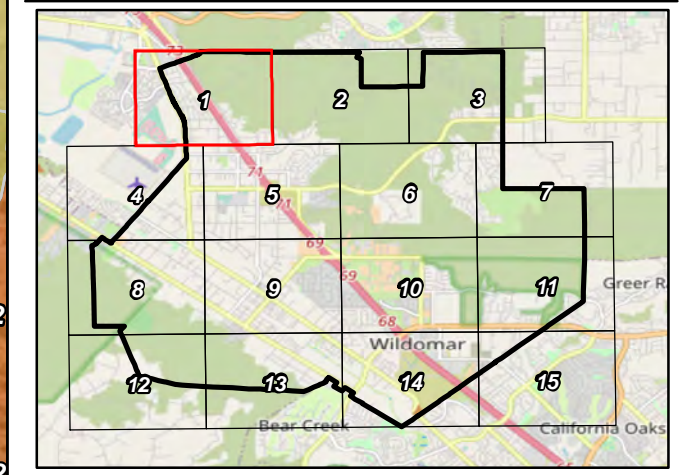
ECORP: N:\2022\2022-077 Wildomar General Plan Update\MAPS\Soils_and_Geology\WildomarGP_NRCS.mxd (TR)-rollout\11/3/2023



Map Features

- Wildomar City Limits
- Series Designation - Series Description**
- CaF2 - Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- ChC - Cieneba sandy loam, 5 to 8 percent slopes
- ChD2 - Cieneba sandy loam, 8 to 15 percent slopes, eroded
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- GhD - Gorgonio loamy sand, 8 to 15 percent slopes
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- GyD2 - Greenfield sandy loam, 8 to 15 percent slopes, eroded
- GyE2 - Greenfield sandy loam, 15 to 25 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- HdD2 - Hanford cobbly coarse sandy loam, 2 to 15 percent slopes, eroded
- MnD2 - Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
- MnE3 - Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
- RaC2 - Ramona sandy loam, 5 to 8 percent slopes, eroded
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- TeG - Terrace escarpments
- VmA - Visalia fine sandy loam, 0 to 2 percent slopes

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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Map Date: 11/3/2023

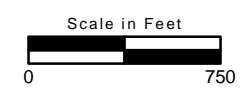
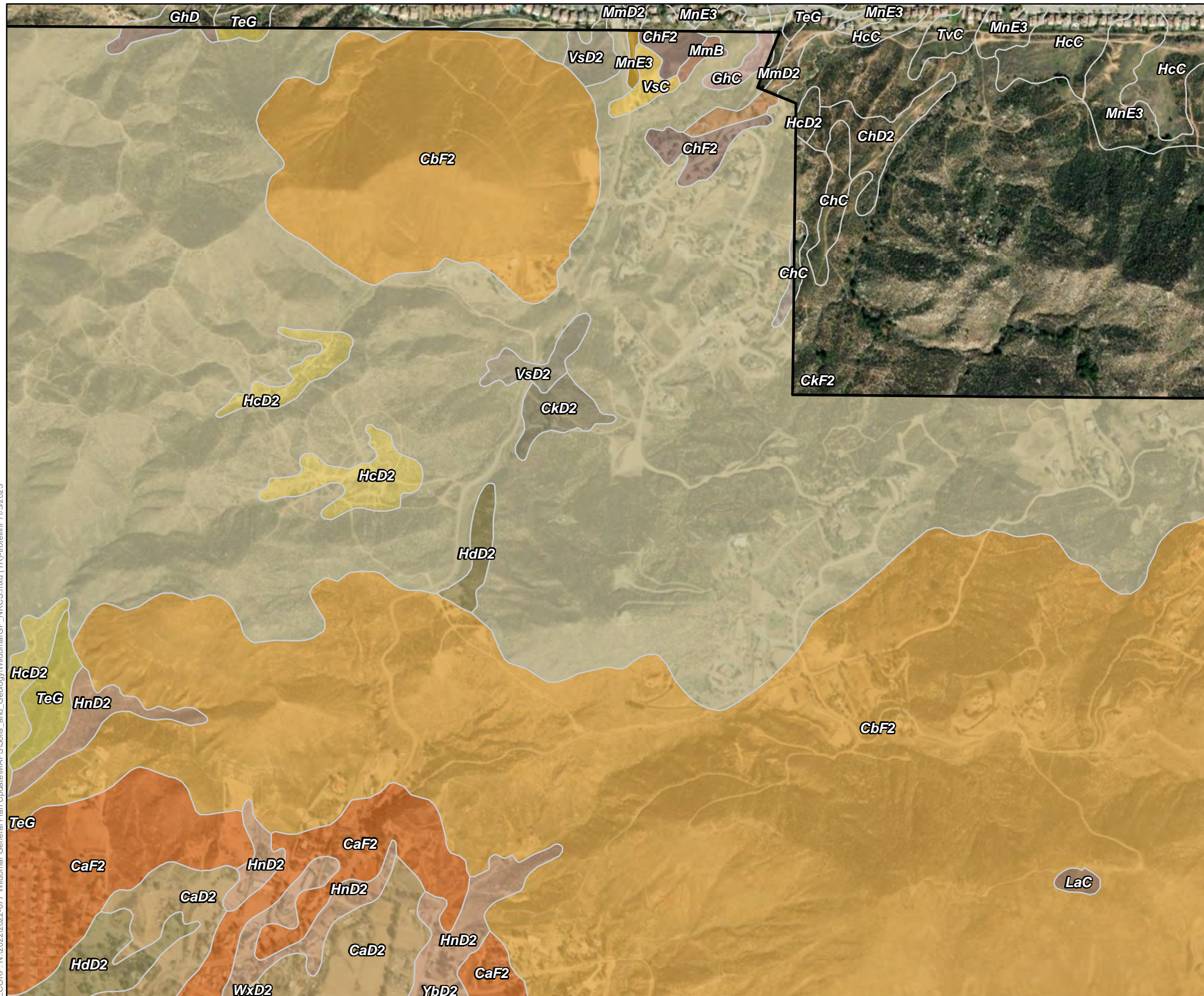


Figure 3. National Resources Conservation Service Soil Types
Sheet 1 of 15



Map Features

- Wildomar City Limits
- Series Designation - Series Description
- CaD2 - Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CaF2 - Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- ChC - Cieneba sandy loam, 5 to 8 percent slopes
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- CkD2 - Cieneba rocky sandy loam, 8 to 15 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- GhC - Gorgonio loamy sand, 0 to 8 percent slopes
- GhD - Gorgonio loamy sand, 8 to 15 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- HdD2 - Hanford cobbly coarse sandy loam, 2 to 15 percent slopes, eroded
- HnD2 - Honcut sandy loam, 8 to 15 percent slopes, eroded
- LaC - Las Posas loam, 2 to 8 percent slopes
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- MnE3 - Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
- TeG - Terrace escarpments
- VsC - Vista coarse sandy loam, 2 to 8 percent slopes
- VsD2 - Vista coarse sandy loam, 8 to 15 percent slopes, eroded
- WxD2 - Wyman fine sandy loam, 8 to 15 percent slopes, eroded
- YbD2 - Yokohl loam, 8 to 15 percent slopes, eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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Map Date: 11/3/2023

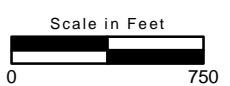
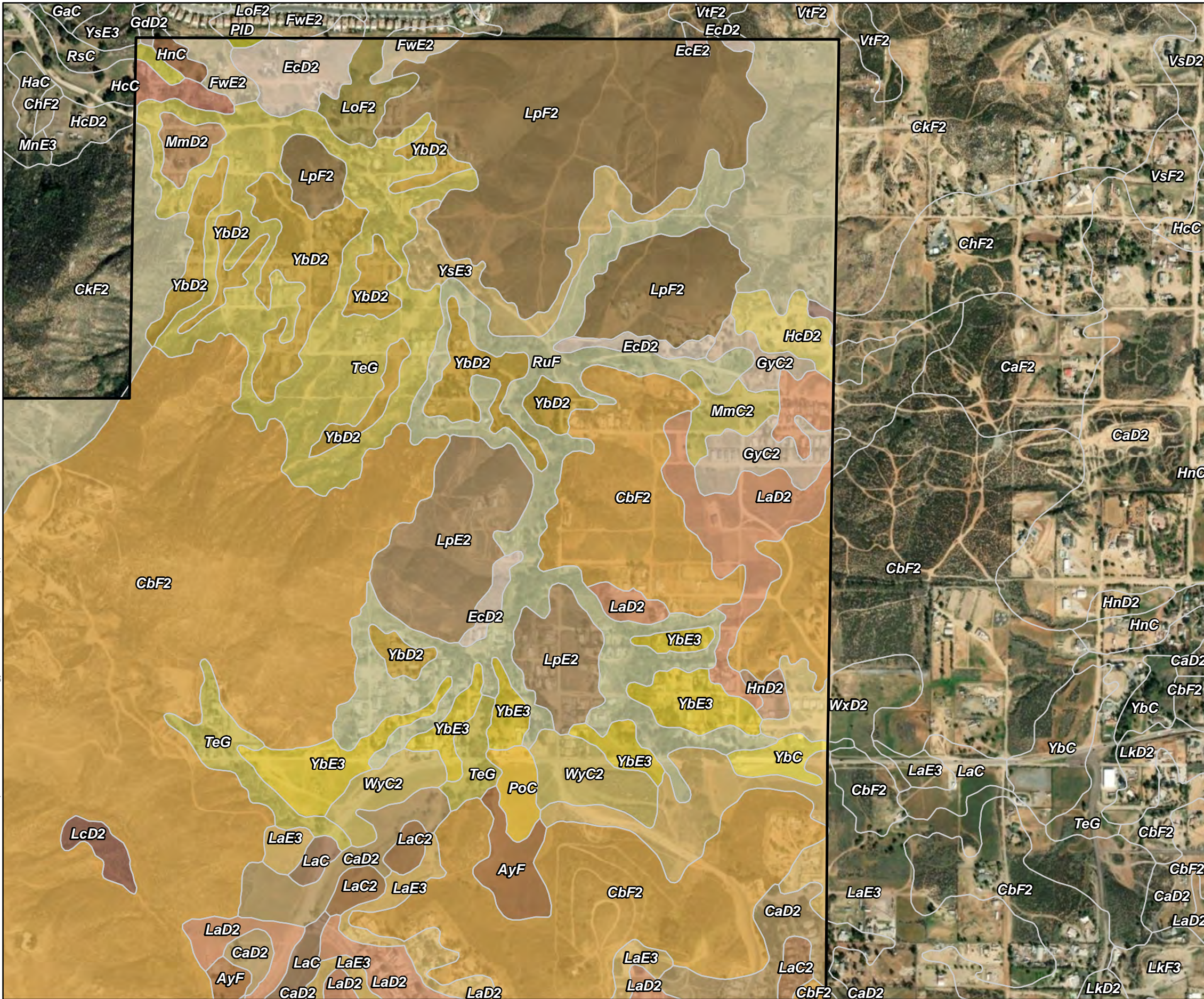


Figure 3. National Resources Conservation Service Soil Types
Sheet 2 of 15
 2022-077 City of Wildomar GP Update

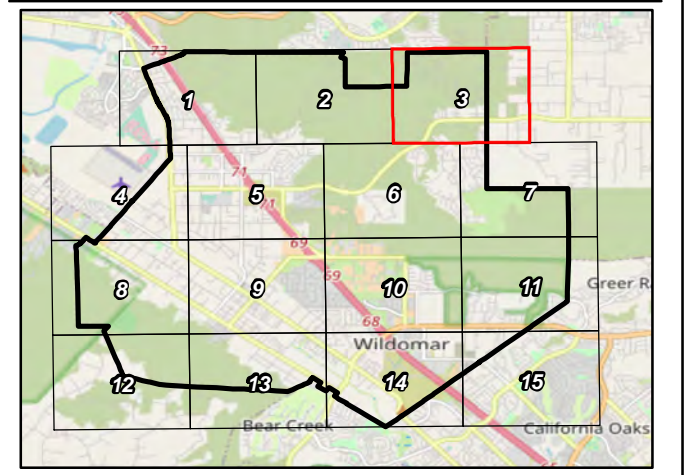


Map Features

Wildomar City Limits
Series Designation - Series Description

- AyF - Auld cobbly clay, 8 to 50 percent slopes
- CaD2 - Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- EcD2 - Escondido fine sandy loam, 8 to 15 percent slopes, eroded
- EcE2 - Escondido fine sandy loam, 15 to 25 percent slopes, eroded
- FwE2 - Friant fine sandy loam, 5 to 25 percent slopes, eroded
- GdD2 - Garretson gravelly very fine sandy loam, 8 to 15 percent slopes, eroded
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- HnC - Honcut sandy loam, 2 to 8 percent slopes
- HnD2 - Honcut sandy loam, 8 to 15 percent slopes, eroded
- LaC - Las Posas loam, 2 to 8 percent slopes
- LaC2 - Las Posas loam, 5 to 8 percent slopes, eroded
- LaD2 - Las Posas loam, 8 to 15 percent slopes, eroded
- LaE3 - Las Posas loam, 8 to 25 percent slopes, severely eroded
- LcD2 - Las Posas stony loam, 8 to 15 percent slopes, eroded
- LoF2 - Lodo gravelly loam, 15 to 50 percent slopes, eroded
- LpE2 - Lodo rocky loam, 8 to 25 percent slopes, eroded
- LpF2 - Lodo rocky loam, 25 to 50 percent slopes, eroded
- MmC2 - Monserate sandy loam, 5 to 8 percent slopes, eroded
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- PoC - Porterville clay, 0 to 8 percent slopes
- Rsc - Riverwash
- RuF - Rough broken land
- TeG - Terrace escarpments
- WxD2 - Wyman fine sandy loam, 8 to 15 percent slopes, eroded
- WyC2 - Wyman loam, 2 to 8 percent slopes, eroded
- YbC - Yokohl loam, 2 to 8 percent slopes
- YbD2 - Yokohl loam, 8 to 15 percent slopes, eroded
- YbE3 - Yokohl loam, 8 to 25 percent slopes, severely eroded
- YsE3 - Ysidora gravelly very fine sandy loam, 8 to 25 percent slopes, severely eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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Map Date: 11/3/2023

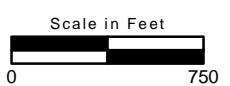
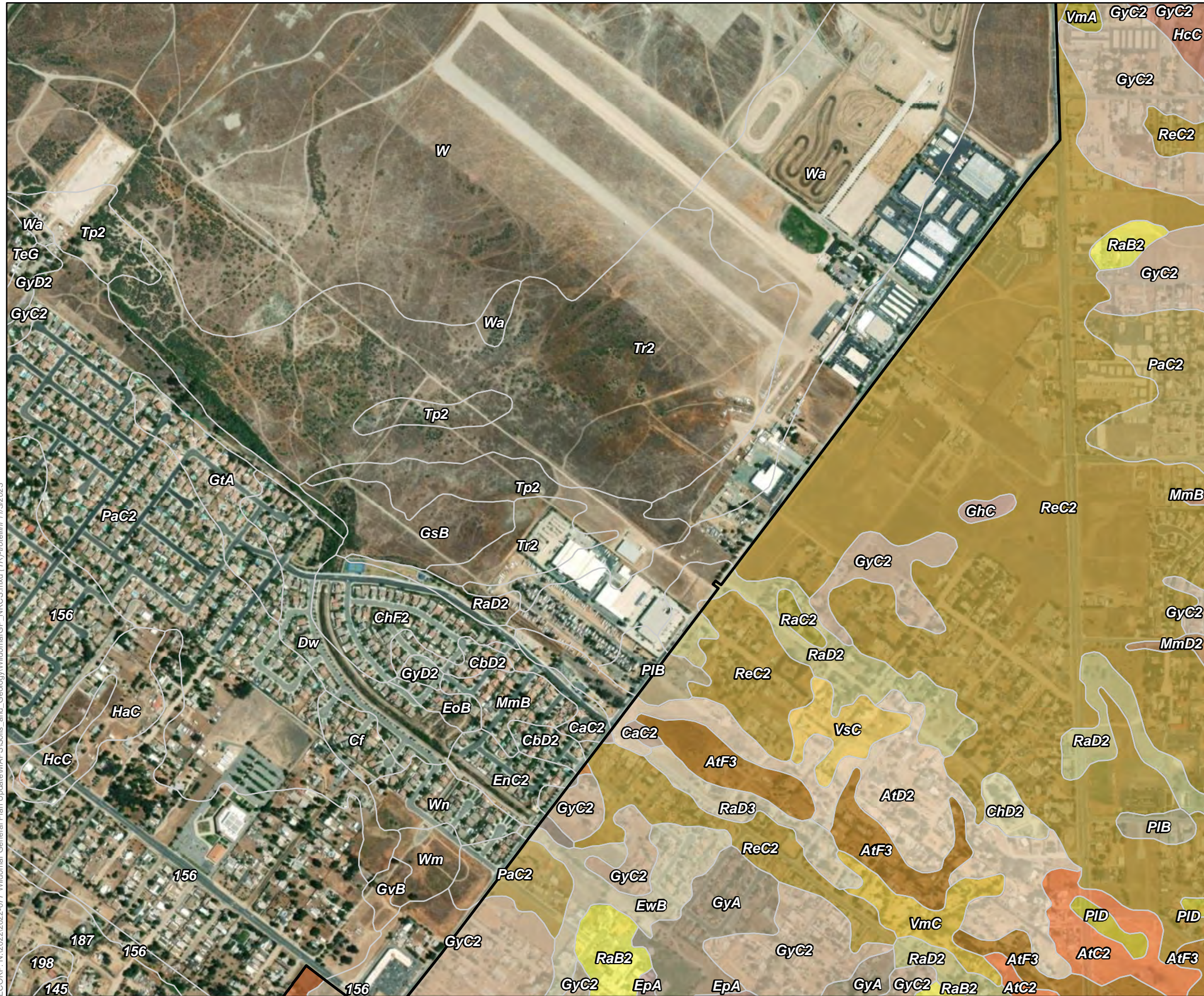


Figure 3. National Resources Conservation Service Soil Types
 Sheet 3 of 15
 2022-077 City of Wildomar GP Update



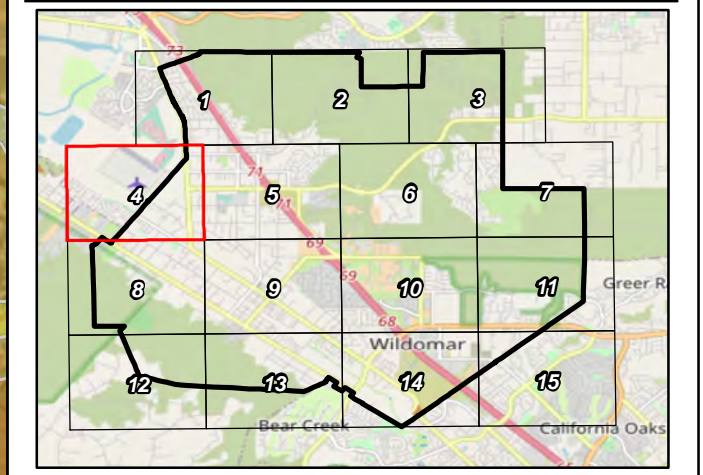
Map Features

- Wildomar City Limits

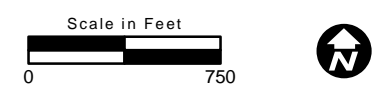
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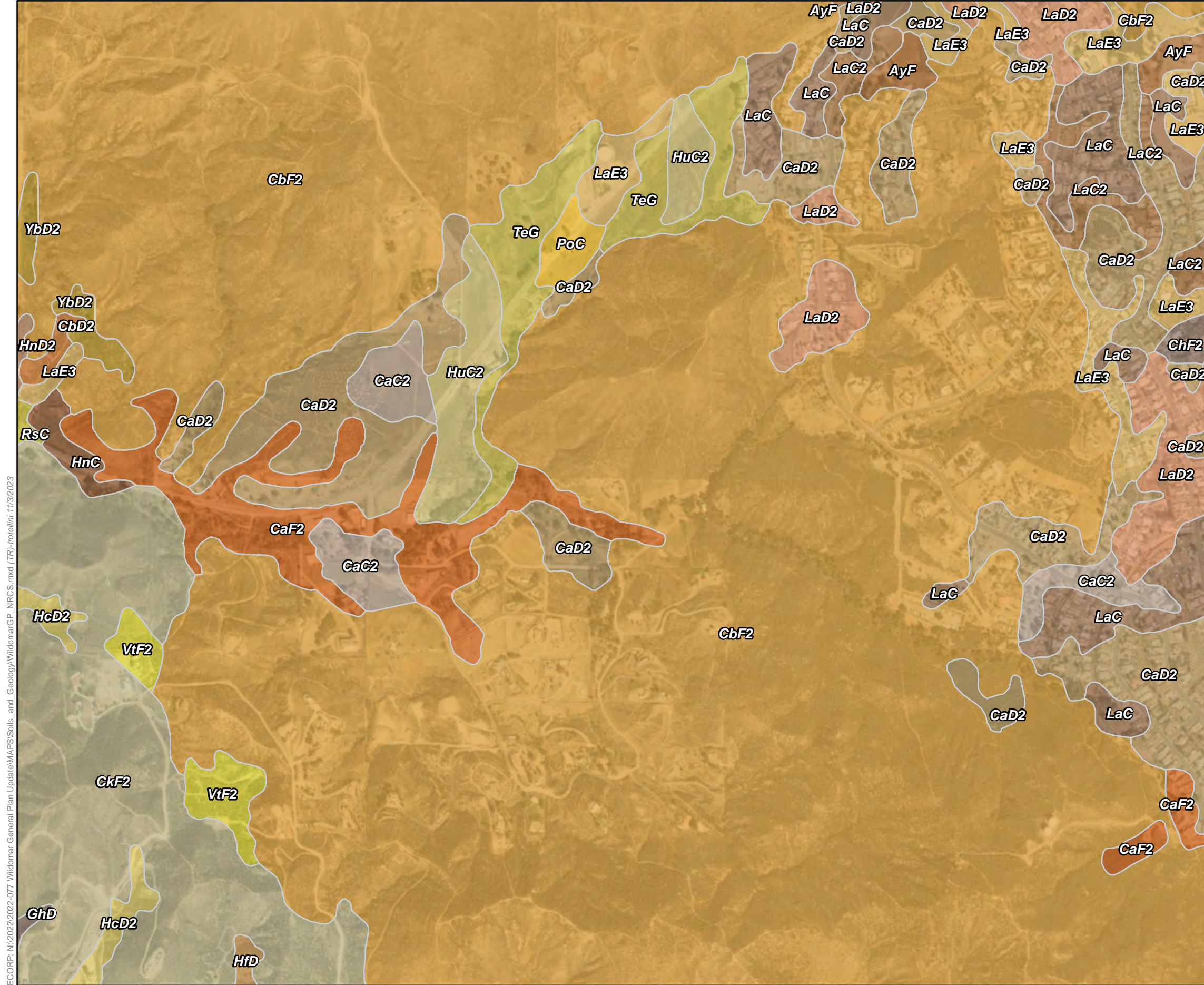
- 156 - Hanford sandy loam, 2 to 9 percent slopes
- AtC2 - Arlington and Greenfield fine sandy loams, 2 to 8 percent slopes, eroded
- AtD2 - Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded
- AtF3 - Arlington and Greenfield fine sandy loams, 15 to 35 percent slopes, severely eroded
- CaC2 - Cajalco fine sandy loam, 2 to 8 percent slopes, eroded
- CbD2 - Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded
- ChD2 - Cieneba sandy loam, 8 to 15 percent slopes, eroded
- EnC2 - Exeter sandy loam, 2 to 8 percent slopes, eroded
- EpA - Exeter sandy loam, deep, 0 to 2 percent slopes
- EwB - Exeter very fine sandy loam, 0 to 5 percent slopes
- GhC - Gorgonio loamy sand, 0 to 8 percent slopes
- GyA - Greenfield sandy loam, 0 to 2 percent slopes
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- PaC2 - Pachappa fine sandy loam, 2 to 8 percent slopes, eroded
- PIB - Placentia fine sandy loam, 0 to 5 percent slopes
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaC2 - Ramona sandy loam, 5 to 8 percent slopes, eroded
- RaD2 - Ramona sandy loam, 8 to 15 percent slopes, eroded
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- VmA - Visalia fine sandy loam, 0 to 2 percent slopes
- VmC - Visalia fine sandy loam, 2 to 8 percent slopes
- VsC - Vista coarse sandy loam, 2 to 8 percent slopes

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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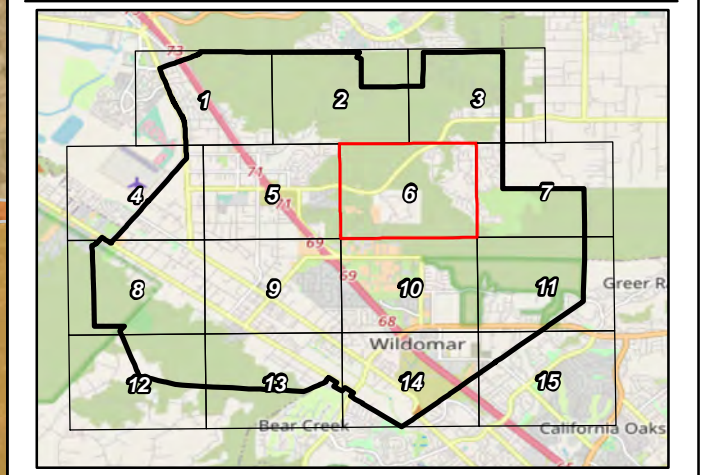


Map Features

Wildomar City Limits
Series Designation - Series Description

- AyF - Auld cobbly clay, 8 to 50 percent slopes
- CaC2 - Cajalco fine sandy loam, 2 to 8 percent slopes, eroded
- CaD2 - Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CaF2 - Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbD2 - Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- GhD - Gorgonio loamy sand, 8 to 15 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- HfD - Hanford sandy loam, 2 to 15 percent slopes
- HnC - Honcut sandy loam, 2 to 8 percent slopes
- HnD2 - Honcut sandy loam, 8 to 15 percent slopes, eroded
- HuC2 - Honcut loam, 2 to 8 percent slopes, eroded
- LaC - Las Posas loam, 2 to 8 percent slopes
- LaC2 - Las Posas loam, 5 to 8 percent slopes, eroded
- LaD2 - Las Posas loam, 8 to 15 percent slopes, eroded
- LaE3 - Las Posas loam, 8 to 25 percent slopes, severely eroded
- PoC - Porterville clay, 0 to 8 percent slopes
- RsC - Riverwash
- TeG - Terrace escarpments
- VfF2 - Vista rocky coarse sandy loam, 2 to 35 percent slopes, eroded
- YbD2 - Yokohl loam, 8 to 15 percent slopes, eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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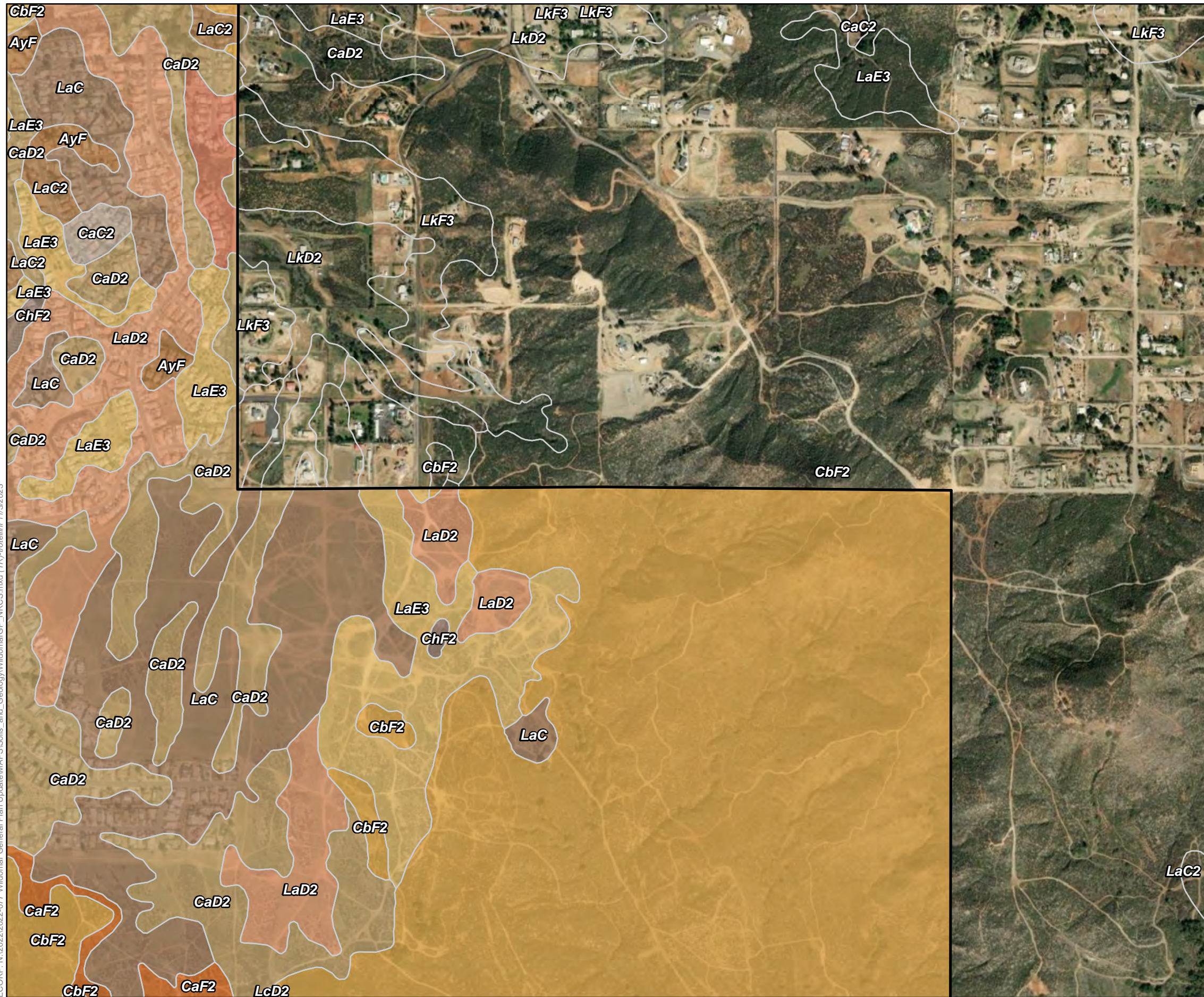
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Map Date: 11/3/2023



Figure 3. National Resources Conservation Service Soil Types
Sheet 6 of 15
 2022-077 City of Wildomar GP Update

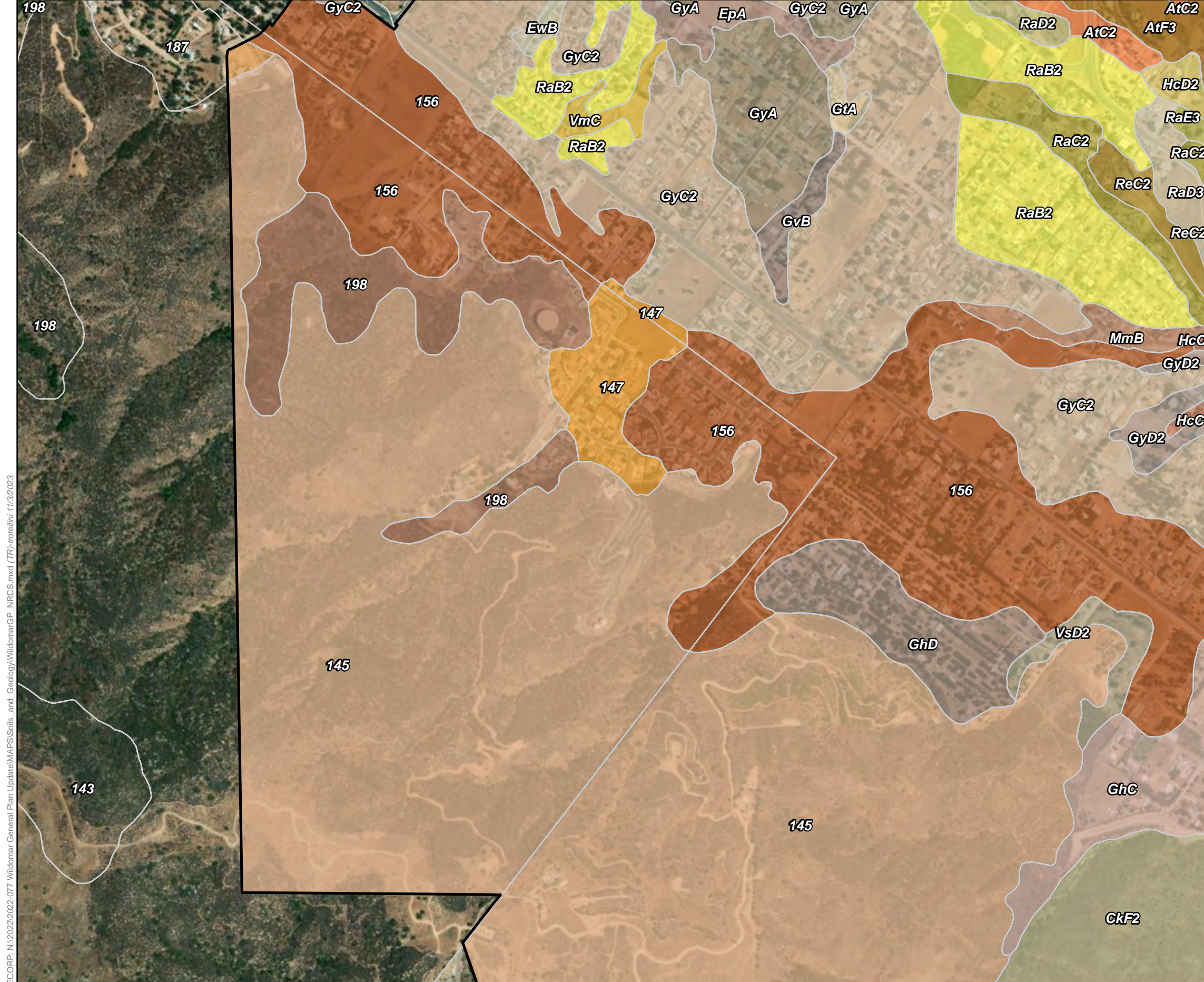
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Map Features

- Wildomar City Limits
- Series Designation - Series Description
- AyF - Auld cobbly clay, 8 to 50 percent slopes
- CaC2 - Cajalco fine sandy loam, 2 to 8 percent slopes, eroded
- CaD2 - Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CaF2 - Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- LaC - Las Posas loam, 2 to 8 percent slopes
- LaC2 - Las Posas loam, 5 to 8 percent slopes, eroded
- LaD2 - Las Posas loam, 8 to 15 percent slopes, eroded
- LaE3 - Las Posas loam, 8 to 25 percent slopes, severely eroded
- LcD2 - Las Posas stony loam, 8 to 15 percent slopes, eroded
- LkD2 - Las Posas rocky loam, 8 to 15 percent slopes, eroded
- LkF3 - Las Posas rocky loam, 15 to 50 percent slopes, severely eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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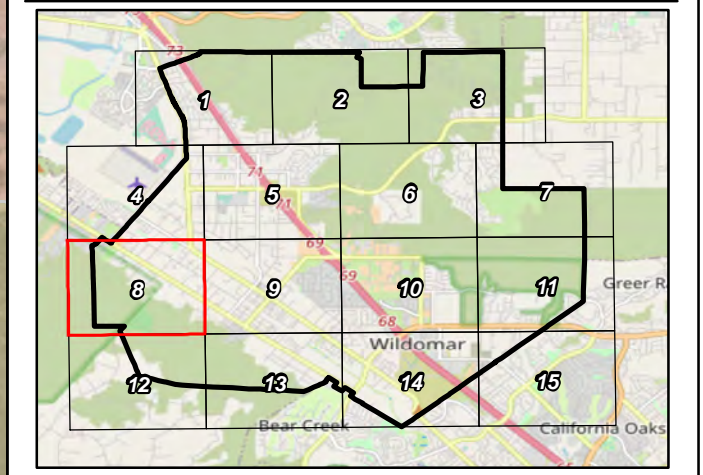


Map Features

Wildomar City Limits
 Series Designation - Series Description

- 145 - Cieneba-Rock outcrop complex, 30 to 75 percent slopes
- 147 - Corralitos loamy sand, moderately fine substratum
- 156 - Hanford sandy loam, 2 to 9 percent slopes
- 187 - Ramona gravelly fine sandy loam, 9 to 15 percent slopes
- 198 - Soboba cobbly loamy sand, 0 to 15 percent slopes
- AtC2 - Arlington and Greenfield fine sandy loams, 2 to 8 percent slopes, eroded
- AtF3 - Arlington and Greenfield fine sandy loams, 15 to 35 percent slopes, severely eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- EpA - Exeter sandy loam, deep, 0 to 2 percent slopes
- EwB - Exeter very fine sandy loam, 0 to 5 percent slopes
- GhC - Gorgonio loamy sand, 0 to 8 percent slopes
- GhD - Gorgonio loamy sand, 8 to 15 percent slopes
- GtA - Grangeville fine sandy loam, drained, 0 to 2 percent slopes
- GvB - Grangeville fine sandy loam, saline-alkali, 0 to 5 percent slopes
- GyA - Greenfield sandy loam, 0 to 2 percent slopes
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- GyD2 - Greenfield sandy loam, 8 to 15 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaC2 - Ramona sandy loam, 5 to 8 percent slopes, eroded
- RaD2 - Ramona sandy loam, 8 to 15 percent slopes, eroded
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- RaE3 - Ramona sandy loam, 15 to 25 percent slopes, severely eroded
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- VmC - Visalia fine sandy loam, 2 to 8 percent slopes
- VsD2 - Vista coarse sandy loam, 8 to 15 percent slopes, eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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Map Date: 11/3/2023

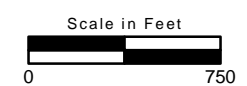
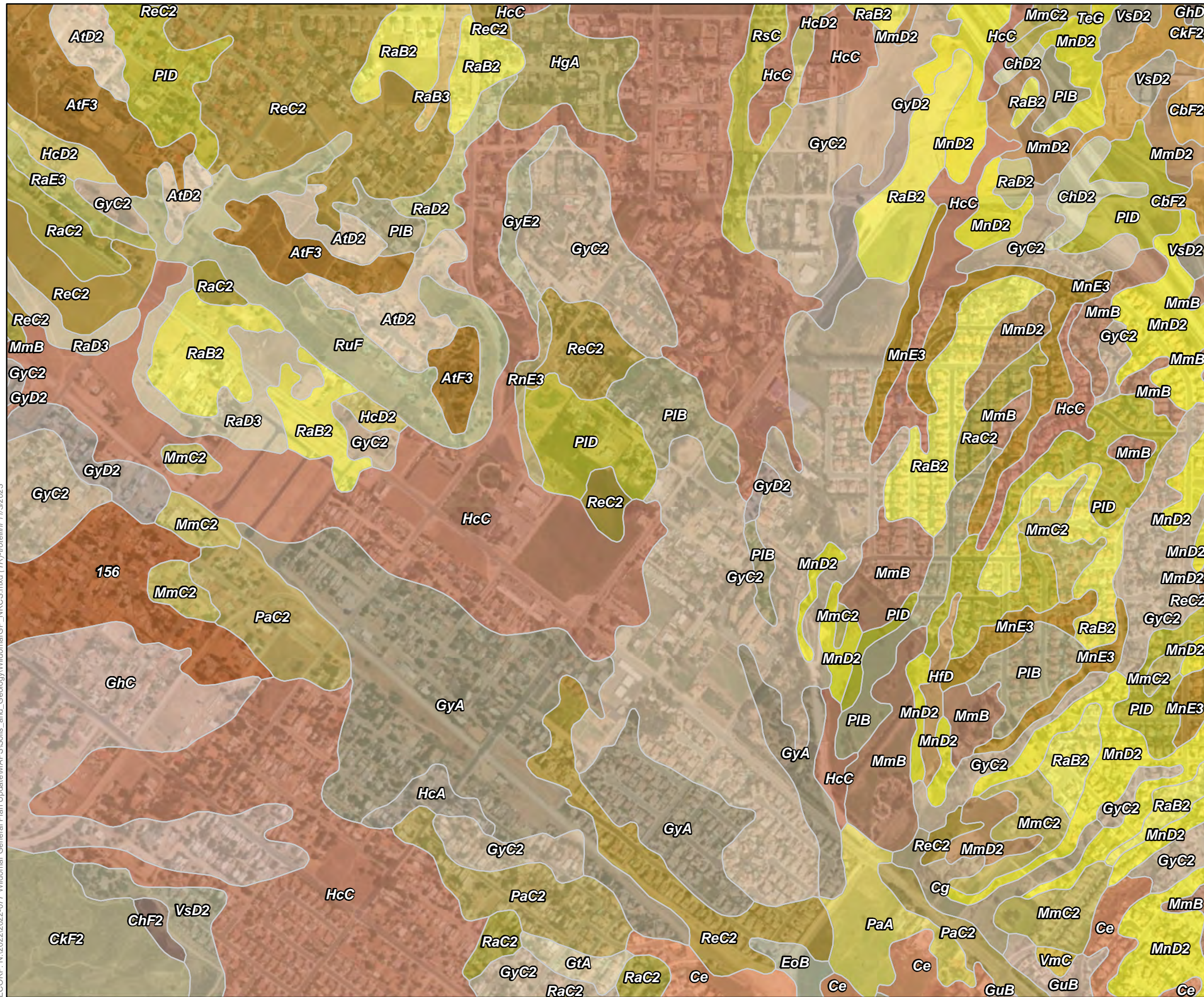


Figure 3. National Resources Conservation Service Soil Types
Sheet 8 of 15

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Map Features

- Wildomar City Limits
- Series Designation - Series Description
- 156 - Hanford sandy loam, 2 to 9 percent slopes
- AtD2 - Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded
- AtF3 - Arlington and Greenfield fine sandy loams, 15 to 35 percent slopes, severely eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- Ce - Chino silt loam, drained
- Cg - Chino silt loam, drained, strongly saline-alkali
- ChD2 - Cieneba sandy loam, 8 to 15 percent slopes, eroded
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- EoB - Exeter sandy loam, slightly saline-alkali, 0 to 5 percent slopes
- GhC - Gorgonio loamy sand, 0 to 8 percent slopes
- GhD - Gorgonio loamy sand, 8 to 15 percent slopes
- GtA - Grangeville fine sandy loam, drained, 0 to 2 percent slopes
- GuB - Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes
- GyA - Greenfield sandy loam, 0 to 2 percent slopes
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- GyD2 - Greenfield sandy loam, 8 to 15 percent slopes, eroded
- GyE2 - Greenfield sandy loam, 15 to 25 percent slopes, eroded
- HcA - Hanford coarse sandy loam, 0 to 2 percent slopes
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- HfD - Hanford sandy loam, 2 to 15 percent slopes
- HgA - Hanford fine sandy loam, 0 to 2 percent slopes
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- MmC2 - Monserate sandy loam, 5 to 8 percent slopes, eroded
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- MnD2 - Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
- MnE3 - Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
- PaA - Pachappa fine sandy loam, 0 to 2 percent slopes
- PaC2 - Pachappa fine sandy loam, 2 to 8 percent slopes, eroded
- PIB - Placentia fine sandy loam, 0 to 5 percent slopes
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaB3 - Ramona sandy loam, 0 to 5 percent slopes, severely eroded
- RaC2 - Ramona sandy loam, 5 to 8 percent slopes, eroded
- RaD2 - Ramona sandy loam, 8 to 15 percent slopes, eroded
- RaD3 - Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- RaE3 - Ramona sandy loam, 15 to 25 percent slopes, severely eroded
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- RnE3 - Ramona and Buren loams, 5 to 25 percent slopes, severely eroded
- RsC - Riverwash
- RuF - Rough broken land
- TeG - Terrace escarpments
- VmC - Visalia fine sandy loam, 2 to 8 percent slopes
- VsD2 - Vista coarse sandy loam, 8 to 15 percent slopes, eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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Map Date: 11/3/2023

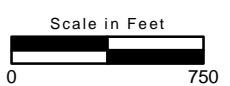
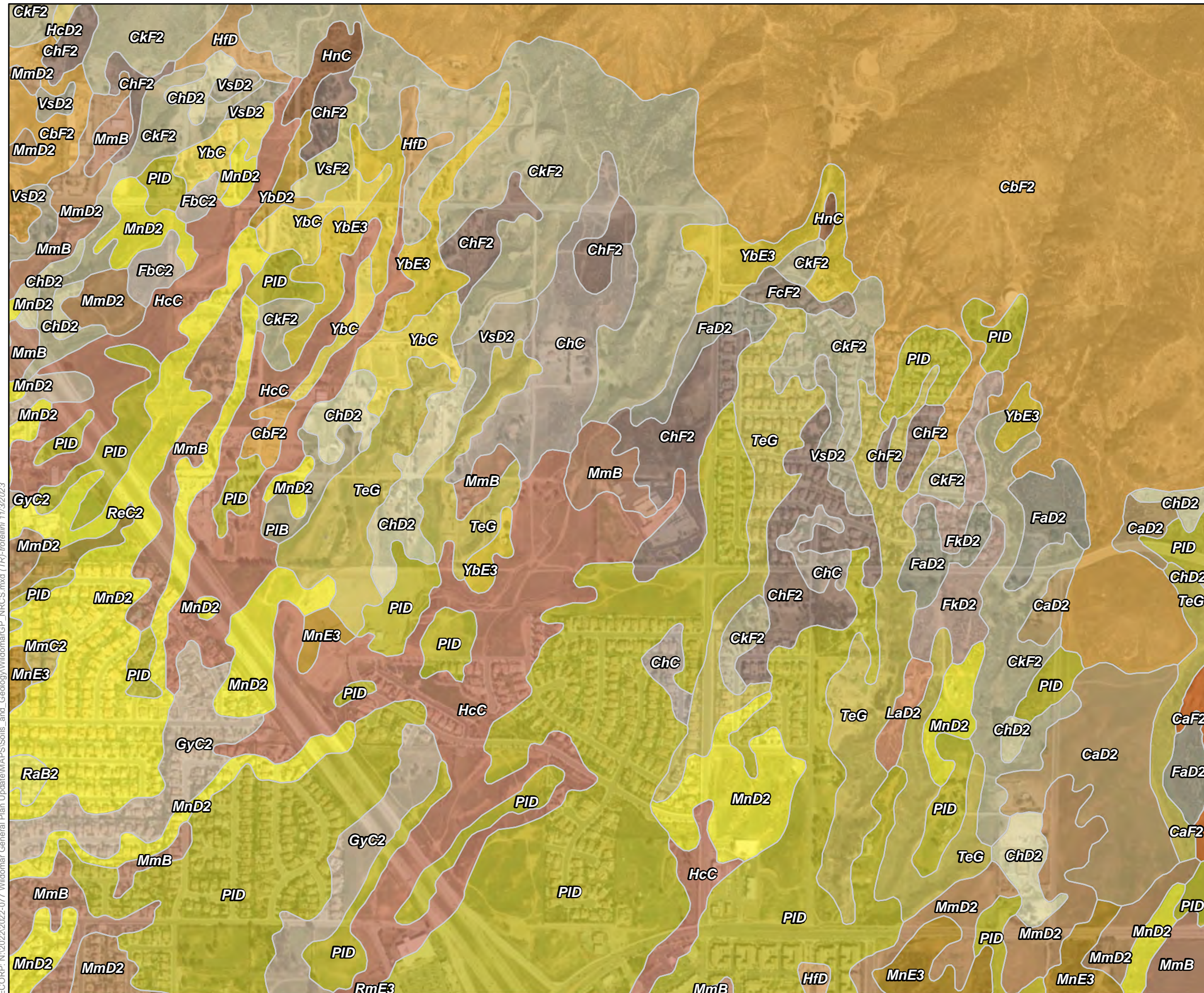


Figure 3. National Resources Conservation Service Soil Types Sheet 9 of 15 2022-077 City of Wildomar GP Update

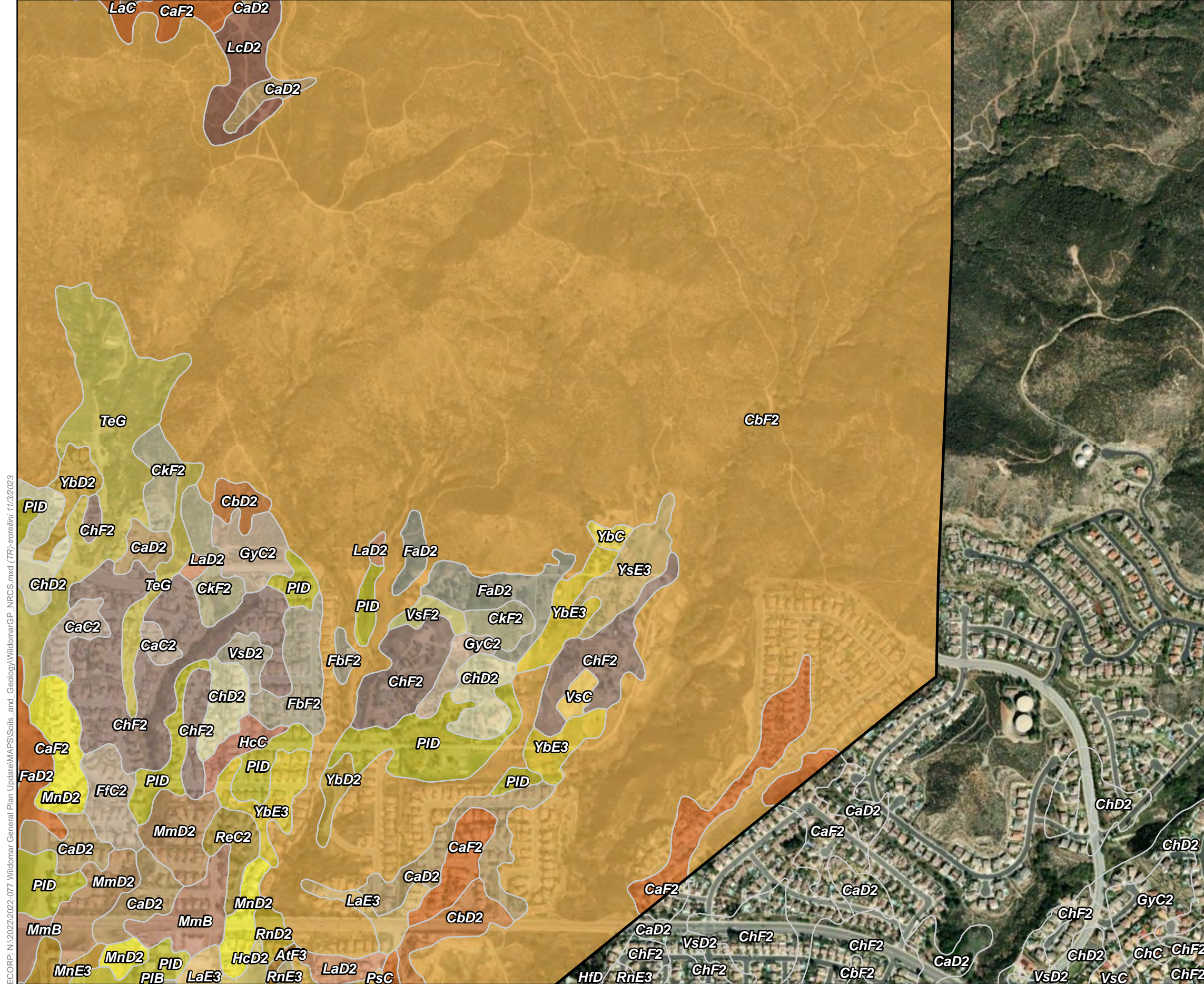


Map Features

- Wildomar City Limits
- Series Designation - Series Description
- CaD2 - Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CaF2 - Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- ChC - Cieneba sandy loam, 5 to 8 percent slopes
- ChD2 - Cieneba sandy loam, 8 to 15 percent slopes, eroded
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- FaD2 - Fallbrook sandy loam, 8 to 15 percent slopes, eroded
- FbC2 - Fallbrook sandy loam, shallow, 5 to 8 percent slopes, eroded
- FcF2 - Fallbrook rocky sandy loam, shallow, 15 to 50 percent slopes, eroded
- FkD2 - Fallbrook fine sandy loam, shallow, 8 to 15 percent slopes, eroded
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- HfD - Hanford sandy loam, 2 to 15 percent slopes
- HnC - Honcut sandy loam, 2 to 8 percent slopes
- LaD2 - Las Posas loam, 8 to 15 percent slopes, eroded
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- MmC2 - Monserate sandy loam, 5 to 8 percent slopes, eroded
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- MnD2 - Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
- MnE3 - Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
- PIB - Placentia fine sandy loam, 0 to 5 percent slopes
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- RmE3 - Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded
- RnE3 - Ramona and Buren loams, 5 to 25 percent slopes, severely eroded
- TeG - Terrace escarpments
- VsD2 - Vista coarse sandy loam, 8 to 15 percent slopes, eroded
- VsF2 - Vista coarse sandy loam, 15 to 35 percent slopes, eroded
- YbC - Yokohl loam, 2 to 8 percent slopes
- YbD2 - Yokohl loam, 8 to 15 percent slopes, eroded
- YbE3 - Yokohl loam, 8 to 25 percent slopes, severely eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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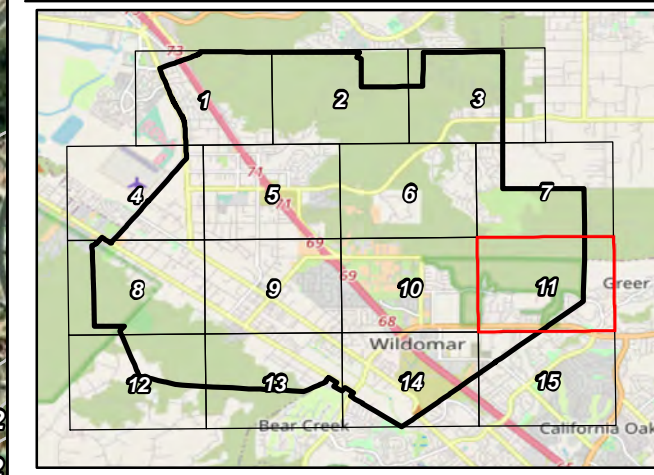
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Map Features

- Wildomar City Limits
- Series Designation - Series Description**
- AtF3 - Arlington and Greenfield fine sandy loams, 15 to 35 percent slopes, severely eroded
- CaC2 - Cajalco fine sandy loam, 2 to 8 percent slopes, eroded
- CaD2 - Cajalco fine sandy loam, 8 to 15 percent slopes, eroded
- CaF2 - Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- CbD2 - Cajalco rocky fine sandy loam, 5 to 15 percent slopes, eroded
- CbF2 - Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded
- ChD2 - Cieneba sandy loam, 8 to 15 percent slopes, eroded
- ChF2 - Cieneba sandy loam, 15 to 50 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- FaD2 - Fallbrook sandy loam, 8 to 15 percent slopes, eroded
- FbF2 - Fallbrook sandy loam, shallow, 15 to 35 percent slopes, eroded
- FfC2 - Fallbrook fine sandy loam, 2 to 8 percent slopes, eroded
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- LaC - Las Posas loam, 2 to 8 percent slopes
- LaD2 - Las Posas loam, 8 to 15 percent slopes, eroded
- LaE3 - Las Posas loam, 8 to 25 percent slopes, severely eroded
- LcD2 - Las Posas stony loam, 8 to 15 percent slopes, eroded
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- MnD2 - Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
- MnE3 - Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
- PIB - Placentia fine sandy loam, 0 to 5 percent slopes
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- PsC - Porterville clay, moderately deep, 2 to 8 percent slopes
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- RnD2 - Ramona and Buren loams, 5 to 15 percent slopes, eroded
- RnE3 - Ramona and Buren loams, 5 to 25 percent slopes, severely eroded
- TeG - Terrace escarpments
- VsC - Vista coarse sandy loam, 2 to 8 percent slopes
- VsD2 - Vista coarse sandy loam, 8 to 15 percent slopes, eroded
- VsF2 - Vista coarse sandy loam, 15 to 35 percent slopes, eroded
- YbC - Yokohl loam, 2 to 8 percent slopes
- YbD2 - Yokohl loam, 8 to 15 percent slopes, eroded
- YbE3 - Yokohl loam, 8 to 25 percent slopes, severely eroded
- YsE3 - Ysidora gravelly very fine sandy loam, 8 to 25 percent slopes, severely eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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Map Date: 11/3/2023

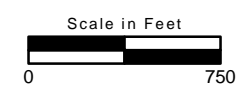
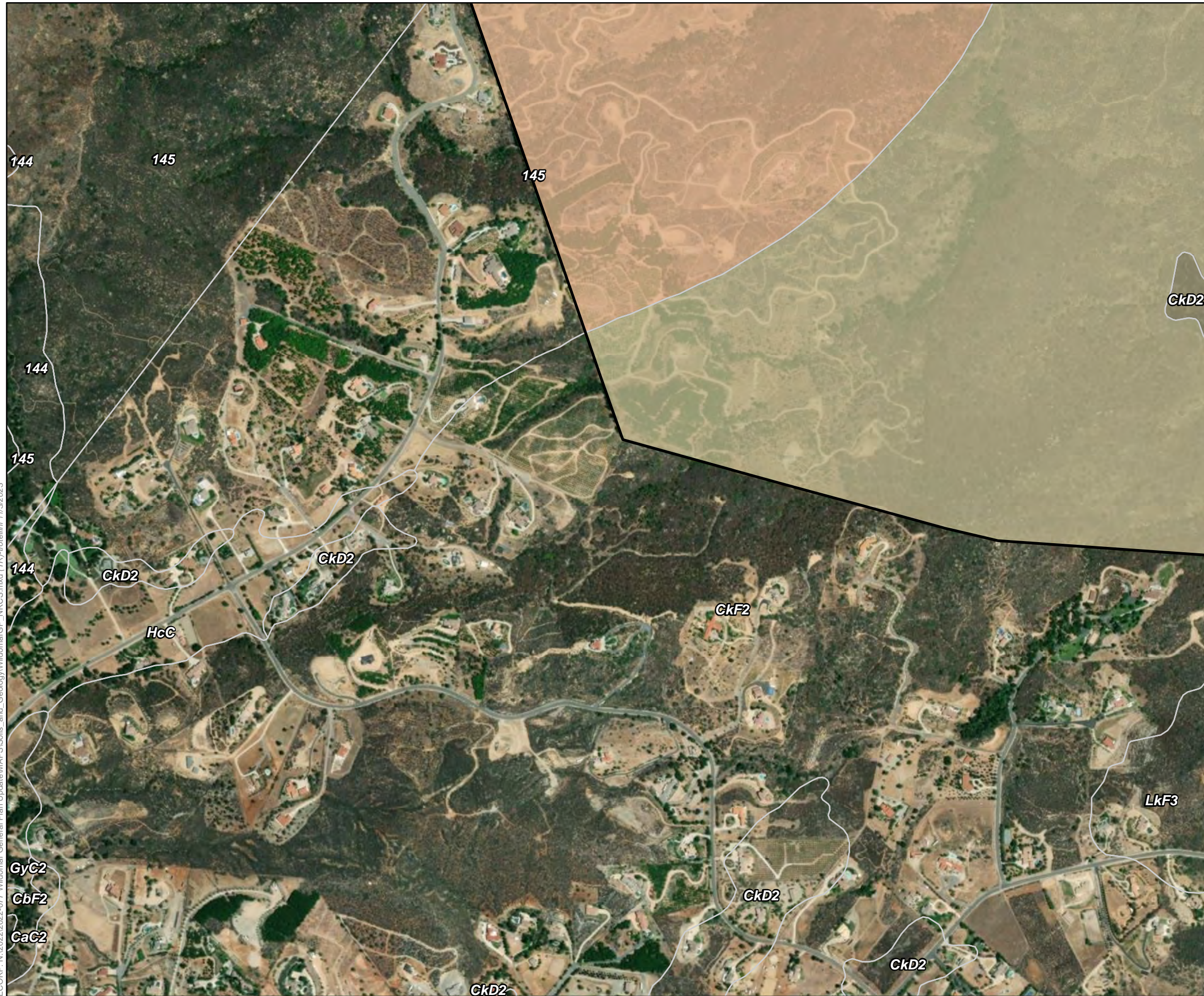


Figure 3. National Resources Conservation Service Soil Types
Sheet 11 of 15

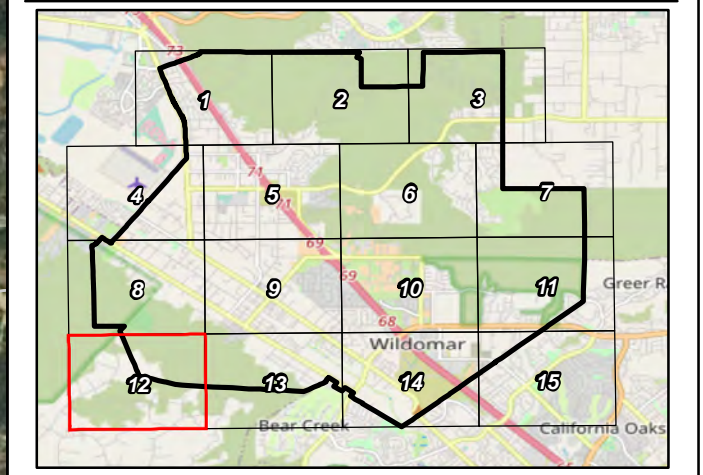
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Map Features

- Wildomar City Limits
- Series Designation - Series Description
- 145 - Cieneba-Rock outcrop complex, 30 to 75 percent slopes
- CkD2 - Cieneba rocky sandy loam, 8 to 15 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded

Sources: ESRI, Placeworks, NRCS (gSSURGO)
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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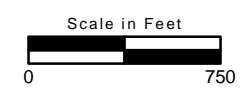
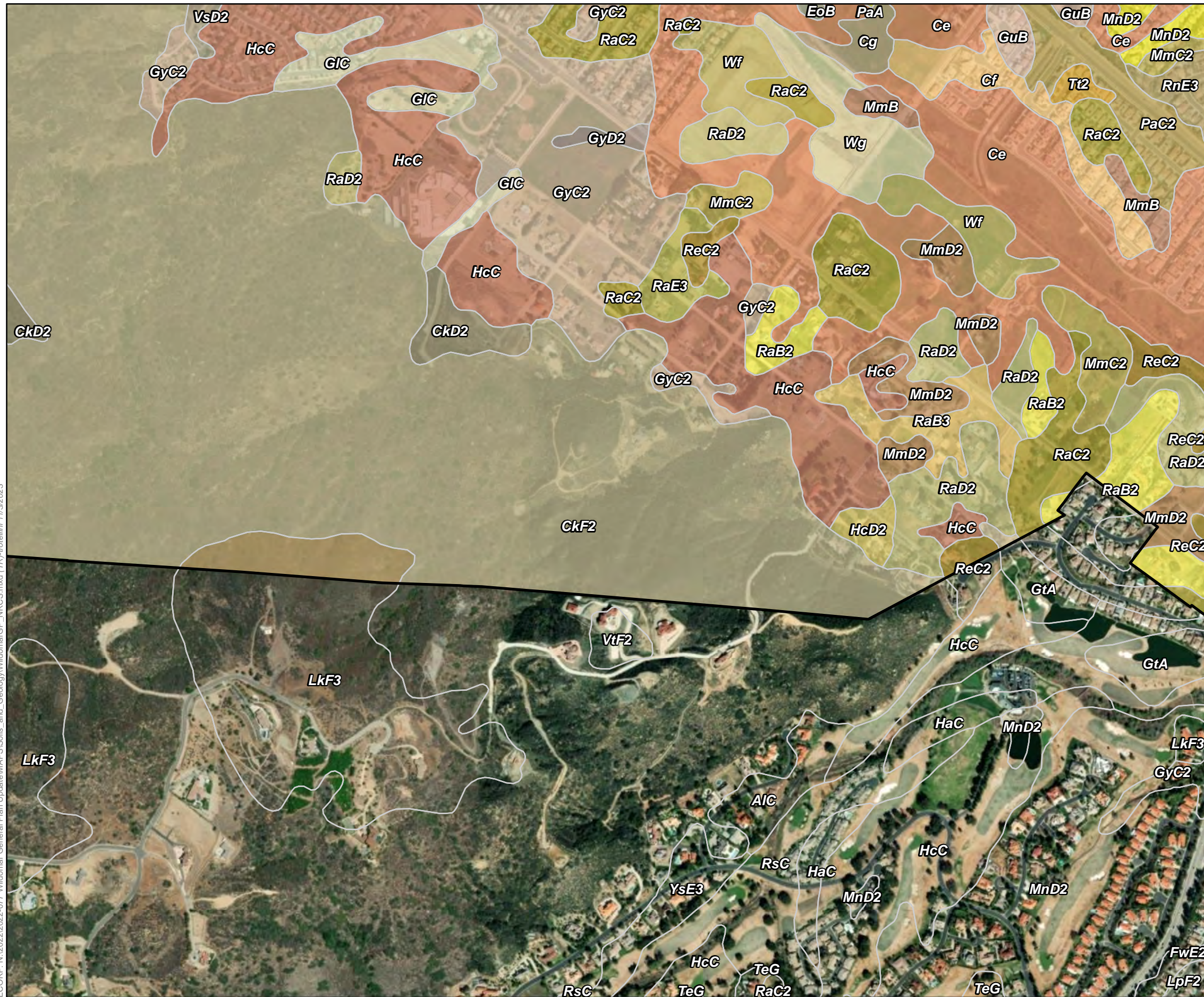


Figure 3. National Resources Conservation Service Soil Types

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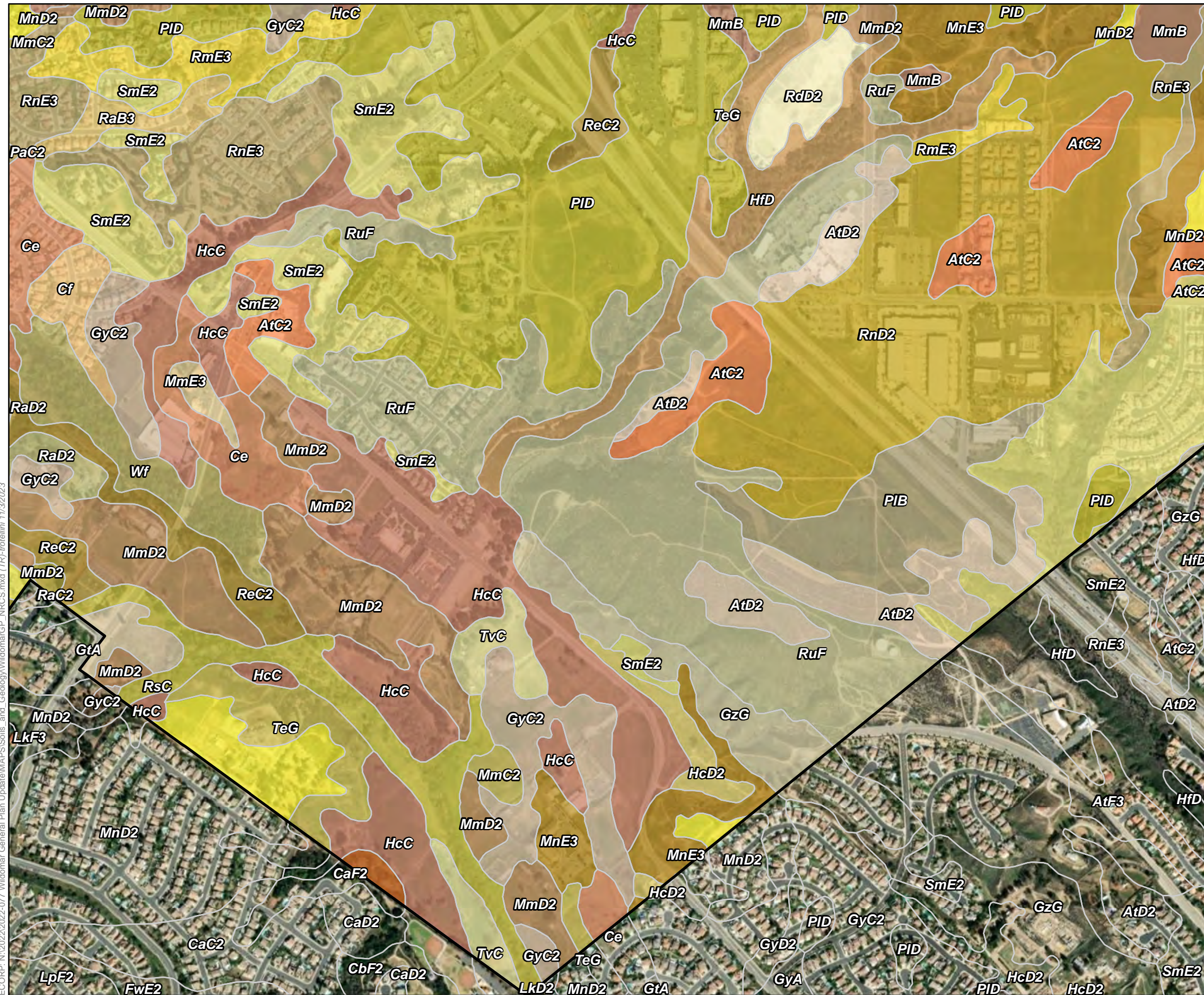
Map Features

- Wildomar City Limits
- Series Designation - Series Description
- Ce - Chino silt loam, drained
- Cf - Chino silt loam, drained, saline-alkali
- Cg - Chino silt loam, drained, strongly saline-alkali
- CkD2 - Cieneba rocky sandy loam, 8 to 15 percent slopes, eroded
- CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
- EoB - Exeter sandy loam, slightly saline-alkali, 0 to 5 percent slopes
- GIC - Gorgonio loamy sand, deep, 2 to 8 percent slopes
- GtA - Grangeville fine sandy loam, drained, 0 to 2 percent slopes
- GuB - Grangeville fine sandy loam, poorly drained, saline-alkali, 0 to 5 percent slopes
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- GyD2 - Greenfield sandy loam, 8 to 15 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- LkF3 - Las Posas rocky loam, 15 to 50 percent slopes, severely eroded
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- MmC2 - Monserate sandy loam, 5 to 8 percent slopes, eroded
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- MnD2 - Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
- PaA - Pachappa fine sandy loam, 0 to 2 percent slopes
- PaC2 - Pachappa fine sandy loam, 2 to 8 percent slopes, eroded
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaB3 - Ramona sandy loam, 0 to 5 percent slopes, severely eroded
- RaC2 - Ramona sandy loam, 5 to 8 percent slopes, eroded
- RaD2 - Ramona sandy loam, 8 to 15 percent slopes, eroded
- RaE3 - Ramona sandy loam, 15 to 25 percent slopes, severely eroded
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- RnE3 - Ramona and Buren loams, 5 to 25 percent slopes, severely eroded
- Tt2 - Traver fine sandy loam, strongly saline-alkali, eroded
- VsD2 - Vista coarse sandy loam, 8 to 15 percent slopes, eroded
- Wf - Willows silty clay
- Wg - Willows silty clay, saline-alkali

Sources: ESRI, Placeworks, NRCS (gSSURGO)
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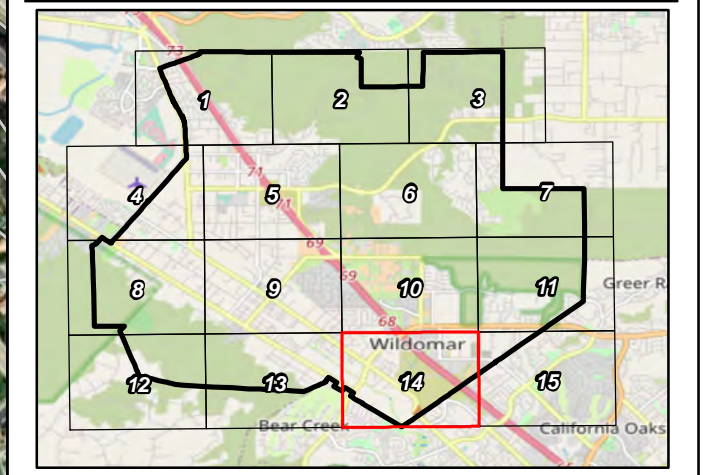
Map Features

- Wildomar City Limits

Series Designation - Series Description

- AtC2 - Arlington and Greenfield fine sandy loams, 2 to 8 percent slopes, eroded
- AtD2 - Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded
- CaF2 - Cajalco fine sandy loam, 15 to 35 percent slopes, eroded
- Ce - Chino silt loam, drained
- Cf - Chino silt loam, drained, saline-alkali
- GtA - Grangeville fine sandy loam, drained, 0 to 2 percent slopes
- GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- GzG - Gullied land
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
- HfD - Hanford sandy loam, 2 to 15 percent slopes
- MmB - Monserate sandy loam, 0 to 5 percent slopes
- MmC2 - Monserate sandy loam, 5 to 8 percent slopes, eroded
- MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
- MmE3 - Monserate sandy loam, 15 to 25 percent slopes, severely eroded
- MnD2 - Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
- MnE3 - Monserate sandy loam, shallow, 15 to 25 percent slopes, severely eroded
- PaC2 - Pachappa fine sandy loam, 2 to 8 percent slopes, eroded
- PIB - Placentia fine sandy loam, 0 to 5 percent slopes
- PID - Placentia fine sandy loam, 5 to 15 percent slopes
- RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaB3 - Ramona sandy loam, 0 to 5 percent slopes, severely eroded
- RaC2 - Ramona sandy loam, 5 to 8 percent slopes, eroded
- RaD2 - Ramona sandy loam, 8 to 15 percent slopes, eroded
- RdD2 - Ramona sandy loam, moderately deep, 8 to 15 percent slopes, eroded
- ReC2 - Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- RmE3 - Ramona and Buren sandy loams, 15 to 25 percent slopes, severely eroded
- RnD2 - Ramona and Buren loams, 5 to 15 percent slopes, eroded
- RnE3 - Ramona and Buren loams, 5 to 25 percent slopes, severely eroded
- RsC - Riverwash
- RuF - Rough broken land
- SmE2 - San Timoteo loam, 8 to 25 percent slopes, eroded
- TeG - Terrace escarpments
- TvC - Tujunga loamy sand, channeled, 0 to 8 percent slopes
- Wf - Willows silty clay

Sources: ESRI, Placeworks, NRCS (gSSURGO)
 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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Map Date: 11/3/2023

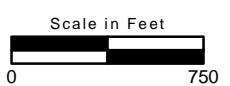


Figure 3. National Resources Conservation Service Soil Types
 Sheet 14 of 15
 2022-077 City of Wildomar GP Update

4.3 Vegetation Communities and Land Cover Types

The City encompasses the foothills of the Santa Margarita Mountains and Elsinore Mountains and is located in the southwestern corner of Riverside County. Murrieta Creek flows through the western portion of the City, running north–south. The City is predominately developed; however, it does contain some additional land cover types and vegetation communities. Land cover types are primarily those that are not defined by a specific species of vegetation according to the CNPS.

The CNDDDB database was reviewed to determine the general vegetation communities that occur within the City. Table 4 lists the general vegetation communities (collapsed and uncollapsed) and other land cover types within the City. Vegetation communities and land cover types according to the MSHCP are shown in Figure 4. It is important to note that the vegetation communities and land cover type descriptions that follow are according to broad community descriptions provided in the MSHCP. These descriptions are not representative of detailed vegetation communities within the City. Rather, they are generalized descriptions for the collapsed vegetation community/land cover type.

Table 4. Vegetation Communities and Land Cover Types	
Vegetation Community/Land Cover Type – Collapsed	Vegetation Community/Land Cover Type – Uncollapsed
Agricultural Land	Dairy and Livestock Feedyards Field Croplands Grove/Orchard
Chaparral	Chamise Chaparral Chaparral Red Shank Chaparral Semi-Desert
Coastal Sage Scrub	Coastal Scrub Diegan Coastal Sage Scrub Riversidean Sage Scrub
Grassland	Nonnative Grassland Valley and Foothill Grassland
Meadows and Marshes	Meadow (Montane) Wet Montane Meadow Coastal and Valley Freshwater Marsh Marsh

Table 4. Vegetation Communities and Land Cover Types	
Vegetation Community/Land Cover Type – Collapsed	Vegetation Community/Land Cover Type – Uncollapsed
Riparian Scrub, Woodland, Forest	Arundo/Riparian Forest Montane Riparian Forest Montane Riparian Scrub Mulefat Scrub Riparian Forest Riparian Scrub Southern Cottonwood/Willow Riparian Southern Sycamore/Alder Riparian Woodland Southern Willow Scrub Tamarisk Scrub
Water	Open Water/Reservoir/Pond
Woodland and Forests	Black Oak Forest Broadleaved Upland Forest Coast Live Oak Woodland Oak Woodland Peninsular Juniper Woodland and Scrub
Developed/Disturbed	Residential/Urban/Exotic

4.3.1 Agricultural Land

Agricultural areas consist of any areas of the City that are under active cultivation, either irrigated or not. Areas mapped as agriculture include crop fields and orchards, dairy and livestock feedyards, field croplands, groves, and orchards.

4.3.2 Chaparral

This vegetation community is primarily shrub-dominated with evergreen species that range from 1 to 4 meters in height. Common shrubs associated with this general community include chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), wild lilac (*Ceanothus* spp.), oak (*Quercus* sp.), redberry (*Rhamnus* sp.), laurel sumac (*Malosma laurina*), mountain mahogany (*Cercocarpus betuloides*), toyon (*Heteromeles arbutifolia*), mission manzanita (*Xylococcus bicolor*), California buckwheat (*Eriogonum fasciculatum*), sages (*Salvia* spp.), California sagebrush (*Artemisia californica*), and monkeyflower (*Mimulus* sp.). Herbaceous species are also common such as deerweed (*Acmispon glaber*), nightshade (*Solanum* sp.), Spanish bayonet (*Yucca baccata*), rock-rose (*Cistus* sp.), onion (*Allium* sp.), bunch grasses (*Festuca* spp.), wild cucumber (*Marah* sp.), bedstraw (*Galium* sp.), and lupine (*Lupinus* sp.).

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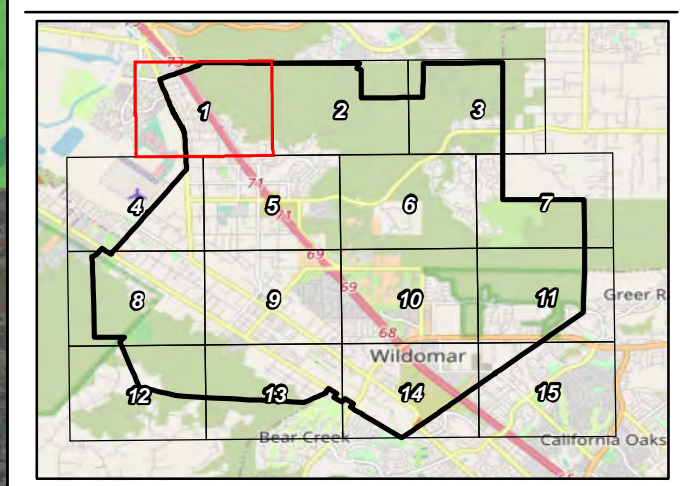
Map Features

- Wildomar City Limits

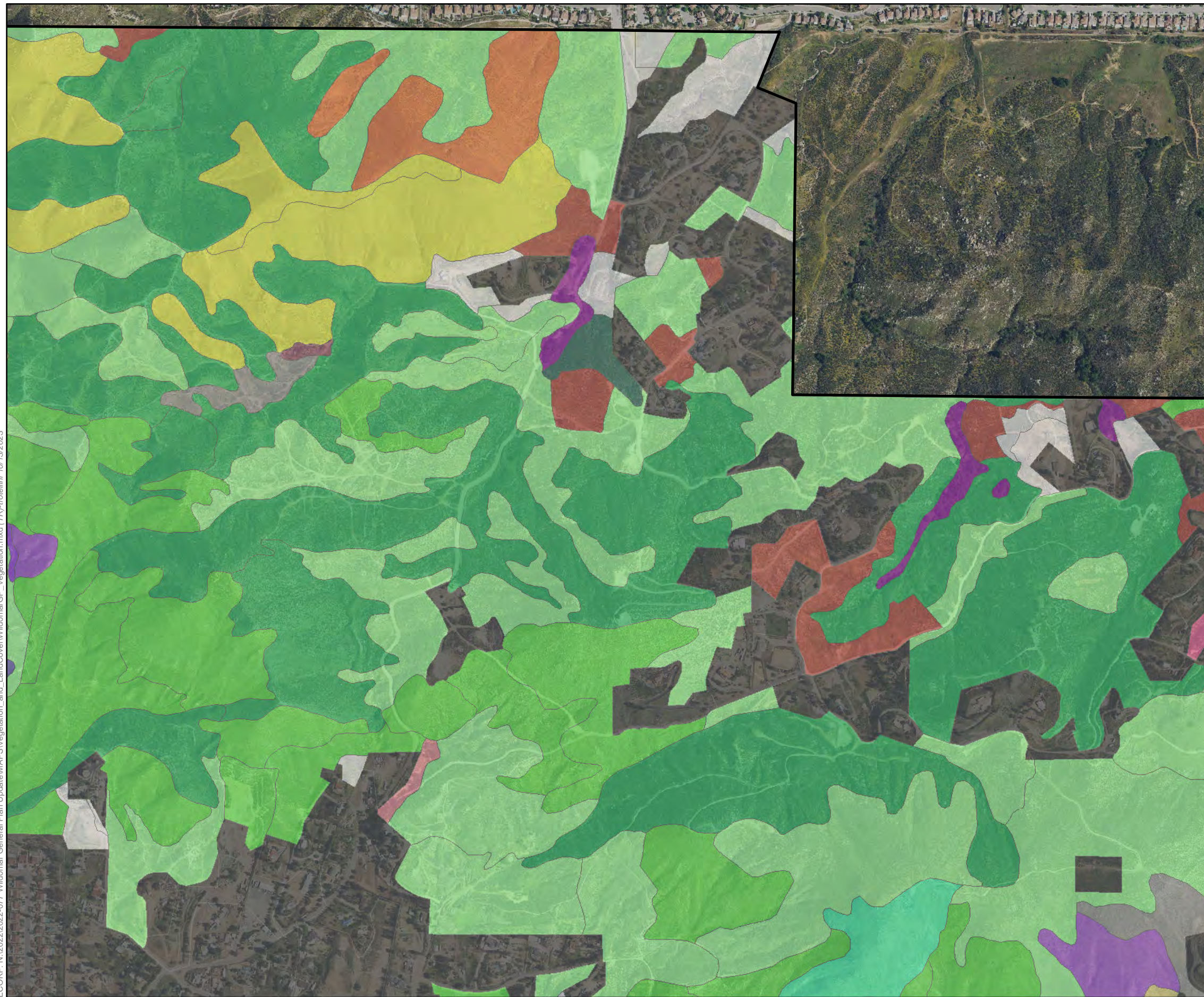
Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- Brittlebush - California Buckwheat Mapping Unit
- Brittlebush - California Sagebrush Association
- California Annual Grassland Alliance
- California Buckwheat Alliance
- California Sagebrush - California Buckwheat - (Black Sage - Yellow Bush Penstemon) Mapping Unit
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Hoaryleaf Ceanothus Alliance
- Deerweed Alliance
- Eucalyptus Alliance
- Exotic Trees Mapping Unit
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit
- White Sage - Brittlebush Association
- Willow Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)



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Map Features

- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Brittlebush - California Buckwheat Mapping Unit
- Brittlebush - California Sagebrush Association
- California Annual Grassland Alliance
- California Buckwheat Alliance
- California Sagebrush - California Buckwheat - (Black Sage - Yellow Bush Penstemon) Mapping Unit
- California Sagebrush - White Sage Alliance
- Chamise - Black Sage Alliance
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Hoaryleaf Ceanothus Alliance
- Chamise Pure Association
- Coast Live Oak / Chaparral Association
- Coast Live Oak Alliance
- Exotic Trees Mapping Unit
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit
- White Sage - Brittlebush Association
- Willow Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS)
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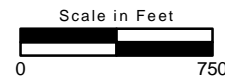
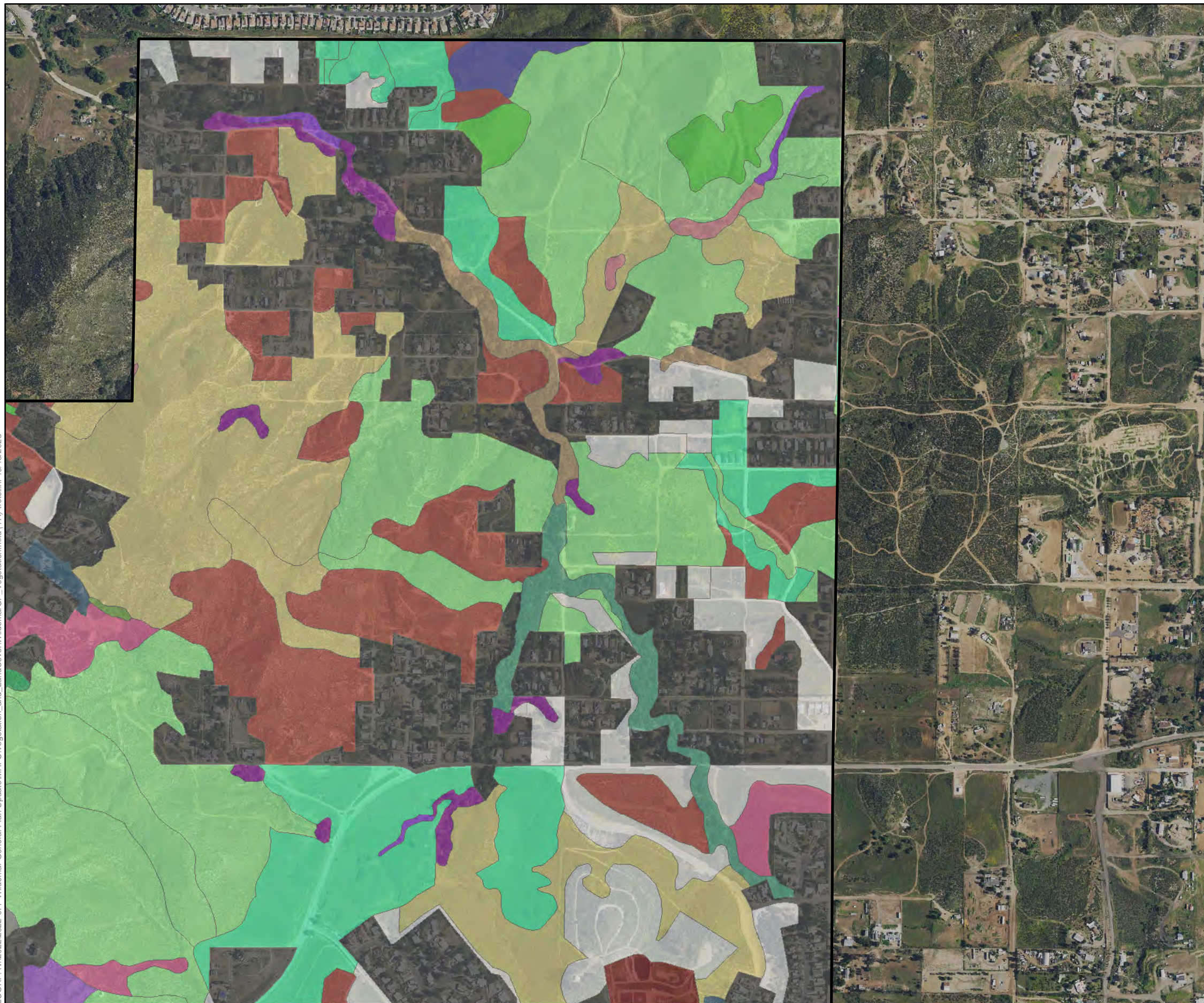


Figure 4. Vegetation Communities and Land Cover Types
Sheet 2 of 15

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Map Features

- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Brittlebush - California Buckwheat Mapping Unit
- Brittlebush - California Sagebrush Association
- California Annual Grassland Alliance
- California Buckwheat Alliance
- California Sagebrush - California Buckwheat - (Black Sage - Yellow Bush Penstemon) Mapping Unit
- California Sycamore Alliance
- Chamise - Black Sage Alliance
- Chamise - California Buckwheat Association
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise Alliance
- Chamise Pure Association
- Coast Live Oak / Chaparral Association
- Coast Live Oak / Poison Oak Riparian Association
- Coast Live Oak Alliance
- Eucalyptus Alliance
- Fremont Cottonwood - Willow Mapping Unit
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit
- Water Mapping Unit
- Willow Mapping Unit


Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

Figure 4. Vegetation Communities and Land Cover Types
Sheet 3 of 15
2022-077 City of Wildomar GP Update




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Map Features

-  Wildomar City Limits

Vegetation Communities and Land Cover Types

-  Agriculture Mapping Unit
-  Urban Interface Mapping Unit
-  Urban or development Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

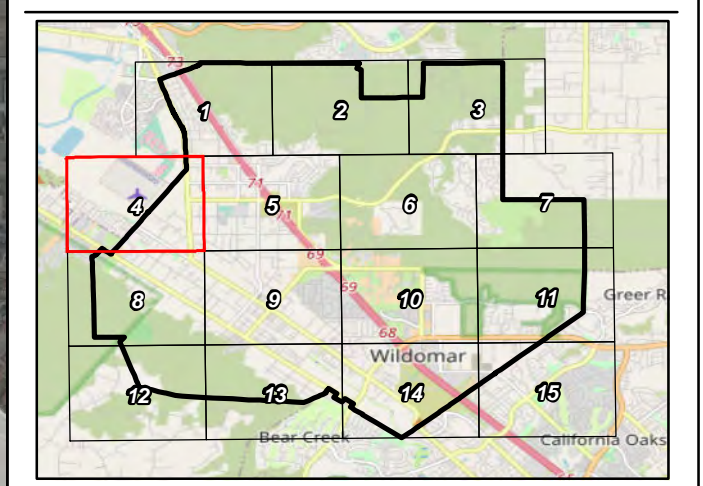


Figure 4. Vegetation Communities and Land Cover Types
Sheet 4 of 15
2022-077 City of Wildomar GP Update

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Map Features

- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- Brittlebush - California Buckwheat Mapping Unit
- California Buckwheat Alliance
- California Sagebrush - (California Buckwheat) - Annual Grass-Herb Mapping Unit
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Hoaryleaf Ceanothus Alliance
- Coast Live Oak Alliance
- Exotic Trees Mapping Unit
- Fremont Cottonwood - Willow Mapping Unit
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

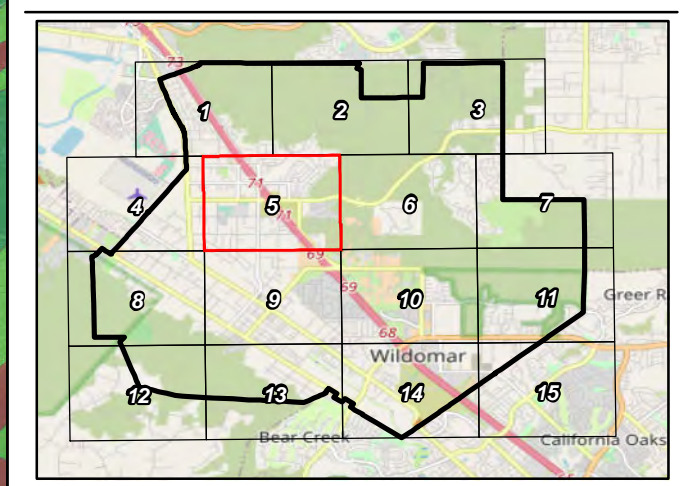





























Figure 4. Vegetation Communities and Land Cover Types
Sheet 5 of 15
2022-077 City of Wildomar GP Update

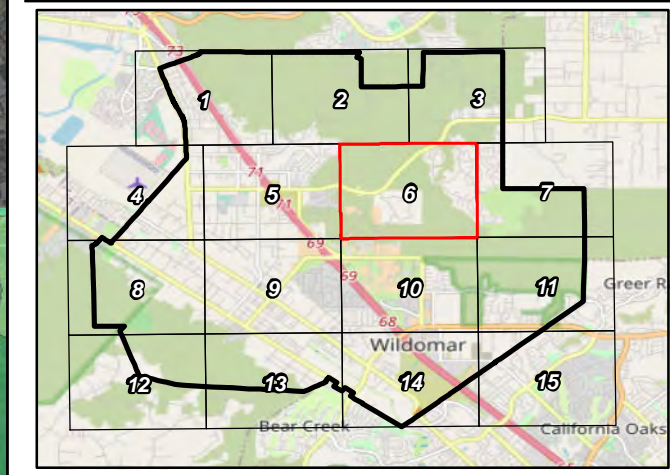
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Map Features

-  Wildomar City Limits
- Vegetation Communities and Land Cover Types**
-  Agriculture Mapping Unit
-  Brittlebush - California Buckwheat Mapping Unit
-  Brittlebush - California Sagebrush Association
-  California Annual Grassland Alliance
-  California Buckwheat - Brittlebush Alliance
-  California Buckwheat Alliance
-  California Sycamore Alliance
-  Chamise - Black Sage Alliance
-  Chamise - California Buckwheat Association
-  Chamise - Coastal Sage Scrub Disturbance Mapping Unit
-  Chamise - Hoaryleaf Ceanothus - Black Sage Association
-  Chamise - Hoaryleaf Ceanothus Alliance
-  Chamise - Laurel Sumac Association
-  Chamise Pure Association
-  Coast Live Oak - Sycamore Riparian Mapping Unit
-  Coast Live Oak / Chaparral Association
-  Coast Live Oak Alliance
-  Eucalyptus Alliance
-  Exotic Trees Mapping Unit
-  Hoaryleaf Ceanothus Alliance
-  Laurel Sumac - California Buckwheat Association
-  Urban Interface Mapping Unit
-  Urban or development Mapping Unit
-  Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit
-  Water Mapping Unit
-  Willow Mapping Unit

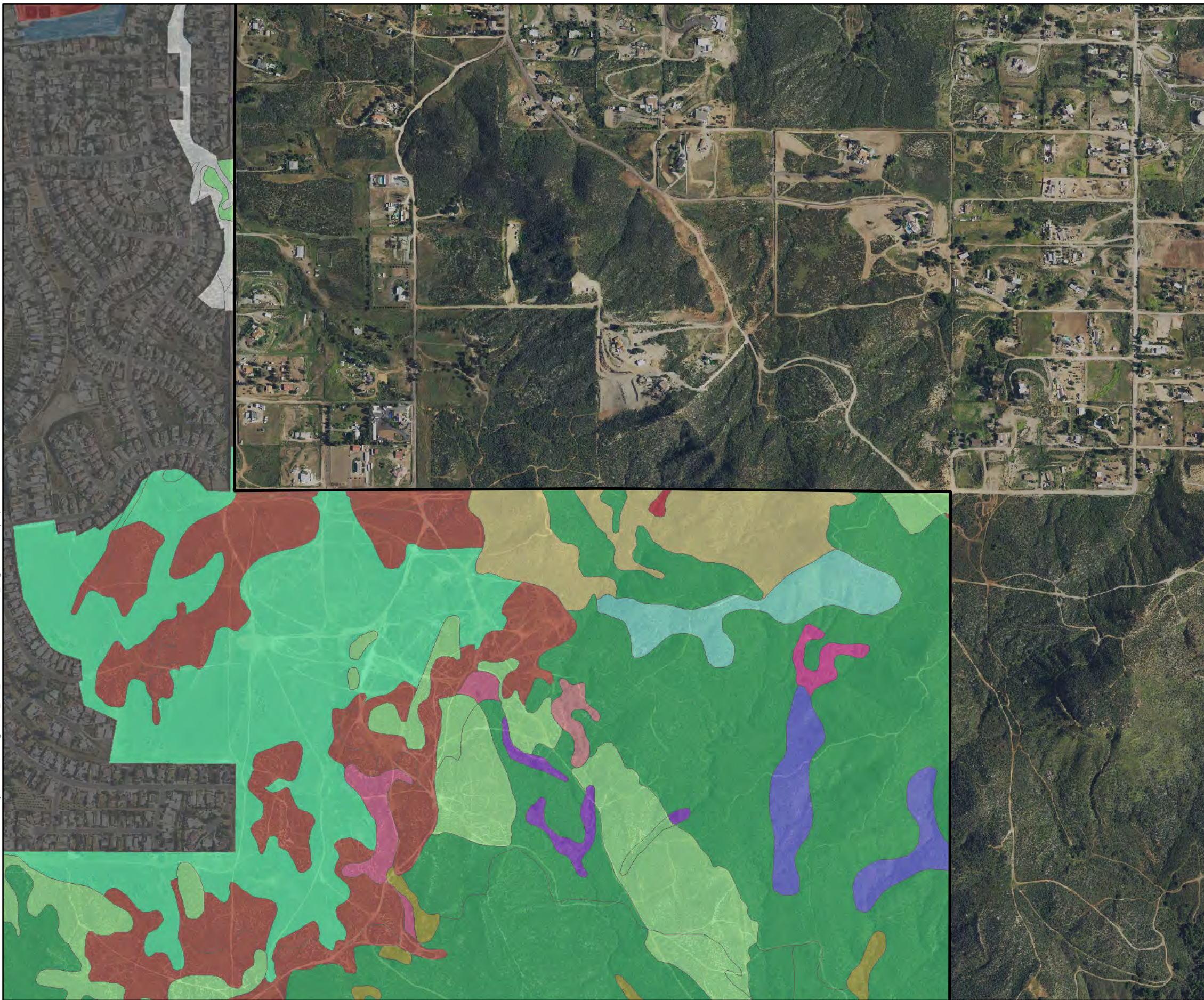
Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)



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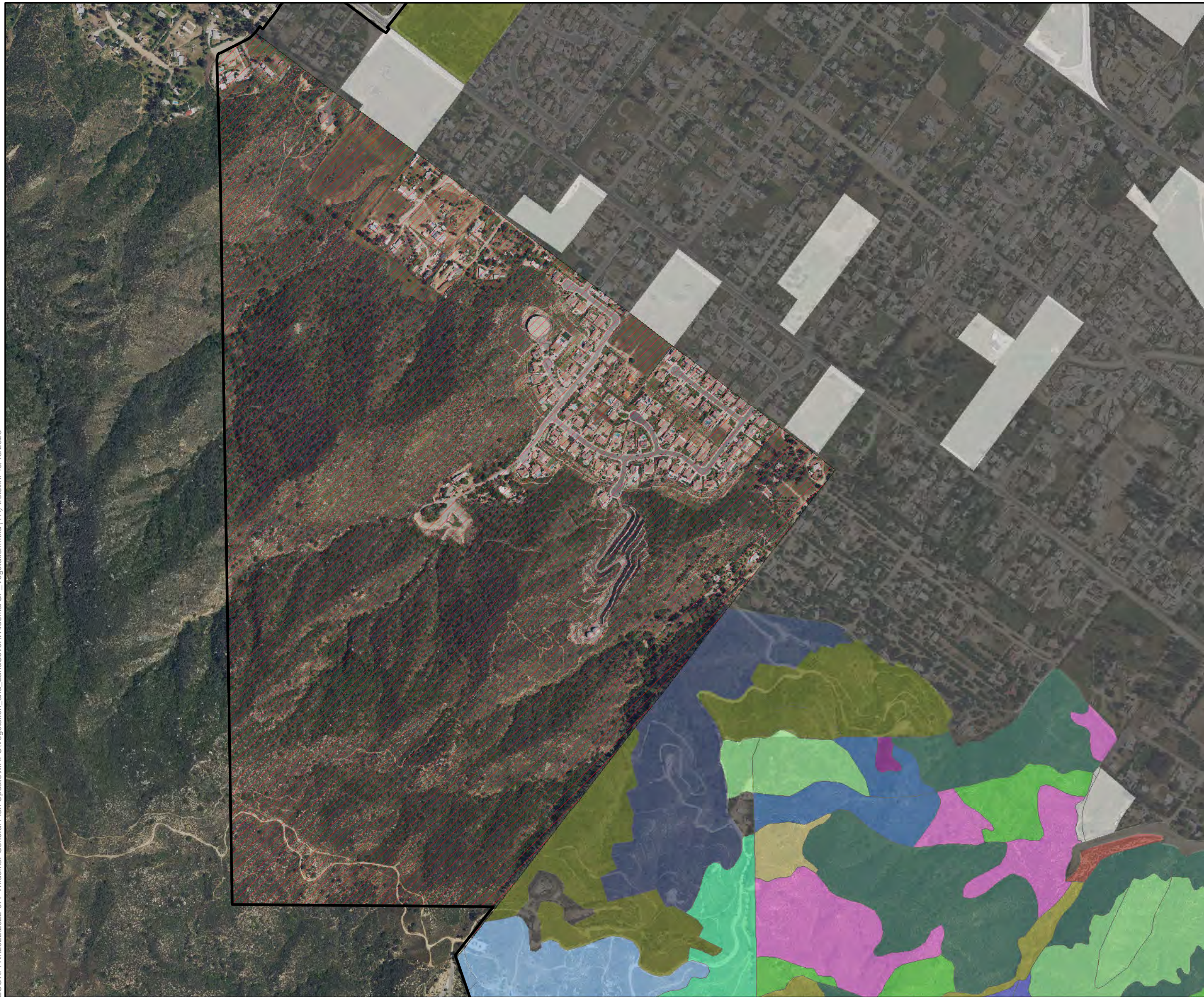
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Vegetation Communities and Land Cover Types



















- California Annual Grassland Alliance
- California Buckwheat - White Sage - (California Sagebrush) Mapping Unit
- California Buckwheat Alliance
- California Sagebrush - California Buckwheat - Laurel Sumac Association
- Chamise - Black Sage Alliance
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Laurel Sumac Association
- Chamise Pure Association
- Coast Live Oak - Sycamore Riparian Mapping Unit
- Coast Live Oak / Chaparral Association
- Coast Live Oak Alliance
- Eucalyptus Alliance
- Laurel Sumac Alliance
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Water Mapping Unit
- Willow Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS)
 Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

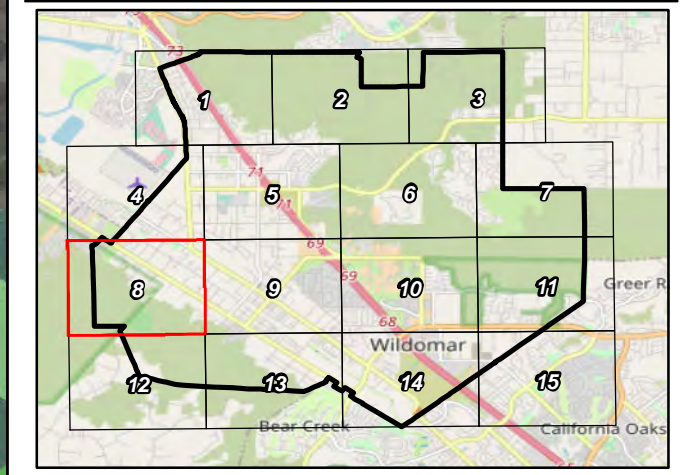
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Map Features

-  Wildomar City Limits
- Vegetation Communities and Land Cover Types**
-  Agriculture Mapping Unit
-  Brittlebush - California Buckwheat Mapping Unit
-  California Annual Grassland Alliance
-  California Buckwheat Alliance
-  California Chaparral Mapping Unit
-  Chamise - Black Sage Alliance
-  Chamise - California Buckwheat Association
-  Chamise - Coastal Sage Scrub Disturbance Mapping Unit
-  Chamise - Hoaryleaf Ceanothus Alliance
-  Chamise - Laurel Sumac Association
-  Coast Live Oak - Sycamore Riparian Mapping Unit
-  Coast Live Oak Alliance
-  Deerweed Alliance
-  Laurel Sumac - California Buckwheat Association
-  Unmapped Area
-  Urban Interface Mapping Unit
-  Urban or development Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS)
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Map Date: 10/13/2023

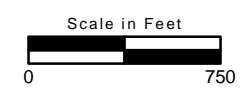
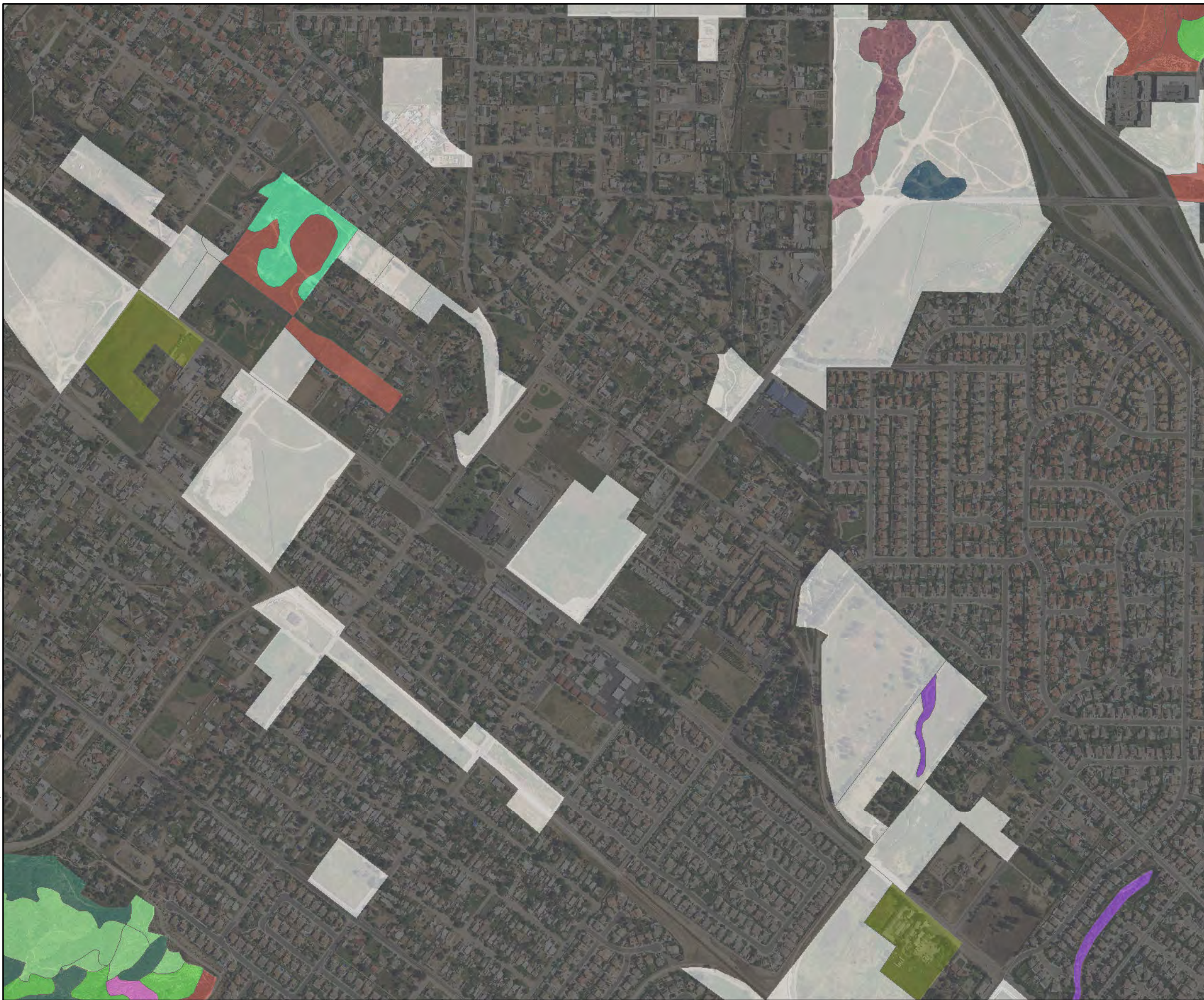


Figure 4. Vegetation Communities and Land Cover Types

ECORP: N:\2022\2022-077_Wildomar General Plan Update\MAPS\Vegetation_and_LandCover\WildomarGP_Vegetation.mxd (TR)-tracellini 10/13/2023



Map Features

- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- Brittlebush - California Buckwheat Mapping Unit
- California Annual Grassland Alliance
- California Buckwheat Alliance
- Chamise - California Buckwheat Association
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus Alliance
- Eucalyptus Alliance
- Exotic Trees Mapping Unit
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Willow Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

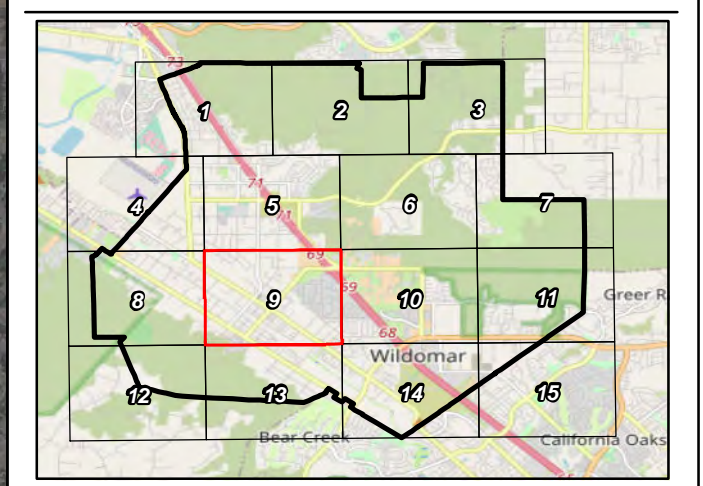
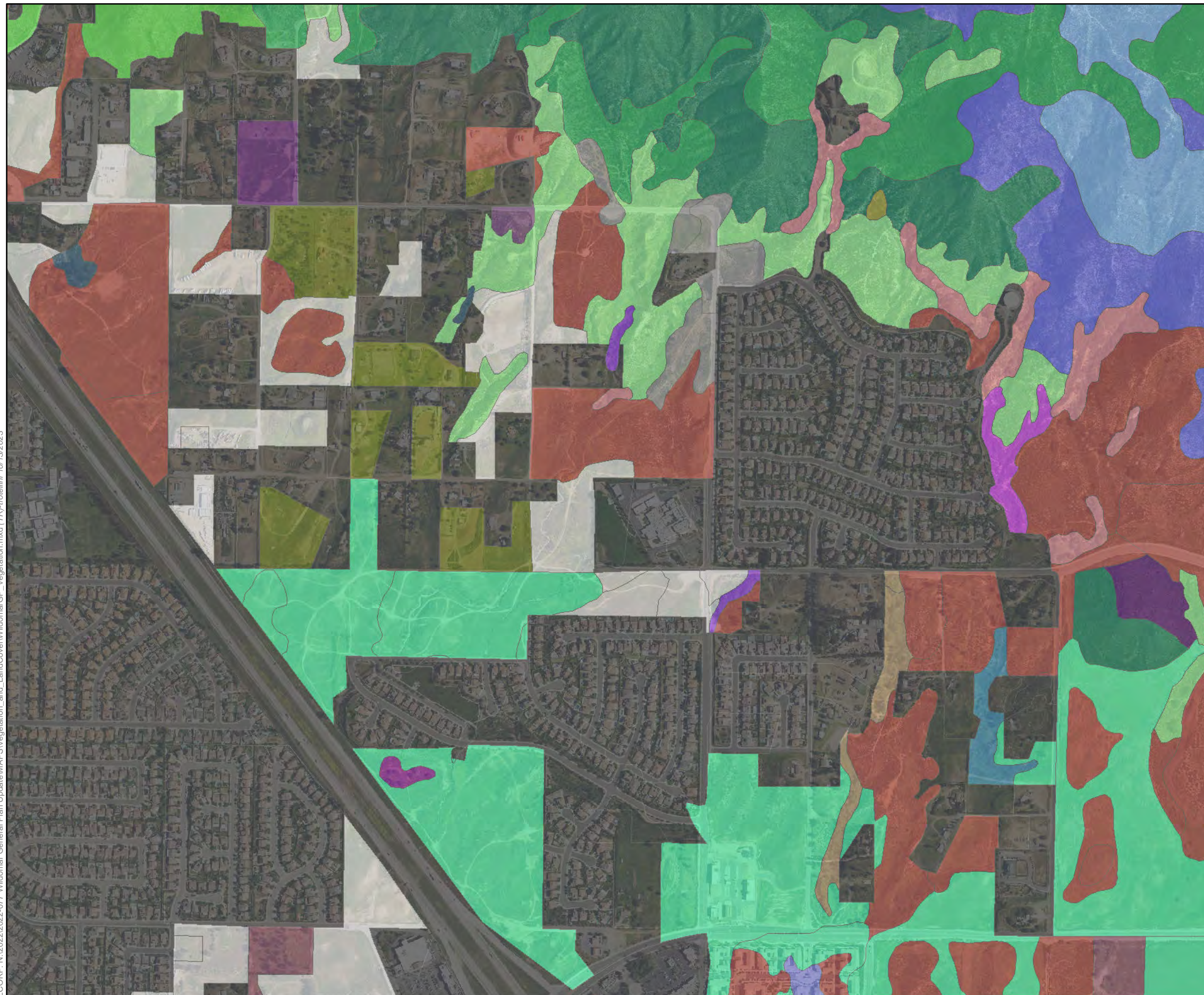


Figure 4. Vegetation Communities and Land Cover Types
Sheet 9 of 15
2022-077 City of Wildomar GP Update

ECORP: N:\2022\2022-077 Wildomar General Plan Update\MAPS\Vegetation_and_LandCover\WildomarGP_Vegetation.mxd (TR)-tracellini 10/13/2023



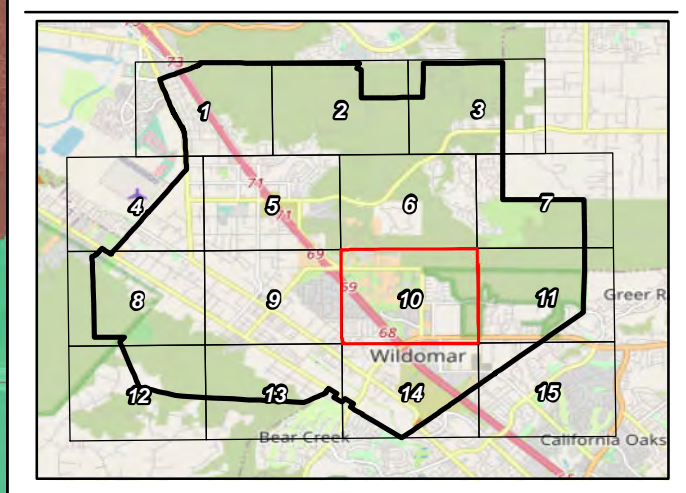
Map Features

- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- Blue Elderberry - (Mulefat) Mapping Unit
- Brittlebush - California Buckwheat Mapping Unit
- California Annual Grassland Alliance
- California Buckwheat - Brittlebush Alliance
- California Buckwheat Alliance
- California Sagebrush - (California Buckwheat) - Annual Grass-Herb Mapping Unit
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Laurel Sumac Association
- Chamise Alliance
- Coast Live Oak - Sycamore Riparian Mapping Unit
- Coast Live Oak / Chaparral Association
- Coast Live Oak Alliance
- Eucalyptus Alliance
- Exotic Trees Mapping Unit
- Fremont Cottonwood - Willow Mapping Unit
- Hoaryleaf Ceanothus Alliance
- Laurel Sumac - California Buckwheat Association
- Red Willow Alliance
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit
- Willow Mapping Unit

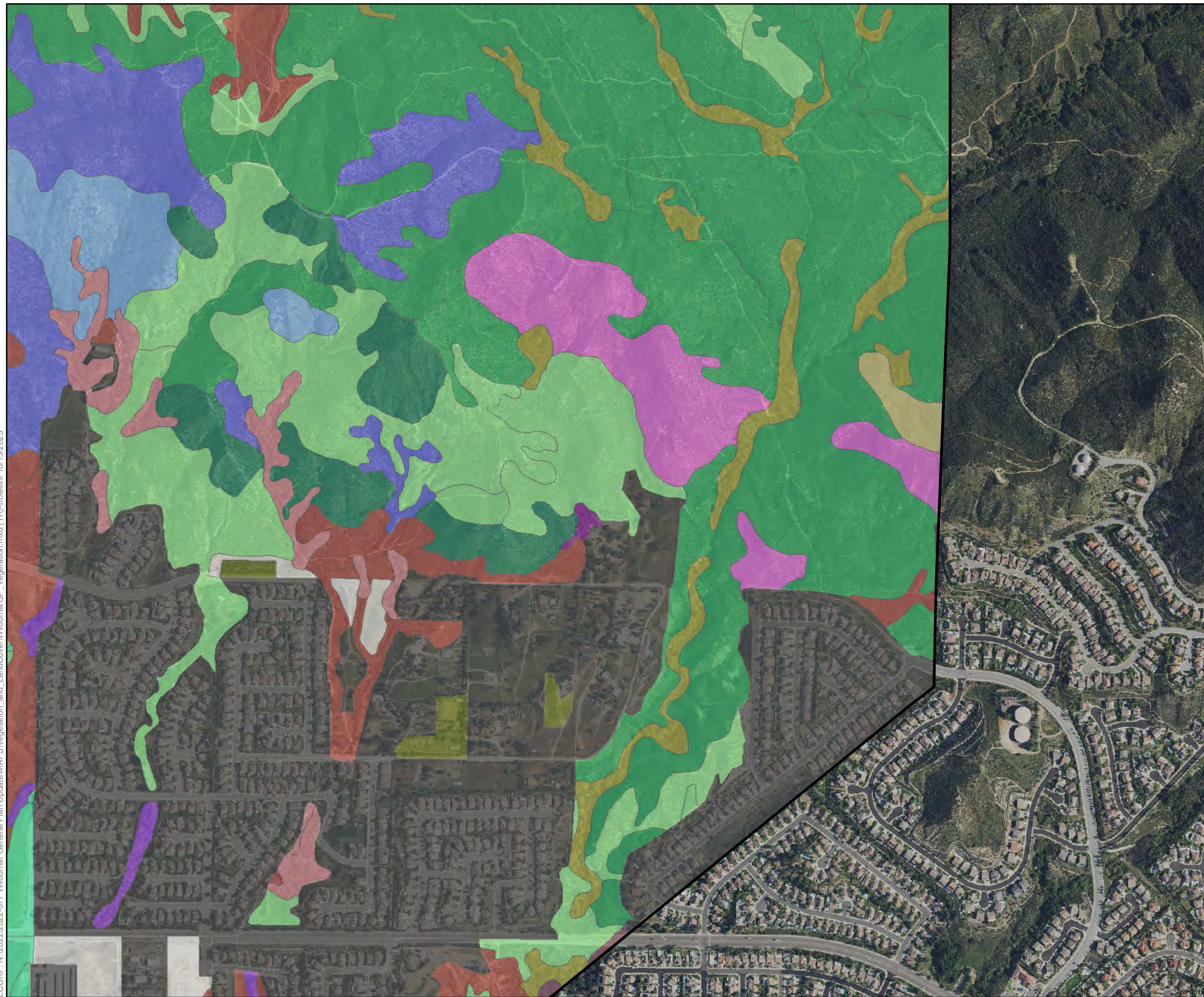
Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)



Map Date: 10/13/2023



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Map Features

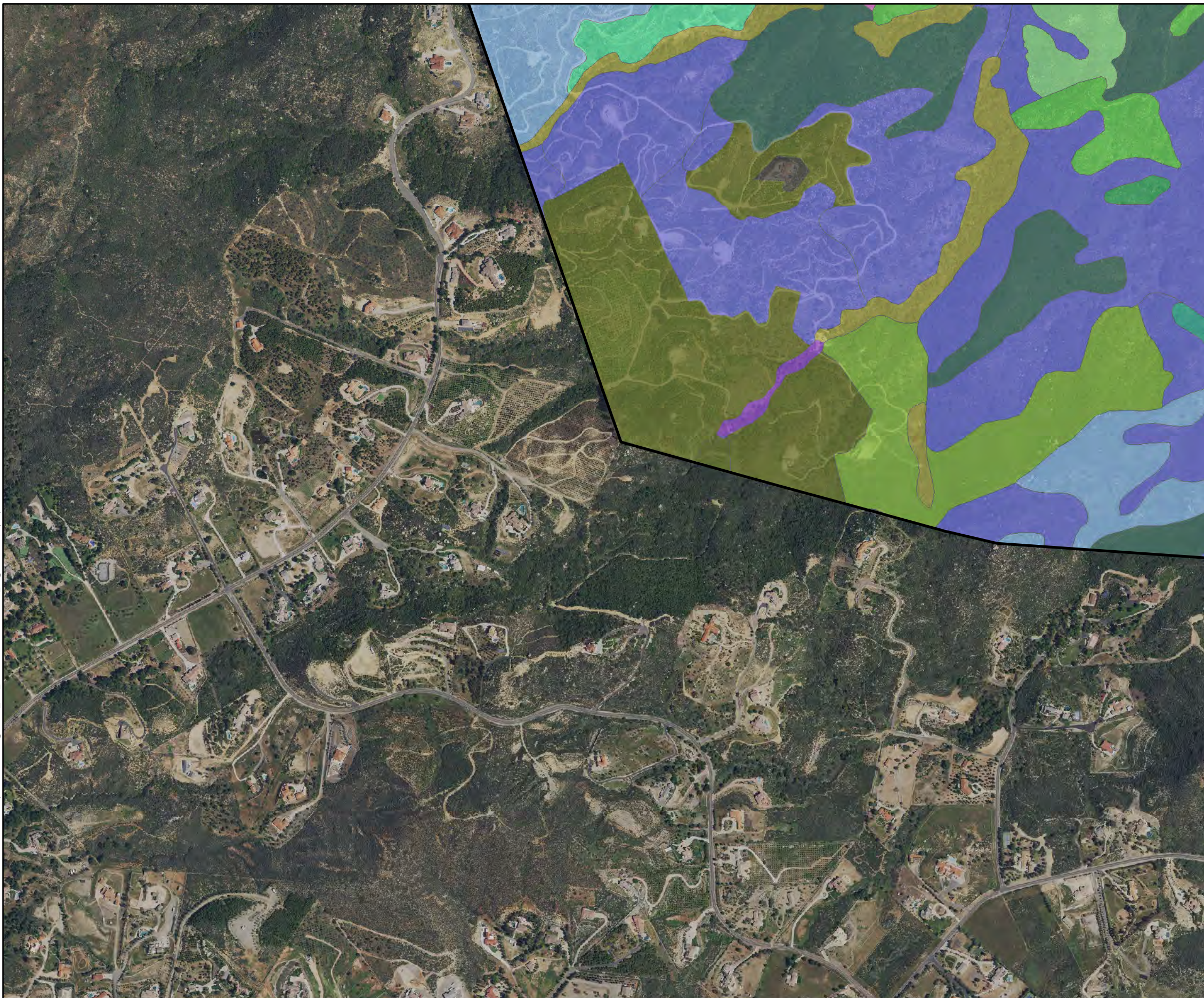
- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- California Annual Grassland Alliance
- California Buckwheat - Brittlebush Alliance
- California Buckwheat Alliance
- Chamise - Black Sage Alliance
- Chamise - California Buckwheat Association
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus - Black Sage Association
- Chamise - Laurel Sumac Association
- Coast Live Oak - Sycamore Riparian Mapping Unit
- Coast Live Oak / Chaparral Association
- Coast Live Oak / Poison Oak Riparian Association
- Coast Live Oak Alliance
- Exotic Trees Mapping Unit
- Hoaryleaf Ceanothus - Laurel Sumac Association
- Laurel Sumac - California Buckwheat Association
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Willow Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS)
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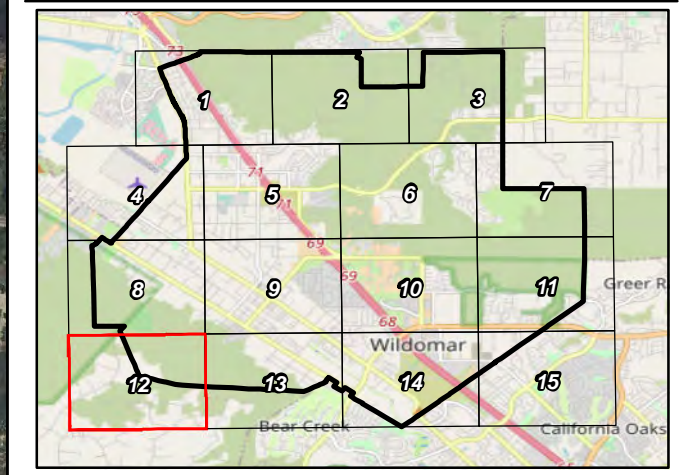
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Map Features

-  Wildomar City Limits
- Vegetation Communities and Land Cover Types**
-  Agriculture Mapping Unit
-  Brittlebush - California Buckwheat Mapping Unit
-  California Annual Grassland Alliance
-  Chamise - California Buckwheat Association
-  Chamise - Coastal Sage Scrub Disturbance Mapping Unit
-  Chamise - Hoaryleaf Ceanothus - Black Sage Association
-  Chamise - Hoaryleaf Ceanothus Alliance
-  Chamise - Laurel Sumac Association
-  Coast Live Oak - Sycamore Riparian Mapping Unit
-  Hoaryleaf Ceanothus - Laurel Sumac Association
-  Laurel Sumac - California Buckwheat Association
-  Scrub Oak - Southern Mixed Chaparral Association
-  Urban or development Mapping Unit
-  Willow Mapping Unit

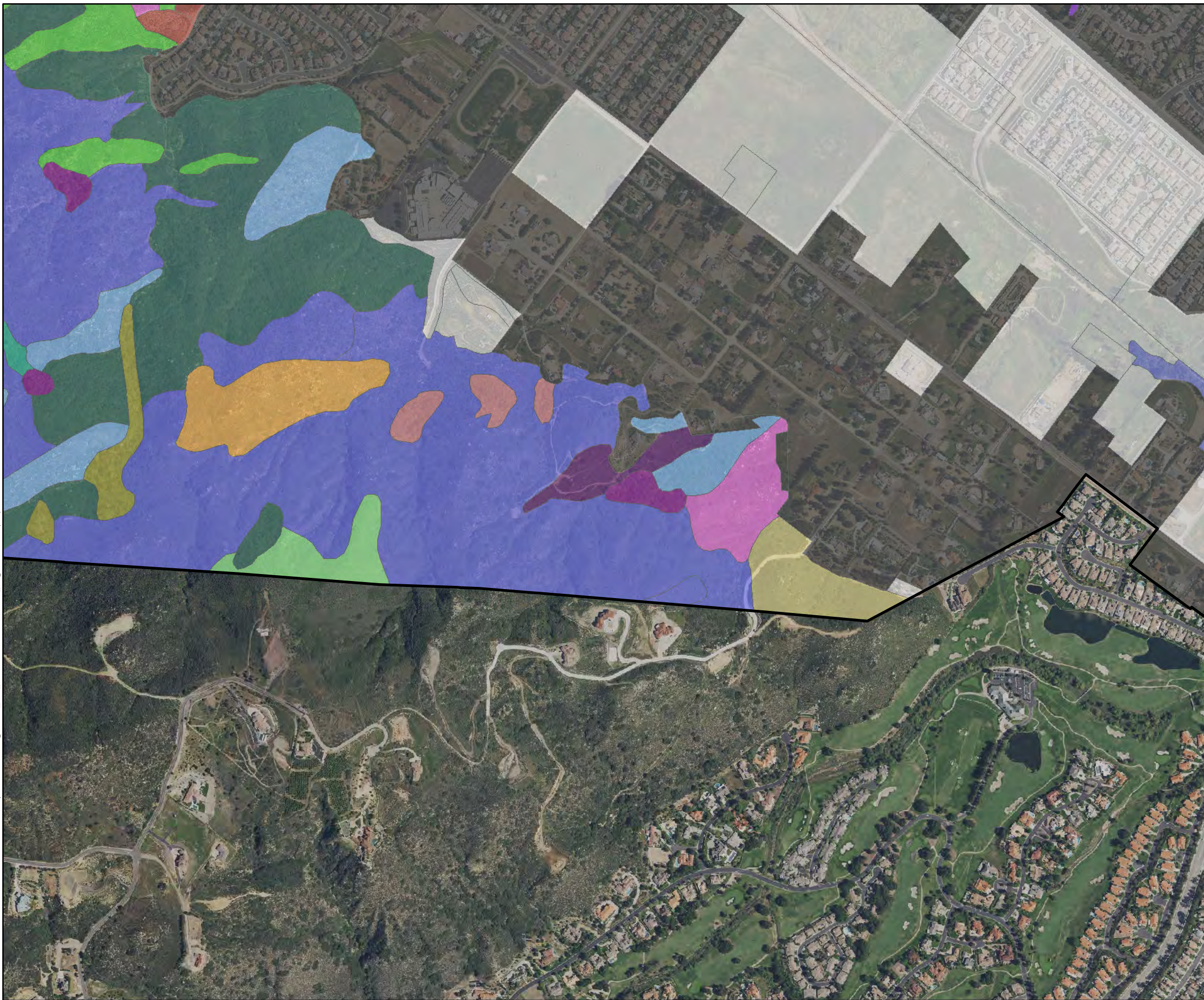
Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS)
Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)



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Map Features

- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- Brittlebush - California Buckwheat Mapping Unit
- California Buckwheat Alliance
- California Sagebrush - (California Buckwheat) - Annual Grass-Herb Mapping Unit
- Chamise - Black Sage Alliance
- Chamise - California Buckwheat Association
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Chamise - Hoaryleaf Ceanothus Alliance
- Chamise - Laurel Sumac Association
- Coast Live Oak - Sycamore Riparian Mapping Unit
- Coast Live Oak / Chaparral Association
- Coast Live Oak Alliance
- Laurel Sumac - California Buckwheat - White Sage Association
- Laurel Sumac - California Buckwheat Association
- Red Willow Alliance
- Scrub Oak - Southern Mixed Chaparral Association
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Willow Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

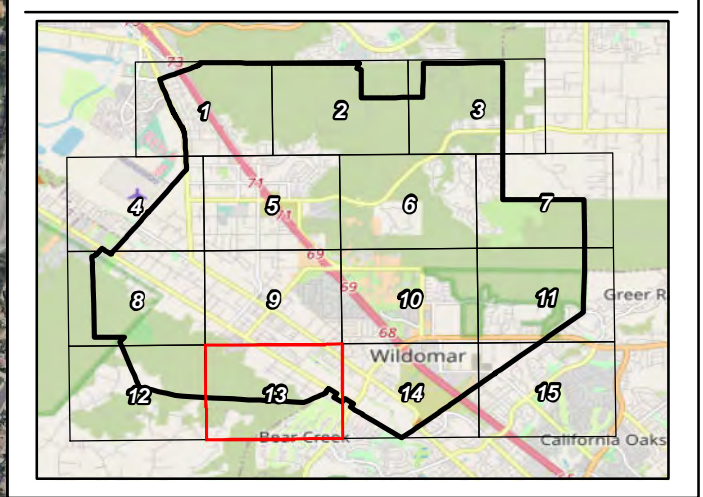
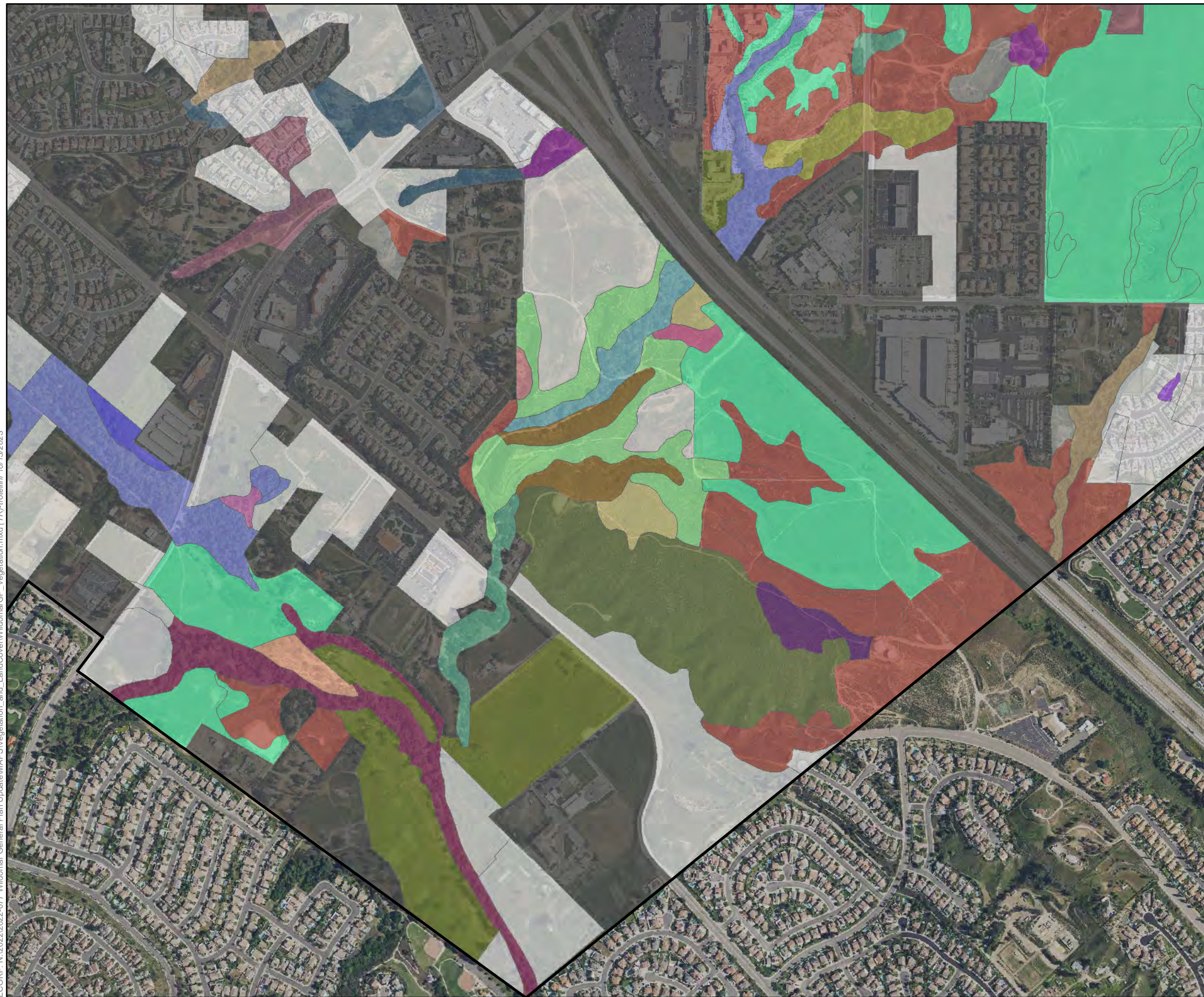


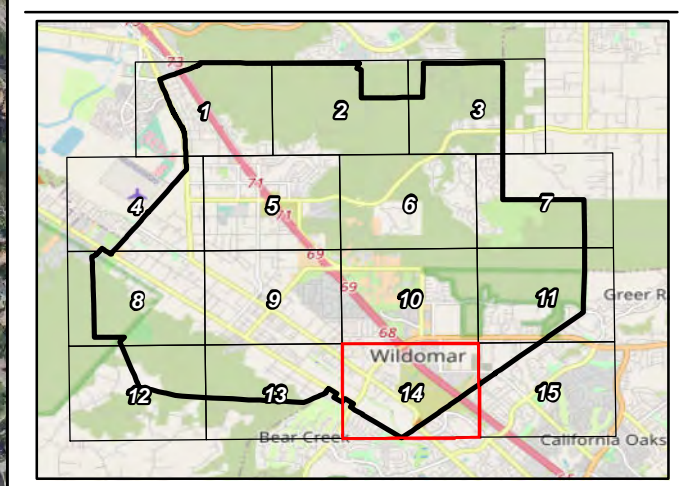
Figure 4. Vegetation Communities and Land Cover Types
Sheet 13 of 15
2022-077 City of Wildomar GP Update

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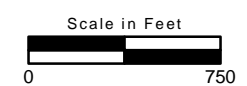


- ### Map Features
- Wildomar City Limits
- #### Vegetation Communities and Land Cover Types
- Agriculture Mapping Unit
 - Annual Herbaceous Grasslands and Forbs Mapping Unit
 - Bulrush - Cattail Mapping Unit
 - California Annual Grassland Alliance
 - California Buckwheat Alliance
 - California Sagebrush - (California Buckwheat) - Annual Grass-Herb Mapping Unit
 - California Sagebrush - California Buckwheat - White Sage Association
 - Chamise - Black Sage Alliance
 - Chamise - Coastal Sage Scrub Disturbance Mapping Unit
 - Chamise Pure Association
 - Coast Live Oak - California Sycamore - Red Willow Association
 - Coast Live Oak - Sycamore Riparian Mapping Unit
 - Coast Live Oak / Chaparral Association
 - Coast Live Oak / Poison Oak Riparian Association
 - Coast Live Oak Alliance
 - Eucalyptus Alliance
 - Exotic Trees Mapping Unit
 - Fremont Cottonwood - Red Willow / Arroyo Willow / Mulefat Association
 - Fremont Cottonwood - Willow Mapping Unit
 - Fremont Cottonwood Dry Mapping Unit
 - Red Willow Alliance
 - Scrub Oak - Chamise Alliance
 - Urban Interface Mapping Unit
 - Urban or development Mapping Unit
 - Vacant (disturbed bare ground, <2% vegetative cover) Mapping Unit
 - Willow Mapping Unit

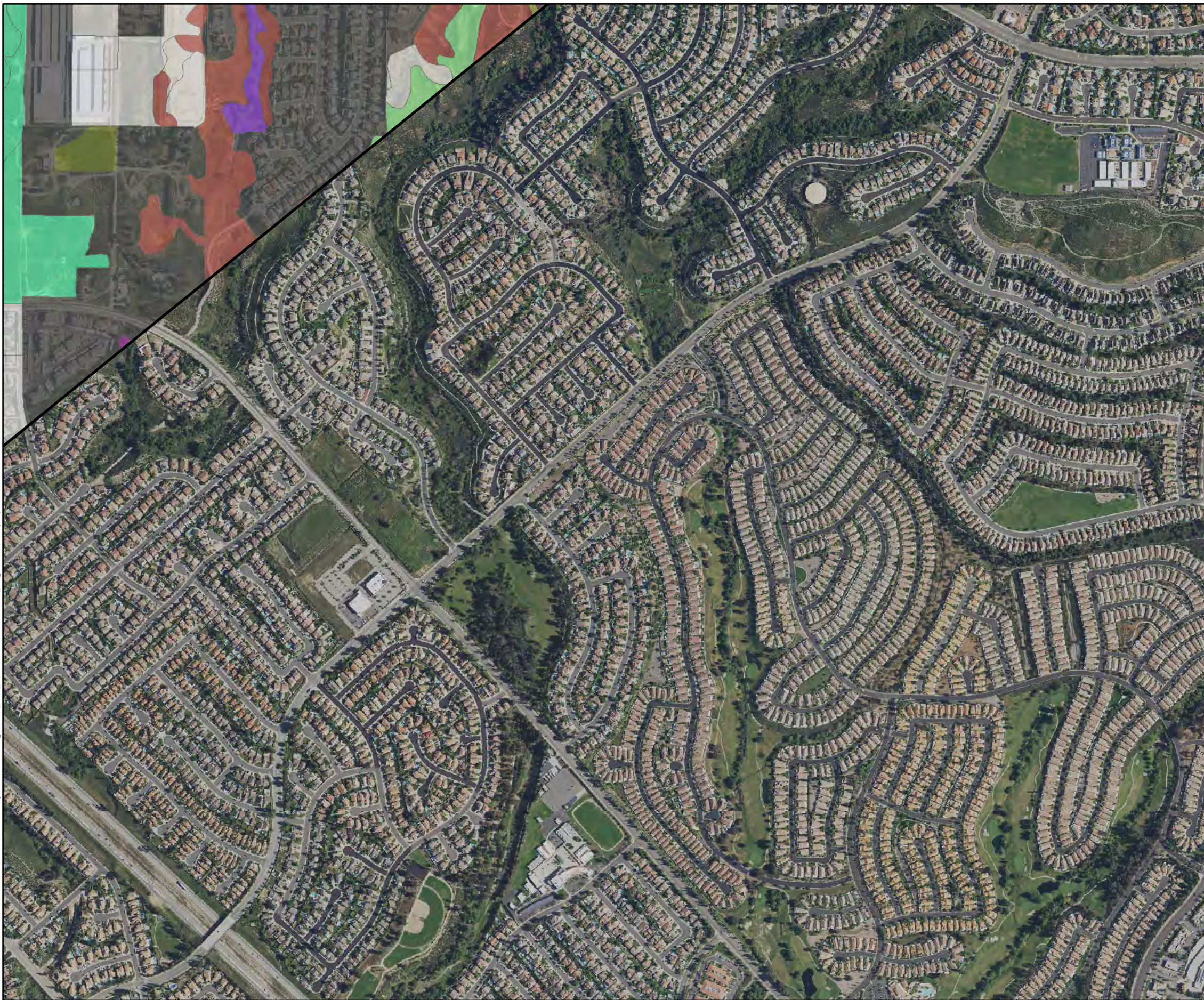
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Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)



Map Date: 10/13/2023



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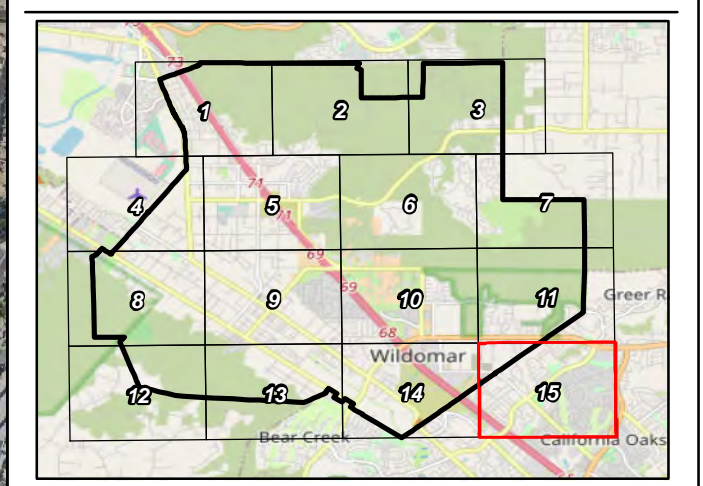
Map Features

- Wildomar City Limits

Vegetation Communities and Land Cover Types

- Agriculture Mapping Unit
- California Annual Grassland Alliance
- California Buckwheat Alliance
- Chamise - Coastal Sage Scrub Disturbance Mapping Unit
- Coast Live Oak - Sycamore Riparian Mapping Unit
- Coast Live Oak Alliance
- Exotic Trees Mapping Unit
- Urban Interface Mapping Unit
- Urban or development Mapping Unit
- Willow Mapping Unit

Sources: NAIP (2020), Western Riverside County Regional Conservation Authority Vegetation (2012 CNPS) Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)



Map Date: 10/13/2023



4.3.3 Coastal Sage Scrub

This vegetation community is often found in distributed within other vegetation communities such as grassland and chaparral and oak or riparian woodlands. This community is often dominated by drought-deciduous shrub and subshrub species. Species commonly associated with this community include California sagebrush, California buckwheat, laurel sumac, sages, brittlebush (*Encelia farinosa*), lemonade berry (*Rhus integrifolia*), boxthorn (*Lycium* sp.), and sugarbush (*Rhus ovata*).

4.3.4 Grassland

This vegetation community can consist of two general types of grasslands: non-native dominated grassland dominated by annual grasses and native grassland dominated by perennial grass species. The latter is often referred to as Valley and Foothill Grassland while the former is referred to as Non-Native Grassland.

Within Valley and Foothill Grassland, common species include fiddleneck (*Amsinckia menziesii*), common calyptidium (*Calyptidium monospermum*), suncup (*Camissoniopsis* sp.), Chinese houses (*Collinsia heterophylla*), California poppy (*Eschscholzia californica*), tarweed (*Hemizonia* sp.), coast goldfields (*Lasthenia californica*), common tidy-tips (*Layia platyglossa*), lupine (*Lupinus* sp.), wild hyacinth (*Dichelostemma capitatum*), and blue-eyed grass (*Sisyrinchium bellum*).

Within Non-Native Grassland, common species include slender oat (*Avena barbata*), wild oat (*Avena fatua*), fox tail chess (*Bromus madritensis*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), barley (*Hordeum* sp.), rye grass (*Lolium multiflorum*), English ryegrass (*Lolium perrene*), rat-tail fescue (*Vulpia myuros*), and Mediterranean grass (*Schismus barbatus*). These species are often within landscapes that persist in disturbed areas.

4.3.5 Meadows and Marshes

These vegetation communities are associated with the presence of flowing or standing water. Common species included within these communities include cattails (*Typha* sp.), bulrush (*Scirpus* sp.), sedges (*Carex* sp.), spike rushes (*Eleocharis* sp.), flat sedges (*Cyperus* sp.), smartweed (*Polygonum* sp.), watercress (*Nasturtium* sp.), and yerba mansa (*Anemopsis californica*).

4.3.6 Riparian Scrub, Woodland, and Forest

These vegetation communities are often found within waterways and drainages. These communities often consist of one or more deciduous tree species with a variety of shrubs and herbs in the understory. Common tree species within this community include box elder (*Acer negundo*), big-leaf maple (*Acer macrophyllum*), coast live oak (*Quercus agrifolia*), white alder (*Alnus rhombifolia*), sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), California walnut (*Juglans californica*), blue elderberry (*Sambucus mexicana*), wild grape (*Vitis girdiana*), giant reed (*Arundo donax*), mulefat (*Baccharis salicifolia*), tamarisk (*Tamarix* sp.), and willows (*Salix* sp.). Within the understory, species such as salt grass (*Distichlis spicata*), wild cucumber (*Marah macrocarpus*), mugwort (*Artemisia douglasiana*), stinging nettle (*Urtica dioica*), and poison oak (*Toxicodendron diversilobum*) may be present.

4.3.7 Water

Open water is typically unvegetated, however, it may have algae and some floating plant species such as duckweed (*Lemna* sp.), and mosquito fern (*Azolla filiculoides*). Open water included inland depressions, lakes, ponds, reservoirs, stream channels, and other areas commonly present with riparian vegetation communities.

4.3.8 Woodland and Forests

These communities are often dominated by Englemann oak (*Quercus engelmannii*), coast live oak, canyon live oak (*Quercus chrysolepis*), interior live oak (*Quercus wislizeni*), and black oak (*Quercus kelloggii*) in a canopy that is intermittent to continuous. Other tree species that may be present include pinyon (*Pinus* sp.) and California juniper (*Juniperus californica*). The understory can often contain species such as wild blackberry (*Rubus* sp.), snowberry (*Symphoricarpos* sp.), California walnut, California lilac (*Ceanothus* sp.), currant (*Ribes* sp.), toyon (*Heteromeles arbutifolia*), California bay (*Umbellularia californica*), manzanita (*Arctostaphylos* sp.), laurel sumac, poison oak, and herbaceous plants such as miner's lettuce (*Claytonia perfoliata*). These communities often occur along canyon bottoms and stream sides.

4.3.9 Developed/Disturbed

Developed/disturbed areas include forms of human development that have an impact on native communities, in some cases permanent impacts that cause a complete loss or conversion of native communities. Developed areas include buildings (residential and commercial) and other infrastructures, some smaller landscaped areas, roads, and paved areas. Paved parking areas, and driveways are included in the developed category. Retention basins associated with development are also included in this category. Many developed and disturbed areas contain non-native species and/or ornamental species.

Areas devoid or mostly devoid of vegetation and containing no buildings or other development were classified as disturbed. The disturbed designation indicates a location that may be actively maintained to be free of vegetation or that has been compacted to such a degree that vegetation is very sparse.

Disturbed areas include areas that include dirt roads, off-highway vehicle use, bare soils, concrete, and flood control measures.

4.4 Aquatic Resources

Wetlands and waters, as well as vegetation communities associated with these features (e.g., riparian vegetation), may occur throughout the City and will commonly be associated with streambeds, drainages, and channels (i.e., Murrieta Creek). Features identified in the NWI can be seen in Figure 5. Riverine, Freshwater Ponds, Freshwater Emergent Wetlands, and Freshwater Forested/Shrub Wetland features are documented in NWI. These features have the potential to provide corridors that encourage the movement of wildlife and provide habitat for sensitive wildlife and plant species.

An aquatic resources delineation was not conducted for this General Plan Update; however, listed below are general descriptions of types of aquatic resources that may be present.

4.4.1.1 Open Water

Open water communities may include large reservoirs, small ponds, and riverine habitats. A general description of these types of open water communities is provided below.

Reservoirs

Reservoirs are one type of open water feature that are often large natural areas or artificial lakes that provide a source of water supply. Reservoirs may also serve as recreational sites.

Ponds

Ponds are one type of lacustrine habitat that include areas of shallow open water, although areas of rooted freshwater marsh or floating plants may occur within this habitat. Ponds may be naturally occurring or artificial for stock and other uses.

Drainages

Drainages can include perennial or ephemeral resources such as creeks. These often will flow into larger water features such as a river, a watershed, or a reservoir. Artificial canals and irrigation ditches can also fall into this category. Drainages are typically associated with riparian habitat (described in Section 4.3.6) and may support areas of freshwater marsh.

4.4.1.2 Wetlands

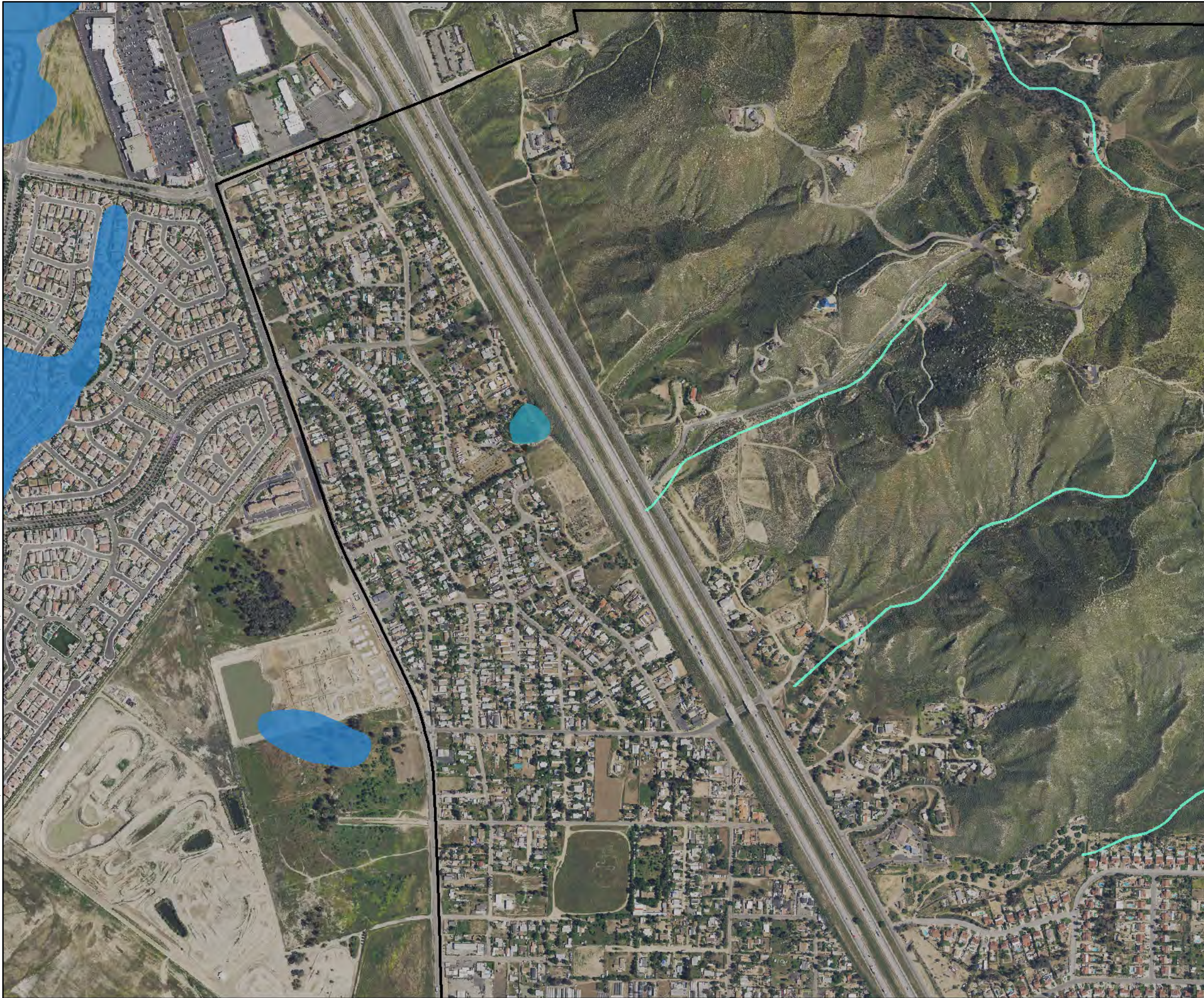
Wetlands can be subclassified in a variety of ways. Three main categories of wetlands are described below: freshwater marsh, wet meadow, and vernal pool.

Freshwater Marsh





Freshwater marsh often occurs along the margins of drainages and open water habitats. They are non-tidal and are often continuously or frequently flooded. They often occur in nutrient-rich soils that are slow-draining and often saturated.

Wet Meadow

Wet meadow habitat often occurs at higher elevations in the eastern portion of the City. Dominant species in wet meadows include herbaceous wetland plants, such as sedges, rushes, spike rush, bent grass (*Agrostis* spp.), and oatgrass (*Danthonia* spp.). There are generally sparse or no shrubs or trees in wet meadows.



Map Features

-  Wildomar City Limits
- NWI Features**
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Riverine

Sources: NAIP (2020), NWI (2020)
 Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

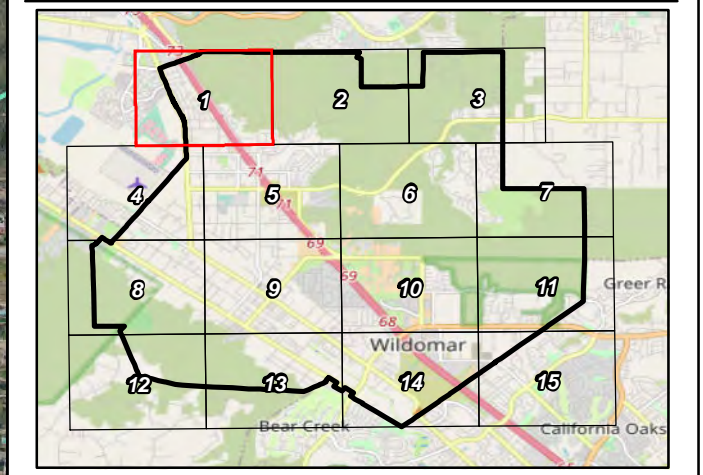
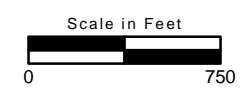
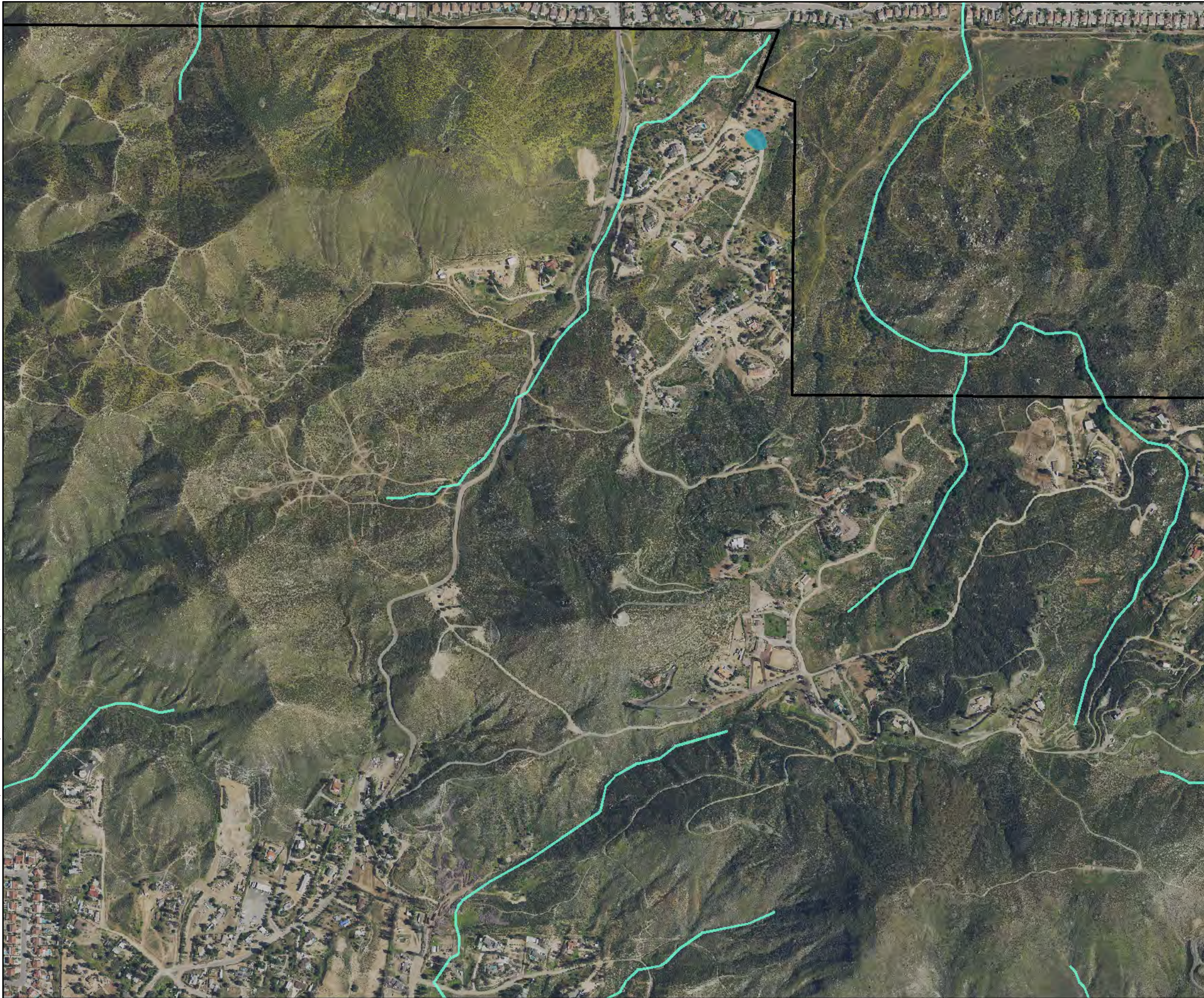


Figure 5. National Wetlands Inventory
Sheet 1 of 15
 2022-077 City of Wildomar GP Update

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Map Date: 10/13/2023





Map Features

- Wildomar City Limits

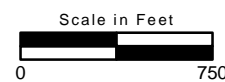
NWI Features

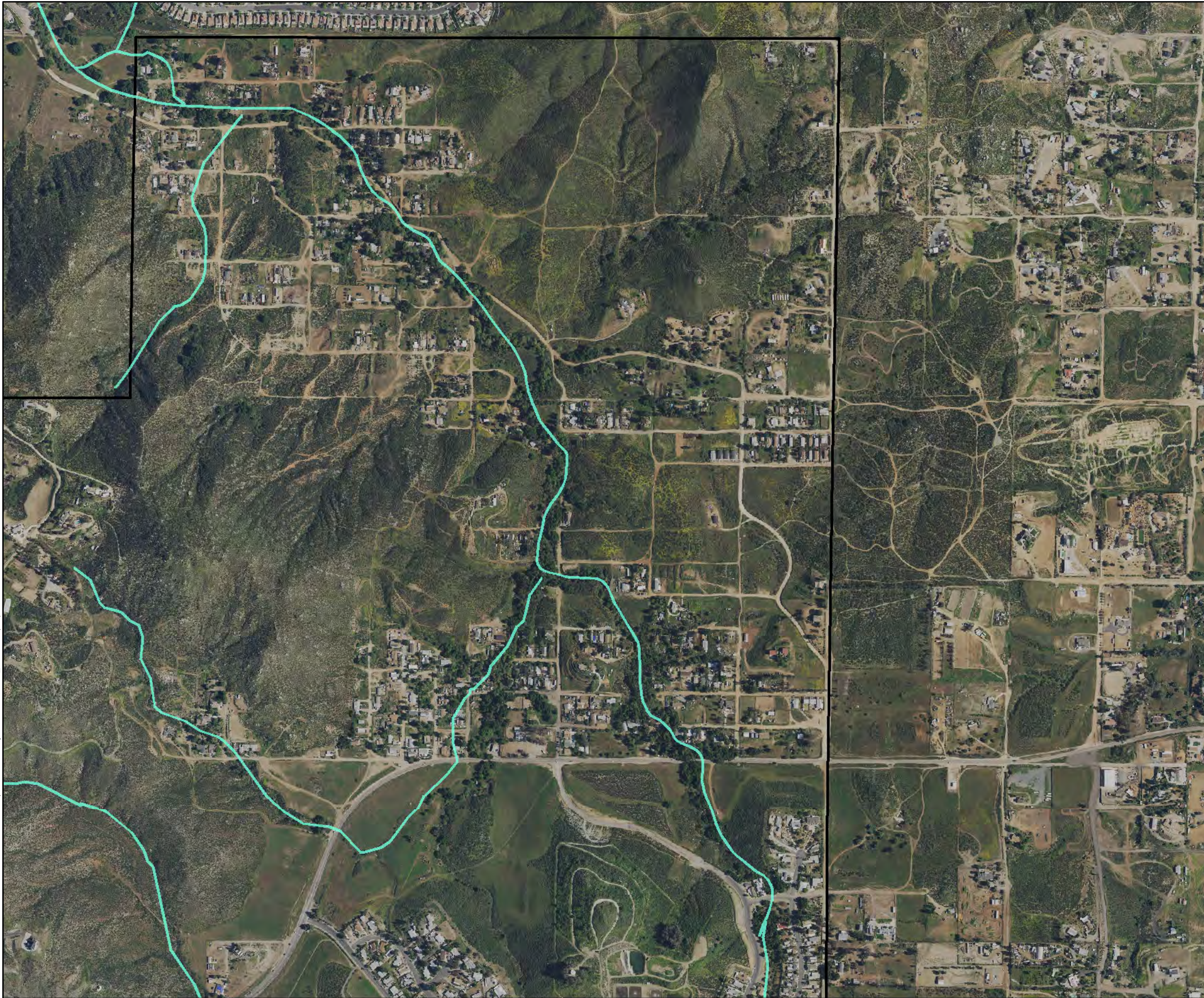
- Freshwater Pond
- Riverine

Sources: NAIP (2020), NWI (2020)
 Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

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Map Date: 10/13/2023





Map Features

- Wildomar City Limits

NWI Features

- Riverine

Sources: NAIP (2020), NWI (2020)
 Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

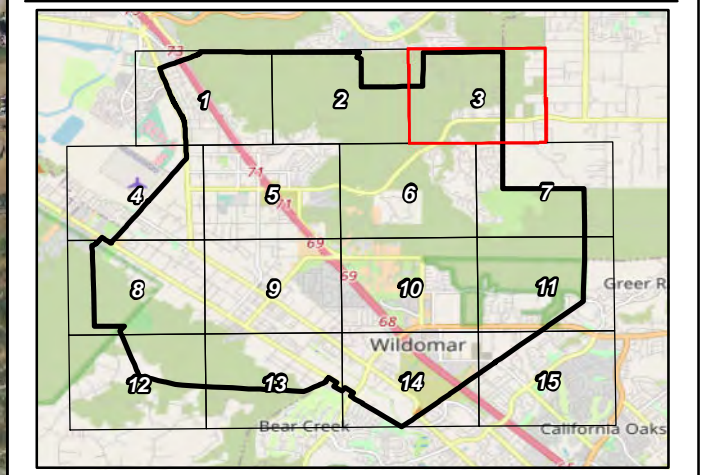


Figure 5. National Wetlands Inventory
Sheet 3 of 15
 2022-077 City of Wildomar GP Update

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Map Features

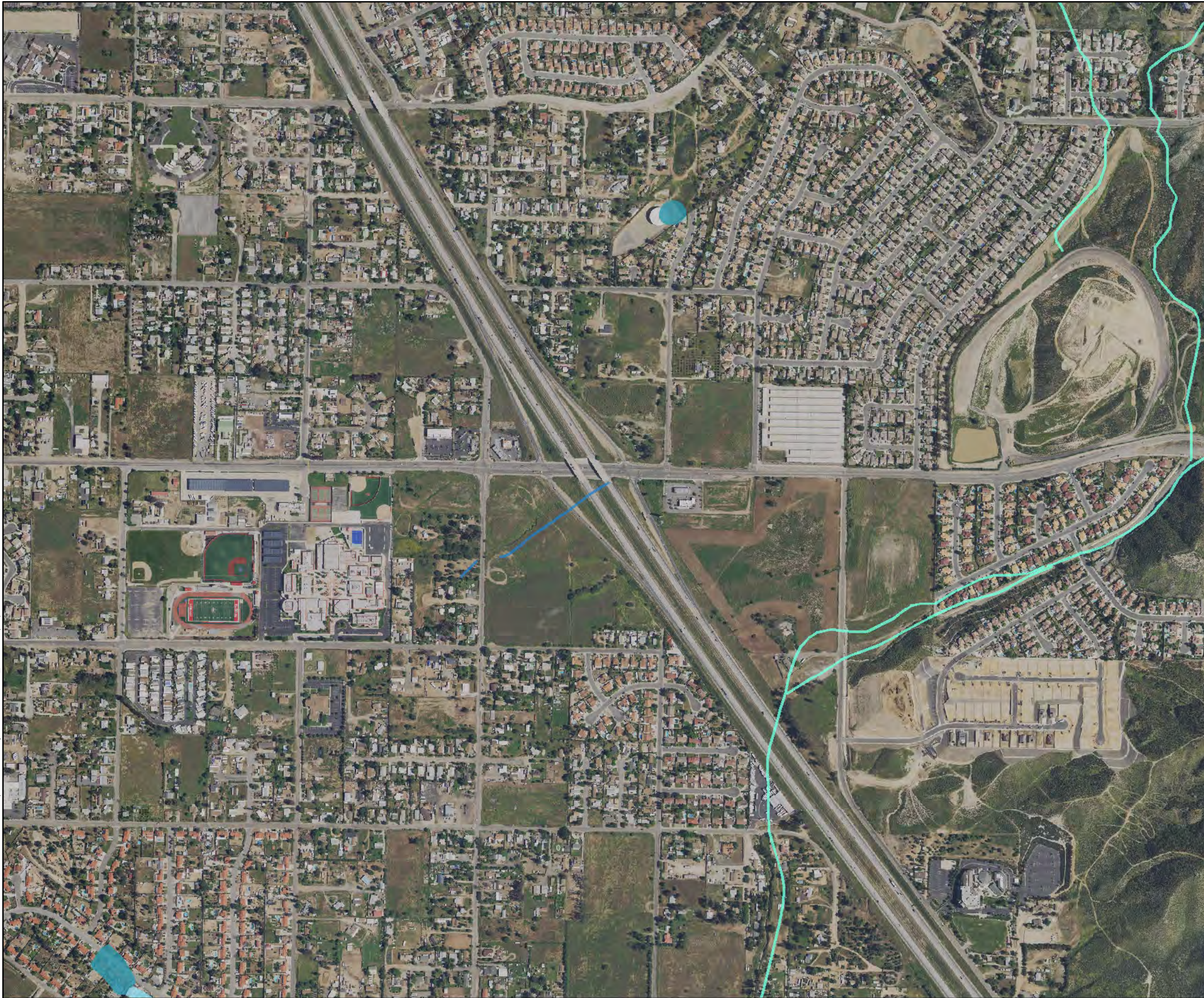
- Wildomar City Limits
- NWI Features
 - Freshwater Forested/Shrub Wetland

Sources: NAIP (2020), NWI (2020)
 Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

ECORP: N:\2022\2022-077 Wildomar General Plan Update\MAPS\Hydro\WildomarGP_NWI.mxd (TR)-rtrllini 10/13/2023

Map Date: 10/13/2023





Map Features

- Wildomar City Limits

NWI Features

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Sources: NAIP (2020), NWI (2020)
 Service Layer Credits: (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

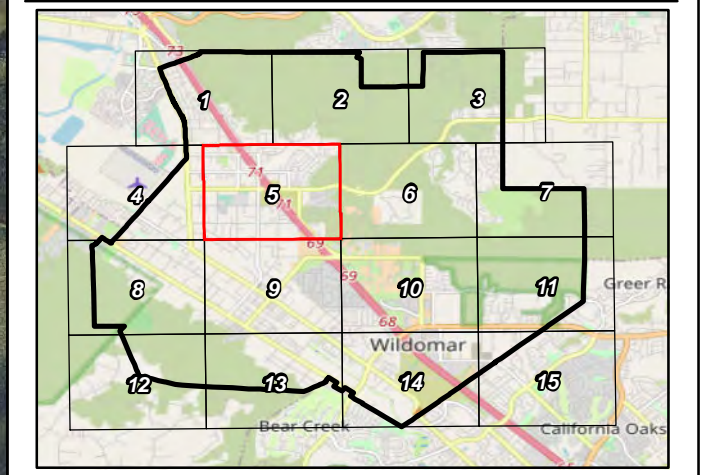
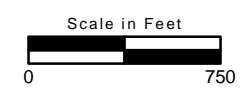


Figure 5. National Wetlands Inventory
Sheet 5 of 15
 2022-077 City of Wildomar GP Update



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Map Date: 10/13/2023





Map Features

-  Wildomar City Limits
- NWI Features**
-  Riverine

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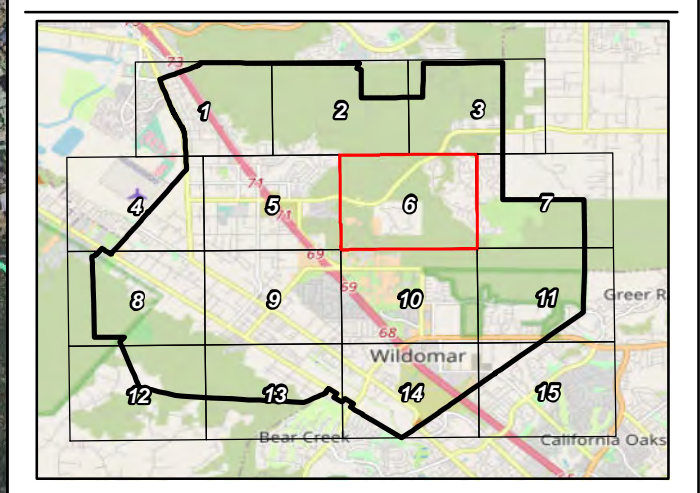
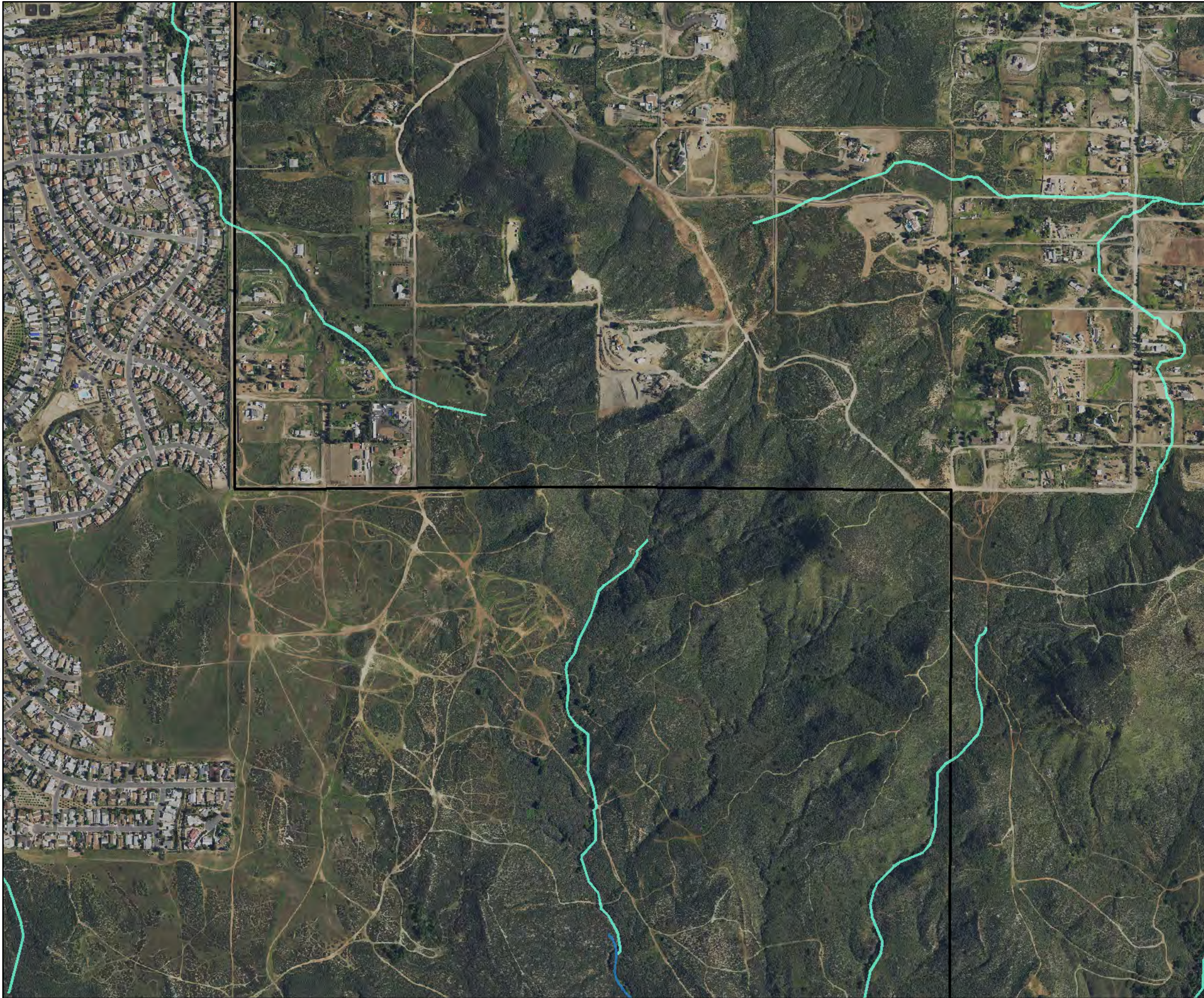





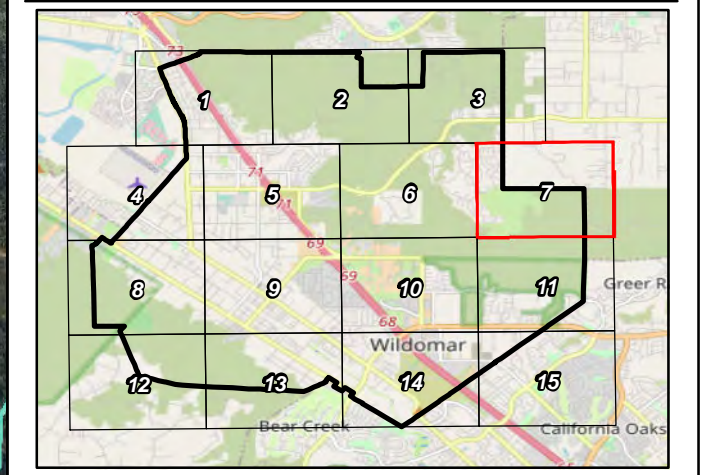
Figure 5. National Wetlands Inventory
Sheet 6 of 15
 2022-077 City of Wildomar GP Update



Map Features

-  Wildomar City Limits
- NWI Features**
-  Freshwater Forested/Shrub Wetland
-  Riverine

Sources: NAIP (2020), NWI (2020)
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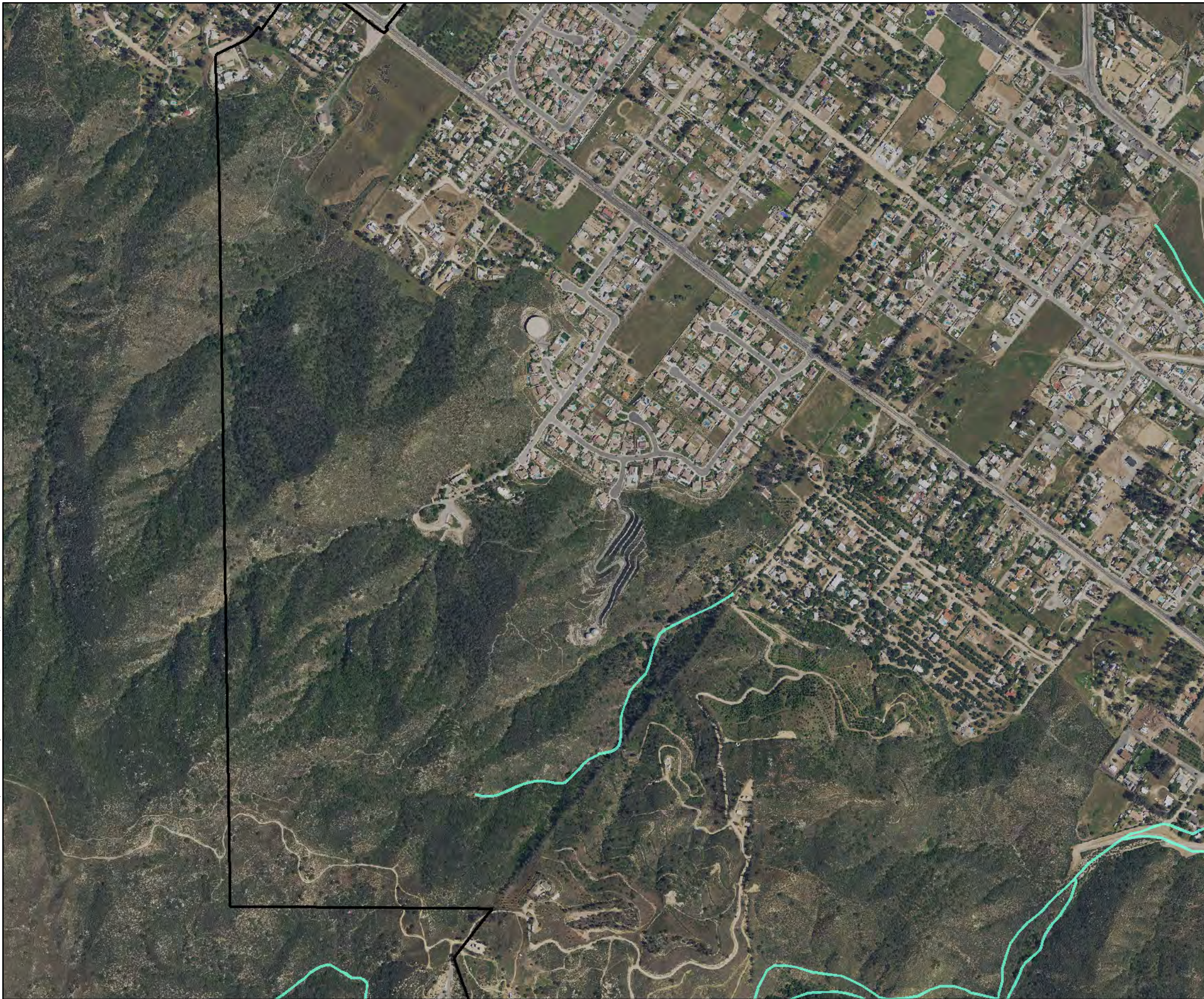


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Map Date: 10/13/2023



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Map Features

-  Wildomar City Limits
- NWI Features**
-  Riverine

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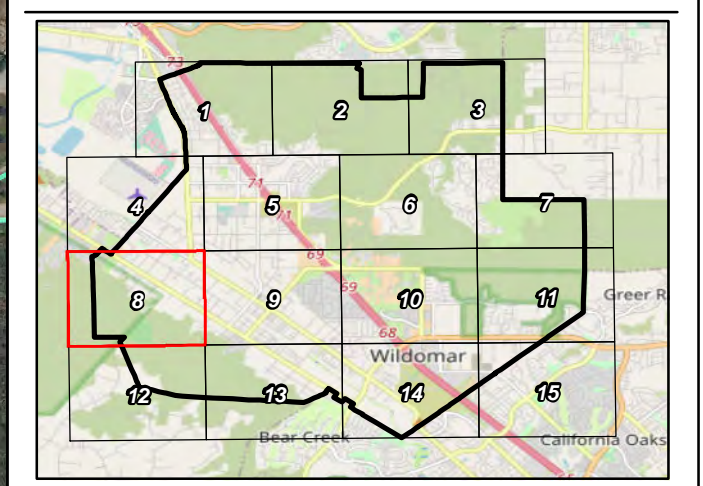
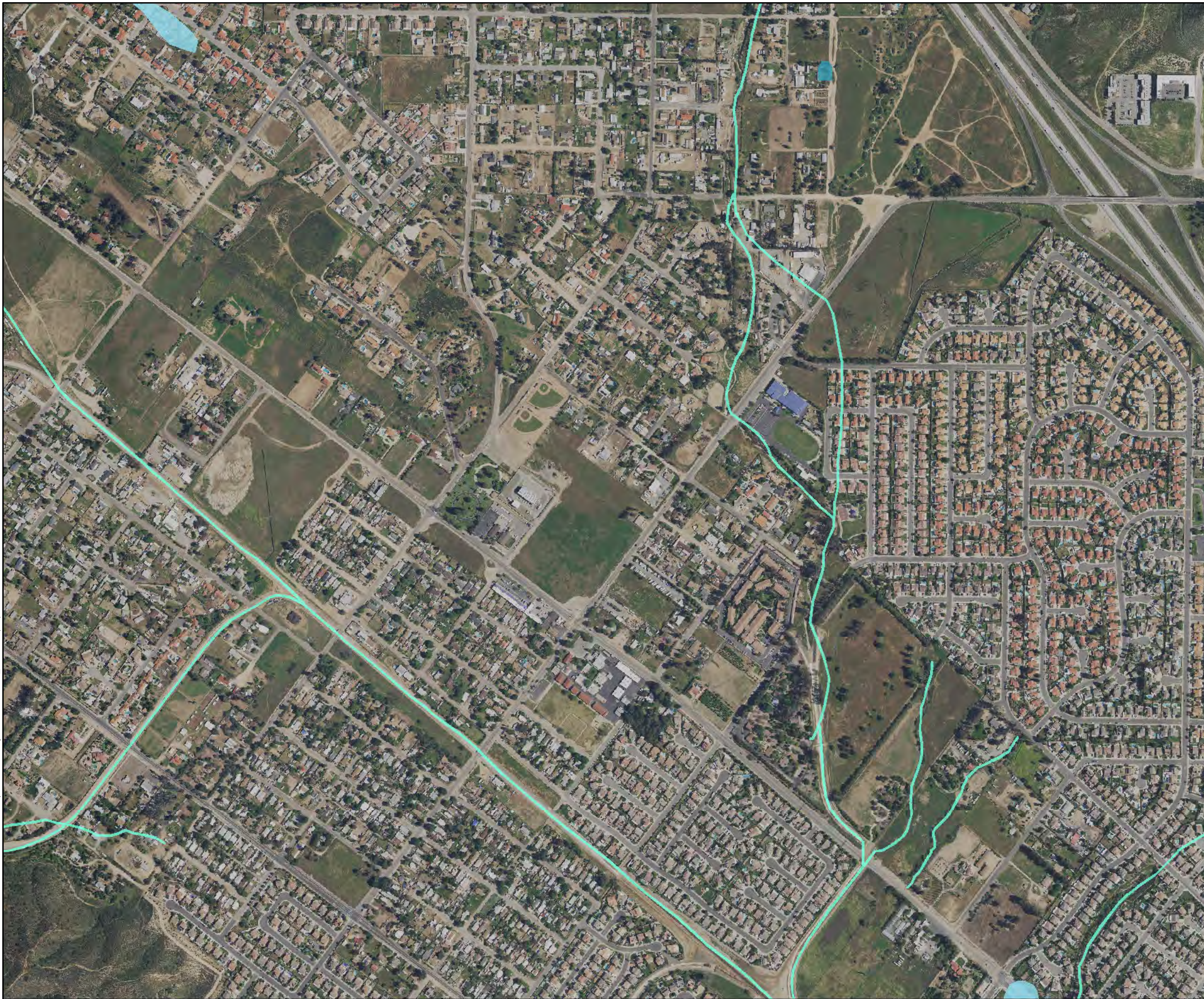



Figure 5. National Wetlands Inventory
Sheet 8 of 15
2022-077 City of Wildomar GP Update








Map Features

-  Wildomar City Limits

NWI Features

-  Freshwater Emergent Wetland
-  Freshwater Pond
-  Riverine

Sources: NAIP (2020), NWI (2020)
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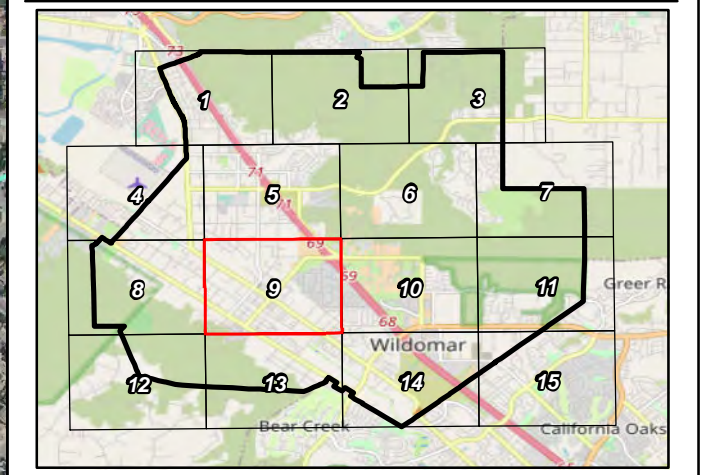
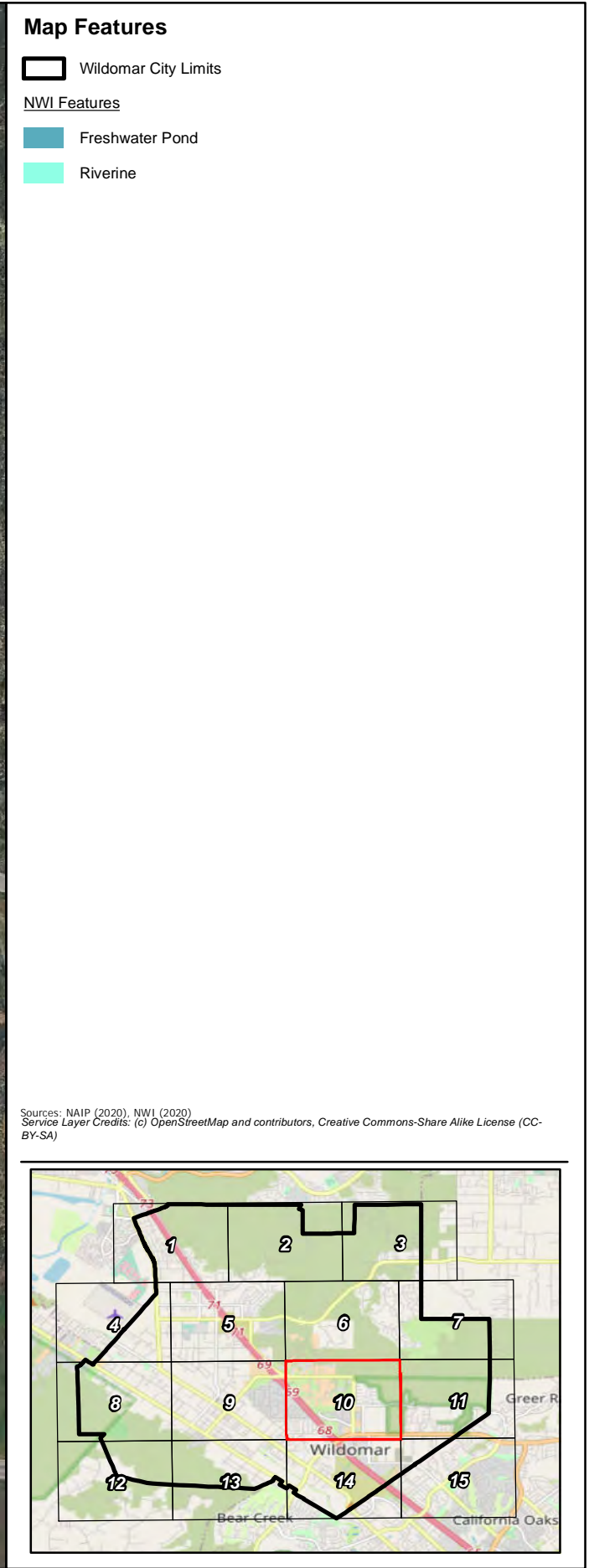
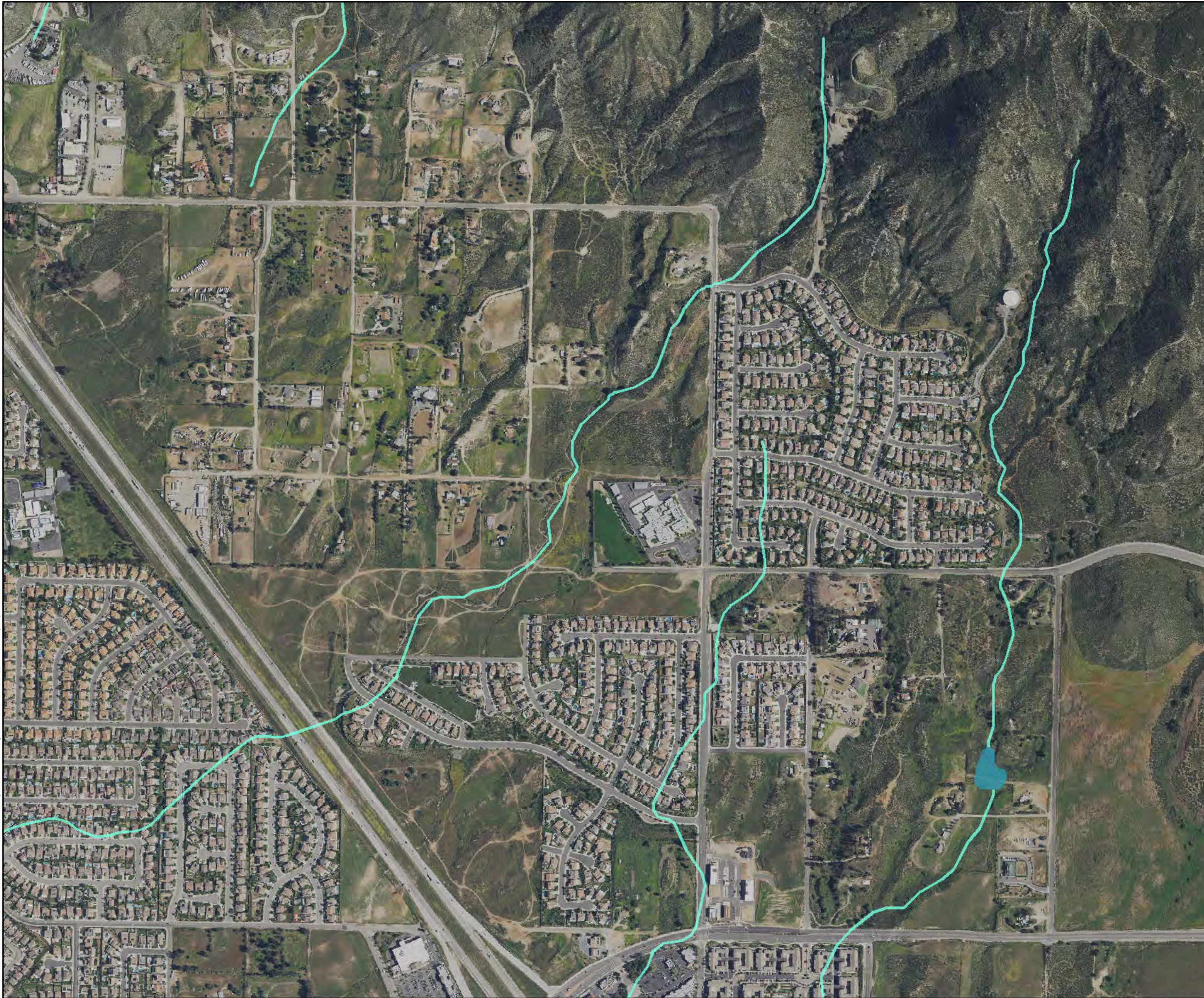


Figure 5. National Wetlands Inventory
Sheet 9 of 15
 2022-077 City of Wildomar GP Update

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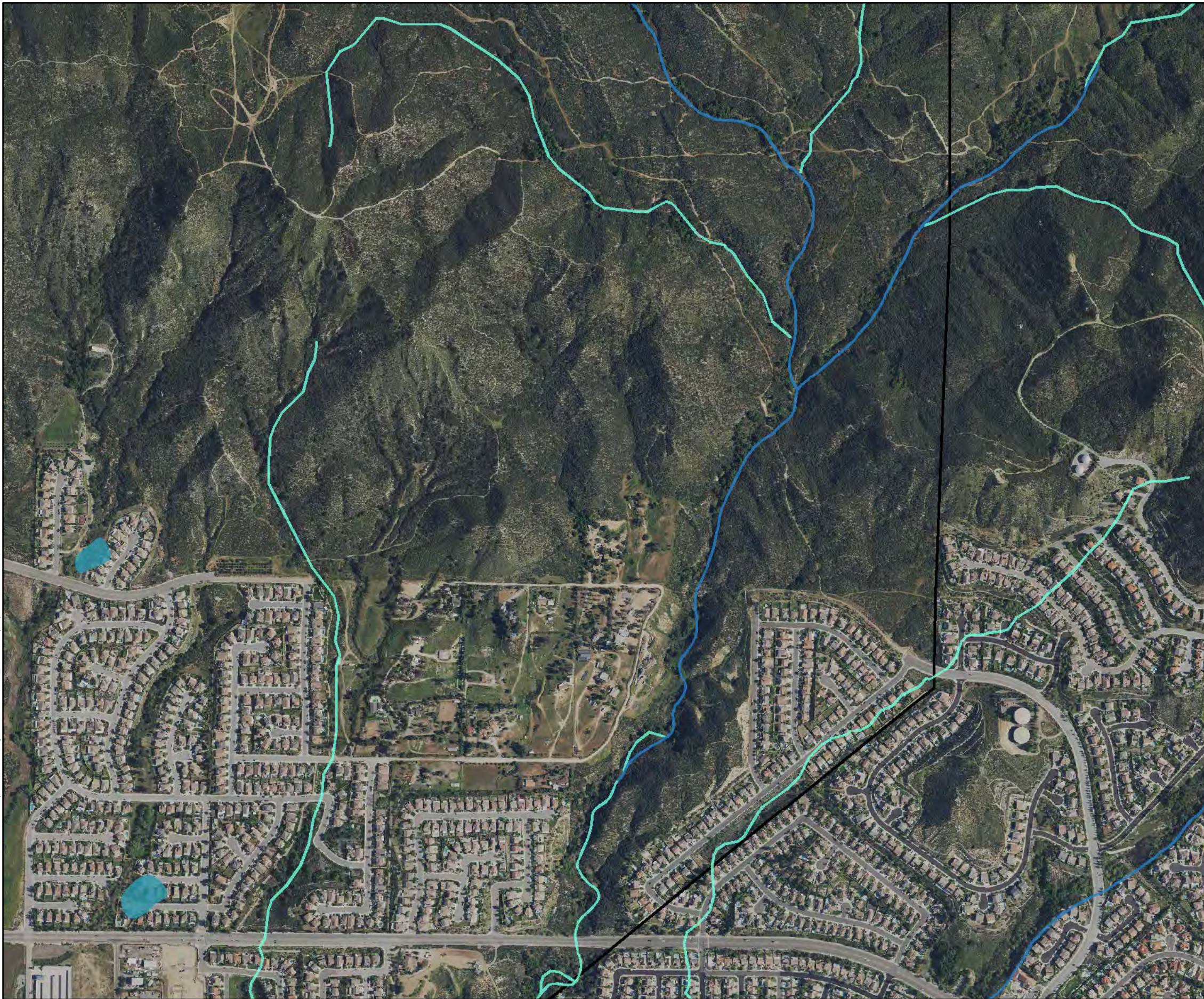


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Map Date: 10/13/2023



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Map Features

Wildomar City Limits

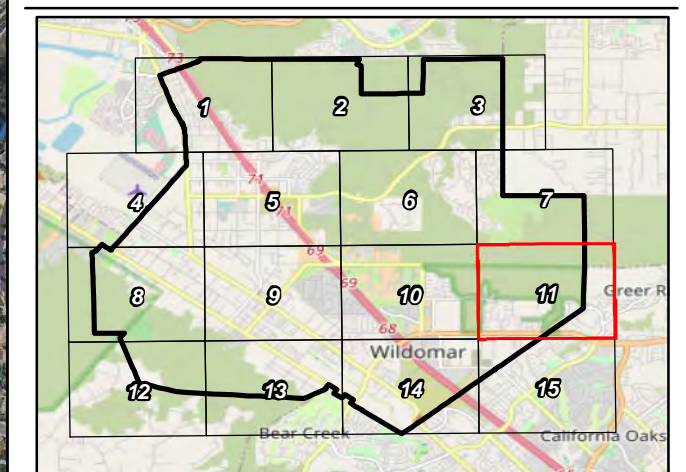
NWI Features

Freshwater Forested/Shrub Wetland

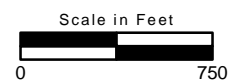
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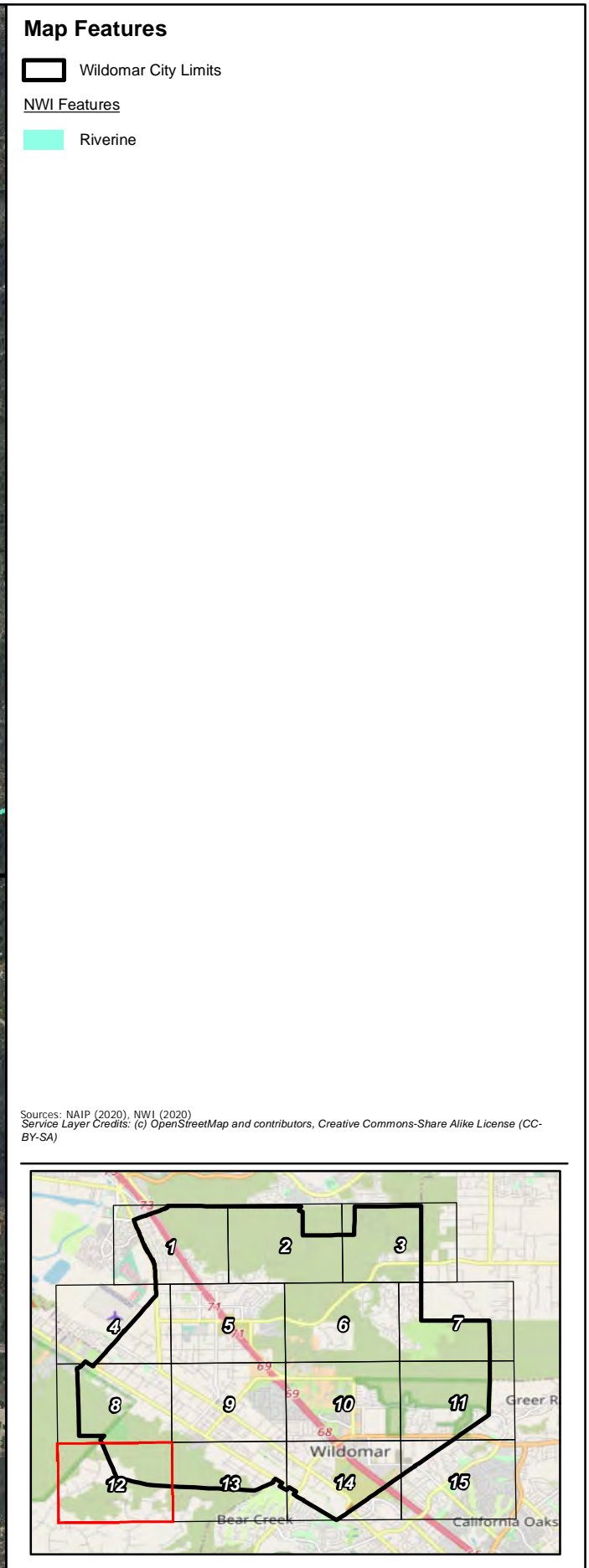
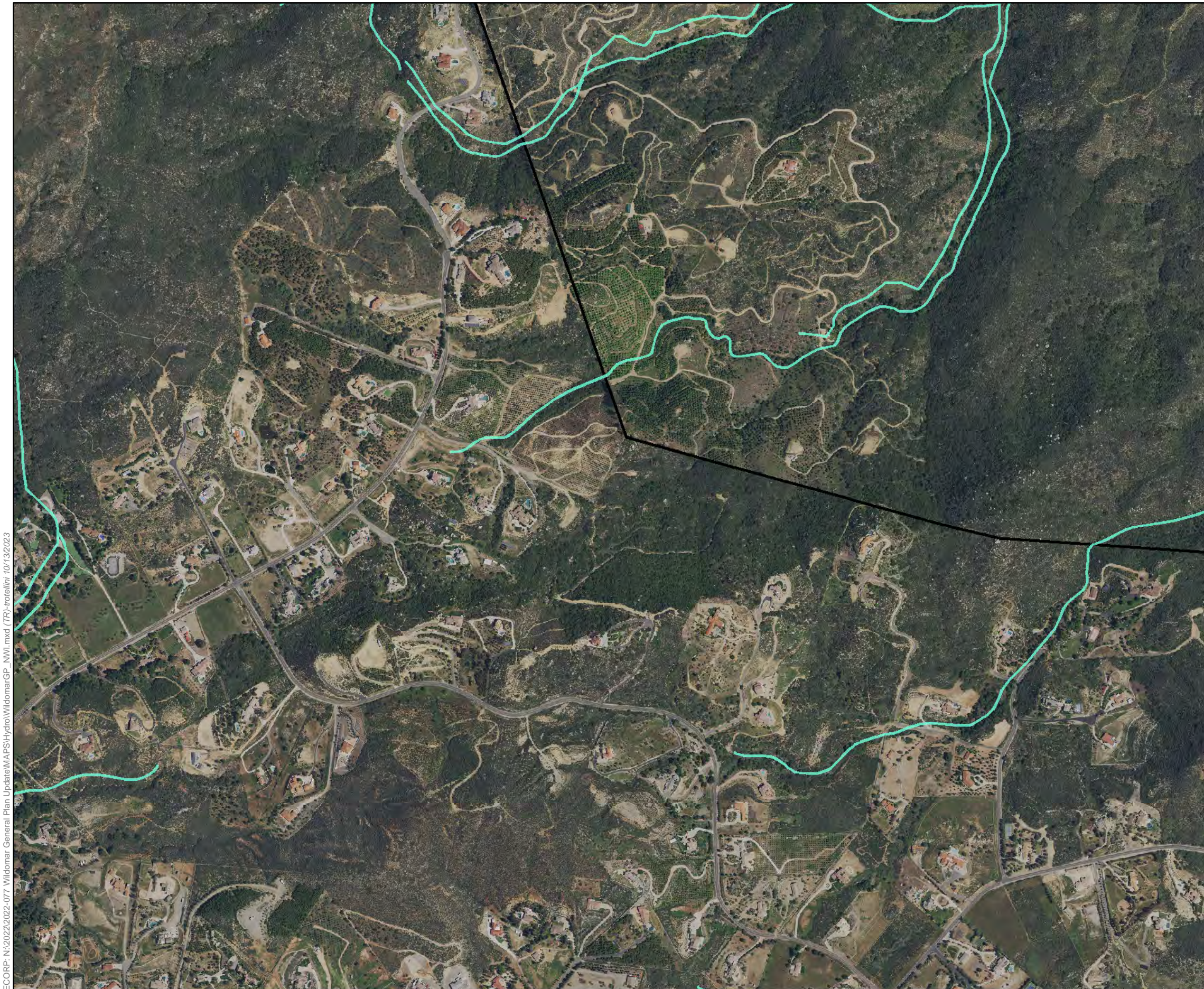
Riverine

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Map Date: 10/13/2023






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Map Date: 10/13/2023








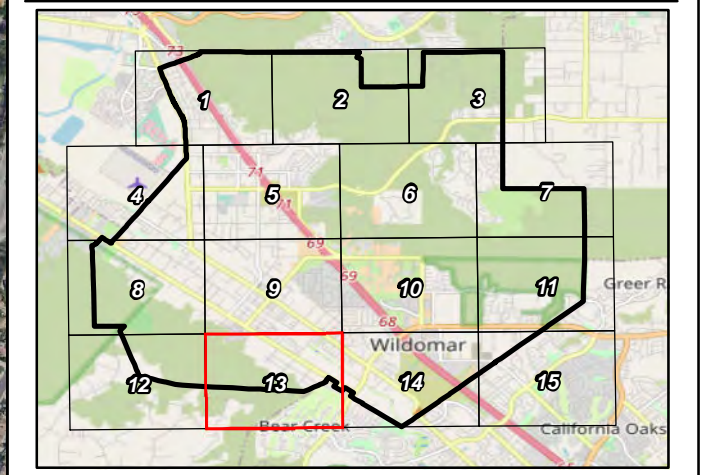
Map Features

-  Wildomar City Limits

NWI Features

-  Freshwater Emergent Wetland
-  Freshwater Pond
-  Riverine

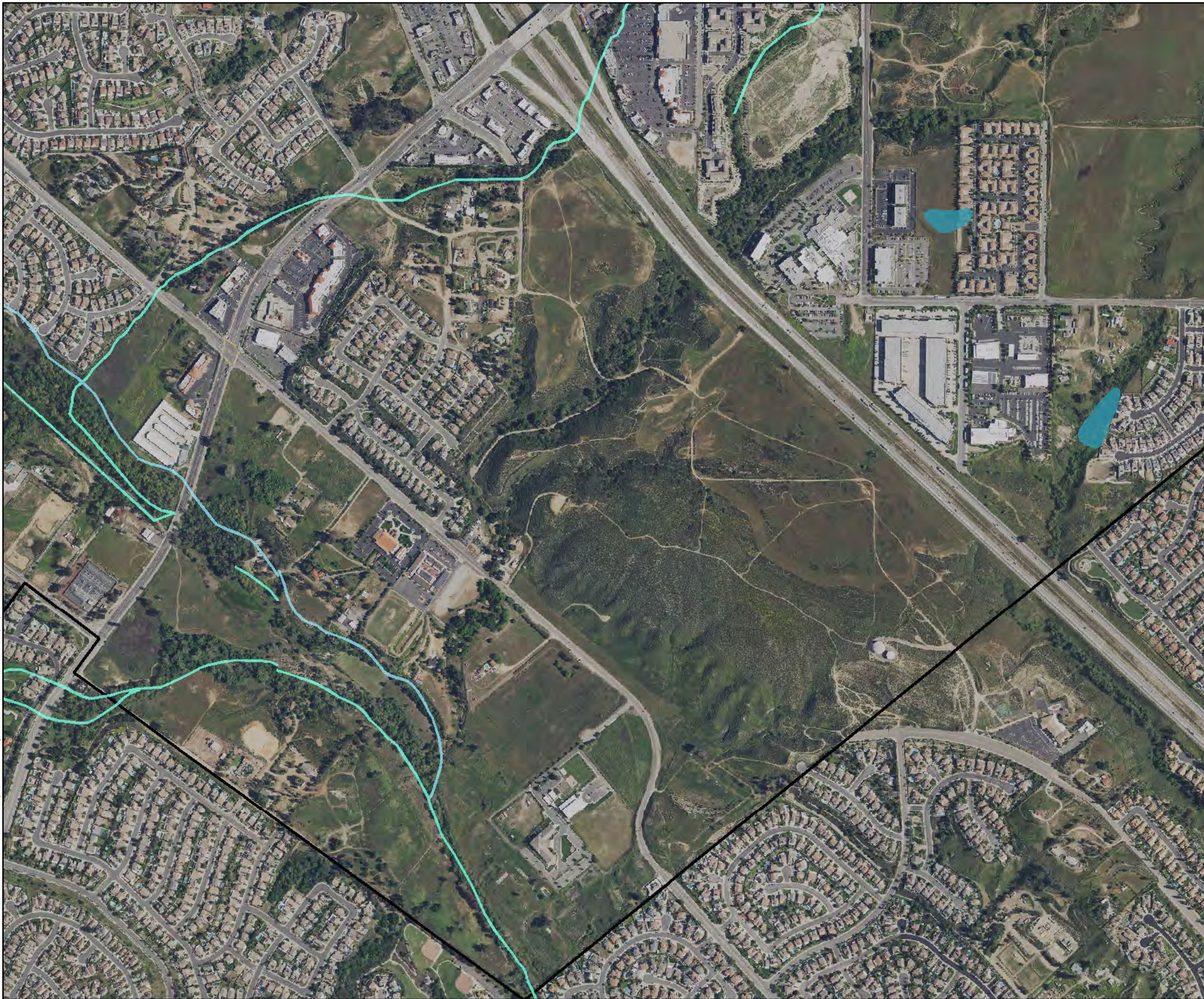
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Map Date: 10/13/2023








Map Features

-  Wildomar City Limits

NWI Features

-  Freshwater Emergent Wetland
-  Freshwater Pond
-  Riverine

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Sources: NAIP (2020), NWI (2020)
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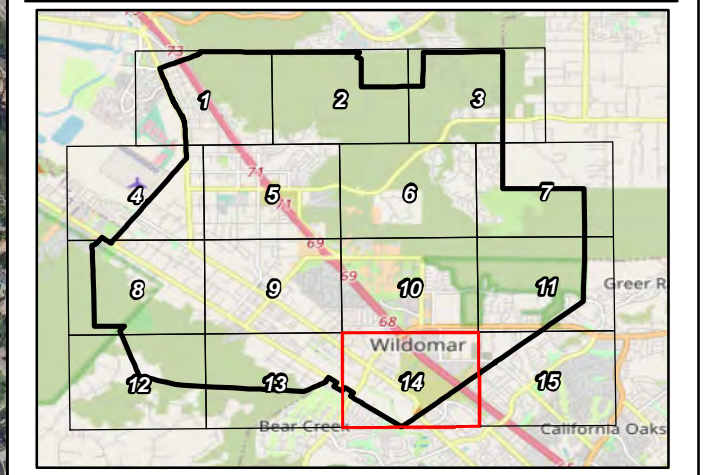
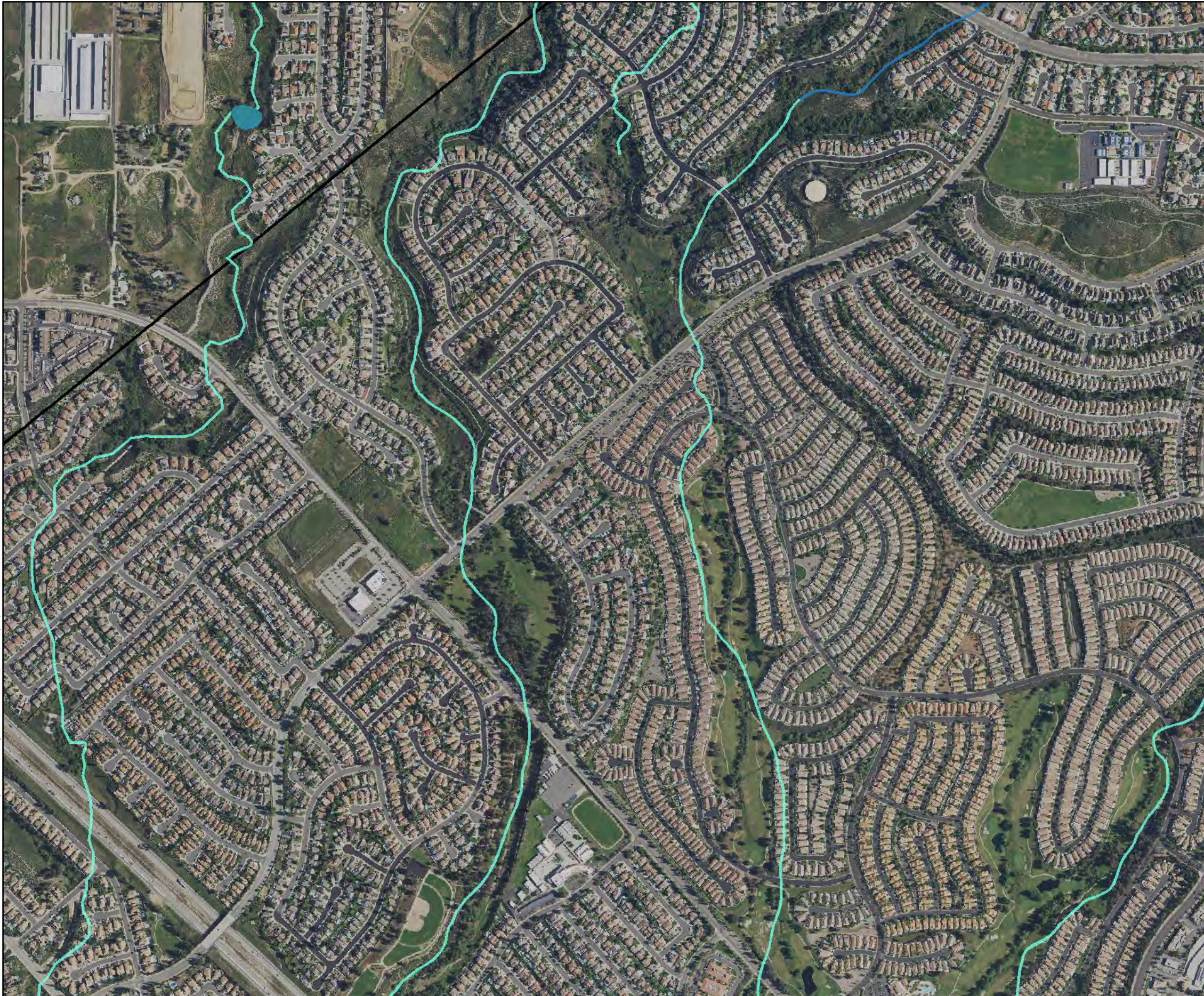






Figure 5. National Wetlands Inventory
Sheet 14 of 15
 2022-077 City of Wildomar GP Update



Map Features

-  Wildomar City Limits

NWI Features

-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Riverine

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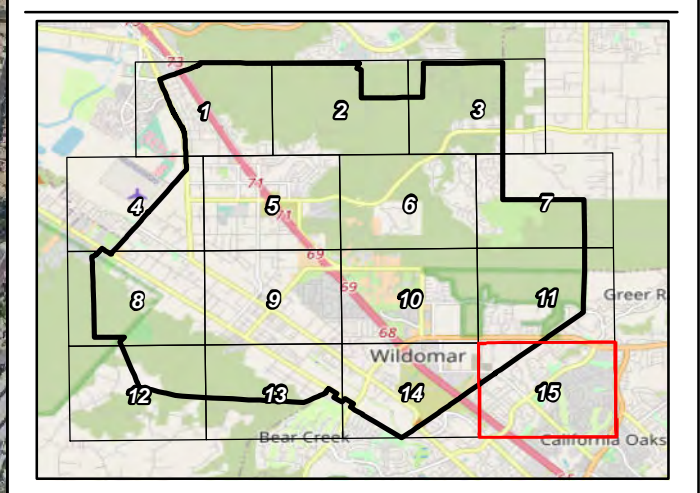


Figure 5. National Wetlands Inventory
Sheet 15 of 15
 2022-077 City of Wildomar GP Update

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Map Date: 10/13/2023

Vernal Pool

Vernal pools are seasonal depressional wetlands that are covered by shallow water throughout periods from winter to spring and then often dry completely by the summer and fall. This habitat can range in size from a small puddle to a shallow lake and they are often connected to drainages. Vernal pools are the home to fairy shrimp species including the endangered Riverside fairy shrimp (*Streptocephalus woottoni*) and other fairy shrimp species (*Branchinecta* sp.).

4.5 Special-Status Species Documented to Occur in the City

For the purpose of this assessment, special-status biological resources are defined as:

- vegetation communities that are unique, or relatively limited distribution, or of particular value to wildlife;
- plant and animal species that have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the federal or California ESAs;
- plant and wildlife species that are considered Sensitive under the United States Forest Service (USFS);
- plant and wildlife species being considered or proposed for listing under the federal or California ESAs; and
- plant and wildlife species that are of expressed concern to resource and regulatory agencies or local jurisdictions.

Note: For the purposes of this report, special-status plant species with a CRPR of 3 or 4 were only included if they are included in the conservation criteria of the MSHCP and wildlife species that are watch list are only included if they are part of conservation criteria in the MSHCP.

4.5.1 Plants

Special-status plant species include those classified as endangered or threatened, proposed or candidate species for listing by the USFWS or CDFW, monitored by CNPS, and considered to be those of greatest conservation need.

A total of 36 special-status plant species were identified through the database searches. An additional four were recognized in the City's Criteria Area Species Survey Areas. Results of the CNDDDB, IPaC, and CNPS database searches are included as Appendix D. Table 5 summarizes the special-status plant species, associated habitats, designated critical habitat within the City, blooming period and elevation, and occurrence information.

The federal ESA establishes critical habitat as a means to contain essential features for threatened or endangered species. Critical habitat requires special management and protection. When designating critical habitat, areas are assessed for if the species occupies the area and if there is space for the individual or population to grow and exhibit normal behavior; the space provides shelter and food resources; the space is adequate for breeding and offspring rearing; and the space contains habitat that

can be protected from disturbances and is representative of the species' geographical range and distribution. No critical habitat for plant species exists within the City.

Plant species listed under federal or California ESAs are discussed in more detail below. Table 5 lists all the special-status plant species (as defined in Section 2.2) that have been documented to occur within the City or may be potentially affected by activities in the City, as identified in the literature review. However, Table 5 should not be considered a complete list of special-status plant species that may occur within the City. Other species not identified in the literature review may occur in the City presently or in the future. This table includes the listing status for each species, typical habitat requirements, typical blooming period across the species' range in California, and general elevation range.

Munz's onion (*Allium munzii*) is a federally listed endangered species, state-listed threatened species, CRPR 1B.1 species, and MSHCP covered species. It is a perennial bulbiferous herb that blooms from March through May. It can be found in a variety of habitats such as chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. It is often found in clay or mesic microhabitats.

San Diego ambrosia (*Ambrosia pumila*) is a federally listed endangered species and CRPR 1B.1 species. It is a perennial rhizomatous herb that blooms April through October. It prefers sandy loam or clay soils and is often found in disturbed areas.

San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) is a federally listed endangered species, CRPR 1B.1 species, and MSHCP covered species. It is an annual herb that blooms from April through August. It can be found in playas, vernal pools, and valley and foothill grasslands. It is often found in alkaline micro habitats.

Thread-leaved brodiaea (*Brodiaea filifolia*) is a federally threatened, state-endangered species, CRPR 1B.1 species, and MSHCP covered species. It is a perennial bulbiferous herb that produces several blue to red-purple flowers on a leafless stalk. The blooming period is March through June. Habitat is in vernal pools and wetlands, but it can also occur in non-wetlands. Urbanization is the most significant threat to the species.

Slender-horned spineflower (*Dodecahema leptoceras*) is a federally endangered, state endangered species, CRPR 1B.1 species, and MSHCP covered species. It is an annual herb that blooms April through June and is found in sandy soil within chaparral, cismontane woodland, and alluvial fan habitat.

San Diego button-celery (*Eryngium aristulatum* var. *parishii*) is a federally endangered, state-listed endangered species, CRPR 1B.1 species, and MSHCP covered species. It is an annual/perennial herb that blooms from April through June. It occurs in coastal scrub, vernal pools, and valley and foothill grasslands. It often occurs in mesic microhabitats.

Parish's meadowfoam (*Limnanthes alba* ssp. *parishii*) is a state-listed endangered species, CRPR 1B.2 species, and MSHCP covered species. It is an annual herb that blooms from April through June. It occurs in lower montane coniferous forests, meadows and seeps, and vernal pools. It often occurs in vernal mesic microhabitats.

Spreading navarretia (*Navarretia fossalis*) is a federally listed threatened species, CRPR 1B.1 species, and MSHCP covered species. It is an annual herb that blooms from April through June. It occurs in a variety of habitats including chenopod scrub, shallow freshwater marshes and swamps, playas, and vernal pools.

California Orcutt grass (*Orcuttia californica*) is a federally listed endangered, state-listed endangered species, CRPR 1B.1 species, and MSHCP covered species. It is an annual herb that blooms from April through August. It occurs in vernal pools.

Table 5. Special-Status Plant Species Identified in the Literature Review				
Common and Scientific Name	Status* Federal/State/ CRPR/USFS/MSHCP	Habitats	Blooming Period	Elevation Range (feet)
Chaparral sand-verbena <i>Abronia villosa</i> var. <i>aurita</i>	None/None/1B.1/S/None	Occurs in chaparral, coastal dune, and desert dunes.	(Jan) Mar–Sep	245–5250
Yucaipa onion <i>Allium marvinii</i>	None/None/1B.2/S/ Covered	Occurs in chaparral and generally in clay soils and openings.	Apr–May	2495–3495
Munz’s onion <i>Allium munzii</i>	END/THR/1B.1/None/ Covered	Occurs in chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, and valley and foothill grasslands.	Mar–May	975–3510
Alkali marsh aster <i>Almutaster pauciflorus</i>	None/None/2B.2/None/ Not Covered	Occurs in meadows and seeps.	Jun–Oct	785–2625
San Diego ambrosia <i>Ambrosia pumila</i>	END/None/1B.1/None/ Covered	Occurs in chaparral, coastal scrub, valley and foothill grassland, and vernal pools.	Apr–Oct	65–1360
Rainbow manzanita <i>Arctostaphylos rainbowensis</i>	None/None/1B.1/S/ Covered	Occurs in chaparral.	Dec–Mar	675–2200
San Jacinto Valley crownscale	END/None/1B.1/None/ Covered	Occurs in playas, valley and foothill grassland, and vernal pools.	Apr–Aug	455–1640

Table 5. Special-Status Plant Species Identified in the Literature Review				
Common and Scientific Name	Status* Federal/State/ CRPR/USFS/MSHCP	Habitats	Blooming Period	Elevation Range (feet)
<i>Atriplex coronata</i> var. <i>notatior</i>				
Parish's brittlescale <i>Atriplex parishii</i>	None/None/1B.1/None/ Covered	Occurs in chenopod scrub, playas, and vernal pools.	Jun–Oct	80–6235
California ayenia <i>Ayenia compacta</i>	None/None/2B.3/None/ Not Covered	Occurs in Mojavean and Sonoran desert scrub.	Mar–Apr	490–3595
Thread-leaved brodiaea <i>Brodiaea filifolia</i>	THR/END/1B.1/None/ Covered	Occurs in chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grasslands, and vernal pools. Often found in clay soils.	Mar–Jun	80–3675
Santa Rosa Basalt brodiaea <i>Brodiaea santarosae</i>	None/None/1B.2/S/ Not Covered	Occurs in valley and foothill grassland.	May–Jun	1855–3430
Intermediate mariposa-lily <i>Calochortus weedii</i> var. <i>intermedius</i>	None/None/1B.2/S/ Covered	Occurs in chaparral, coastal scrub, and valley and foothill grassland.	May–Jul	345–2805
Smooth tarplant <i>Centromadia</i> <i>pungens</i> ssp. <i>laevis</i>	None/None/1B.1/None/ Covered	Occurs in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland.	Apr–Sep	0–2100
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	None/None/1B.1/S/ Covered	Occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland.	Apr–Jun	900–4005

Table 5. Special-Status Plant Species Identified in the Literature Review				
Common and Scientific Name	Status* Federal/State/ CRPR/USFS/MSHCP	Habitats	Blooming Period	Elevation Range (feet)
Long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	None/None/1B.2/None/ Covered	Occurs in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools.	Apr–Jul	100–5020
San Miguel savory <i>Clinopodium chandleri</i>	None/None/1B.2/S/ Covered	Occurs in chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland.	Mar–Jul	395–3525
Slender-horned spineflower <i>Dodecahema leptoceras</i>	END/END/1B.1/None/ Not Covered	Occurs in chaparral, cismontane woodland, and coastal scrub (alluvial fans).	Apr–Jun	655–2495
Many-stemmed dudleya <i>Dudleya multicaulis</i>	None/None/1B.2/S/ Covered	Occurs in chaparral, coastal scrub, and valley and foothill grassland.	Apr–Jul	50–2590
San Diego button-celery <i>Eryngium aristulatum</i> var. <i>parishii</i>	END/END/1B.1/None/ Covered	Occurs in coastal scrub, valley and foothill grassland, and vernal pools.	Apr–Jun	65–2035
Campbell’s liverwort <i>Geothallus tuberosus</i>	None/None/1B.1/None/ Not Covered	Occurs in coastal scrub and vernal pools.	–	35–1970
Palmer’s grapplinghook <i>Harpagonella palmeri</i>	None/None/4.2/None/ Covered	Occurs in chaparral, coastal scrub, and valley and foothill grassland.	Mar–May	65–3135

Table 5. Special-Status Plant Species Identified in the Literature Review				
Common and Scientific Name	Status* Federal/State/ CRPR/USFS/MSHCP	Habitats	Blooming Period	Elevation Range (feet)
Tecate cypress <i>Hesperocypris forbesii</i>	None/None/1B.1/S/ Not Covered	Occurs in closed-cone coniferous forest and chaparral.	–	360–4920
Santa Lucia dwarf rush <i>Juncus luciensis</i>	None/None/1B.2/S/ Not Covered	Occurs in chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools.	Apr–Jul	985–6695
Coulter’s goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	None/None/1B.1/None/ Covered	Occurs in marshes and swamps, playas, and vernal pools.	Feb–Jun	5–4005
Lemon lily <i>Lilium parryi</i>	None/None/1B.2/S/ Covered	Occurs in lower and upper montane coniferous forest, meadows and seeps, and riparian forest.	Jul–Aug	4005–9005
Parish’s meadowfoam <i>Limnanthes alba</i> ssp. <i>parishii</i>	None/END/1B.2/S/ Covered	Occurs in lower montane coniferous forest, meadows and seeps, and vernal pools.	Apr–Jun	1970–6560
Intermediate monardella <i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	None/None/1B.3/None/ Not Covered	Occurs in chaparral, cismontane woodland, and lower montane coniferous forest.	Apr–Sep	1310–4100
Little mousetail <i>Myosurus minimus</i> ssp. <i>apus</i>	None/None/3.1/None/ Covered	Occurs in valley and foothill grassland and vernal pools.	Mar–Jun	65–2100
Spreading navarretia <i>Navarretia fossalis</i>	THR/None/1B.1/None/ Covered	Occurs in chenopod scrub, marshes and swamps, playas, and vernal pools.	Apr–Jun	100–2150

Table 5. Special-Status Plant Species Identified in the Literature Review				
Common and Scientific Name	Status* Federal/State/ CRPR/USFS/MSHCP	Habitats	Blooming Period	Elevation Range (feet)
Prostrate vernal pool navarretia <i>Navarretia prostrata</i>	None/None/1B.2/None/ Covered	Occurs in coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools.	Apr–Jul	10–3970
California Orcutt grass <i>Orcuttia californica</i>	END/END/1B.1/None/ Covered	Occurs in vernal pools.	Apr–Aug	50–2165
White rabbit-tobacco <i>Pseudognaphalium leucocephalum</i>	None/None/2B.2/None/ Not Covered	Occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	(Jul) Aug–Nov (Dec)	0–6890
Southern mountains skullcap <i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	None/None/1B.2/S/ Not Covered	Occurs in chaparral, cismontane woodland, and lower montane coniferous forest.	Jun–Aug	1395–6560
Hammitt’s clay-cress <i>Sibaropsis hammittii</i>	None/None/1B.2/S/ Covered	Occurs in chaparral openings and valley and foothill grasslands.	Mar–Apr	2360–3495
Bottle liverwort <i>Sphaerocarpos drewiae</i>	None/None/1B.1/None/ Not Covered	Occurs in chaparral and coastal scrub.	–	295–1970
San Bernardino aster <i>Symphotrichum defoliatum</i>	None/None/1B.2/S/ Not Covered	Occurs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothills grasslands.	Jul–Nov	5–6695

Table 5. Special-Status Plant Species Identified in the Literature Review				
Common and Scientific Name	Status* Federal/State/ CRPR/USFS/MSHCP	Habitats	Blooming Period	Elevation Range (feet)

*Status Codes:

Federal

- END = Listed as endangered under the federal Endangered Species Act
- THR = Listed as threatened under the federal Endangered Species Act
- CAN = Candidate for threatened or endangered status
- None = No listing under the Federal Endangered Species Act

State

- END = Listed as endangered under the California Endangered Species Act
- THR = Listed as threatened under the California Endangered Species Act
- FP = Fully protected under the California Fish and Game Code
- SSC = Species of special concern in California
- None = No listing under the California Endangered Species Act

CNPS Rare Plant Rank (CRPR) Status Designations

- 1A = Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
- 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A = Plants Presumed Extirpated in California, But Common Elsewhere
- 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3 = Plants about which more information is needed; a review list
- 4 = Plants of limited distribution; a watch list

CRPR List .1, .2, and .3 Extension Meanings:

- .1 = Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
- .2 = Moderately threatened in California (20 to 80 percent occurrences threatened / moderate degree and immediacy of threat)
- .3 = Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

United States Forest Service (USFS)

- S = Listed as sensitive under the United States Forest Service
- None = No listing under the United States Forest Service

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

- Covered = Covered Species
- Not Covered = Not covered species

If a proposed project has the potential to adversely impact plants (e.g., a ground or vegetation-disturbing activity), determine if the proposed project occurs within a Section 6.1.3 Narrow Endemic Plant Species Survey Area (NEPSSA) and Section 6.3.2 Criteria Area Plant Species Survey Area (CAPSSA). If the proposed project is not located within a NEPSSA or CAPSSA, no further action is required. If a proposed project is located within a NEPSSA and/or CAPSSA, the project will comply with the MSHCP requirements.

4.5.2 Wildlife

Special-status wildlife species include those classified as endangered or threatened, proposed or candidate species for listing by the USFWS or CDFW, USFS Sensitive, or considered a CDFW fully protected species or SSC.

A total of 42 special-status wildlife species known to occur in the vicinity of the City were identified through the database review. Table 6 summarizes the special-status wildlife, associated habitats, and any designated critical habitat within the City.

The federal ESA establishes critical habitat as a means to contain essential features for threatened or endangered species. Critical habitat requires special management and protection. When designating critical habitat, areas are assessed for if the species occupies the area and if there is space for the individual or population to grow and exhibit normal behavior; the space provides shelter and food resources; the space is adequate for breeding and offspring rearing; and the space contains habitat that can be protected from disturbances and is representative of the species' geographical range and distribution. Within the City, critical habitat for coastal California gnatcatcher exists (Figure 2B). Wildlife species listed or proposed for listing under the federal or California ESAs are discussed in more detail below.

Table 6 lists all the special-status wildlife species that have been documented to occur within the City or may be potentially affected by activities in the City, as identified in the literature review. However, Table 6 should not be considered a complete list of special-status wildlife species that may occur within the City. Other species not identified in the literature review may occur in the City presently or in the future.

Included in this table are the listing status for each species and preferred habitats.

- Crotch bumble bee (*Bombus crotchii*) is a candidate for state listing. This species occurs in open grassland and scrub habitats ranging from coastal California, east to the Sierra-Cascade crest, and south into Mexico. The flight period for queens in California is from late February to late October, peaking in early April with a second pulse in July. The flight period for workers and males in California is from late March through September, peaking in early July. The species prefers a diet consisting of certain plant species including milkweeds (*Asclepias* sp.), dusty maidens (*Chaenactis* sp.), lupines (*Lupinus* sp.), medics (*Medicago* sp.), phacelias (*Phacelia* sp.), sages (*Salvia* sp.), clarkias (*Clarkia* sp.), poppies (*Papaver* sp. or *Eschscholzia* sp.), and wild buckwheat (*Eriogonum* sp.).
- Vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally threatened species and MSHCP covered species. This species is a small, freshwater crustacean found in vernal pools throughout California. They have slender bodies with 11 pairs of legs that function as gills and aid in swimming. They are opportunistic filter feeders. Females carry fertilized eggs in a sac on the underside of their body. Resting fairy shrimp eggs are known as cysts and can remain viable for multiple years within dry pools. The average lifespan is 91 days. They generally begin their lifecycle in November and complete their entire life cycle by early May; this depends on the presence of suitable water conditions within vernal pools.
- San Diego fairy shrimp (*Branchinecta sandiegonensis*) is a federally endangered species and MSHCP covered species. This species is usually observed from January to March if seasonal rainfall creates vernal pools and initiates cysts hatching. This species has compound eyes similar to the vernal pool fairy shrimp. They are distinguished from other *Branchinecta* fairy shrimp by the shape of the second antenna in the males or the shape and length of the ventral ovisac in

females. They are also distinguished by a pair of dorsolateral spines. Cysts hatch and mature within 7 to 14 days of vernal pools arising.

- Monarch butterfly- California overwintering population (*Danaus plexippus* pop. 1) is a federally candidate species. They are found primarily in prairies, meadows, grasslands, and along roadsides. Adult butterflies drink nectar from a variety of flowers, however, milkweed is an essential food for growing larvae.
- Quino checkerspot butterfly (*Euphydryas editha quino*) is a federally endangered species and MSHCP covered species. Orange, black, and white arranged in a checkerboard pattern is characteristic of this species. It has a black body with orange antennae. This species requires specific host plants. Host plants include dwarf plantain (*Plantago erecta*), white snapdragon (*Antirrhinum coluterianum*), woolly plantain (*Plantago patagonica*), and Chinese houses (*Collinsia concolor*).
- Riverside fairy shrimp (*Streptocephalus woottoni*) is a federally endangered species and MSHCP covered species. They typically occur in vernal pools and other basins that hold water for sufficient periods (i.e., 7 to 8 weeks) to allow for completion of its lifecycle. This species is observed from January through March.
- Arroyo toad (*Anaxyrus californicus*) is a federally endangered species, CDFW SSC species, and MSHCP covered species. It is found in low-gradient streams and rivers that have intermittent and perennial flows. This toad is small, stocky, and warty; it is 2 to 3 inches in length. Color is a light olive green, gray, or light brown with a light "V" shaped stripe across the head, eyelids, and spots. Belly is white or buff colored and generally without spots.
- California red-legged frog (*Rana draytonii*) is a federally threatened species, CDFW SSC species, and MSHCP covered species. It is also listed as an SSC under CDFW. It is the largest native frog in the western U.S. ranging from 1.75 to 5.25 inches (snout to vent). Color, from above, can range from brown, gray, olive, red, to orange. Dark specks of spots are along the back. From the eye to the hip, on both sides of the back, is a dorsolateral fold or ridge.
- Swainson's hawk (*Buteo swainsoni*) is a state-listed threatened species and MSHCP covered species. It is also a BCC under USFWS and a sensitive species under the Bureau of Land Management. This hawk is medium sized with longer, pointed wings that curve upward in flight. This species has three morphs that vary in coloration: light, intermediate, and dark. They can be found around the riparian systems but also can be found in agricultural fields and pastures.
- Western snowy plover (*Danaus plexippus* pop. 1) is a federally threatened species and CDFW SSC species. They are primarily found in open, sandy areas adjacent to water. Breeding season occurs from March through September. Nests are made on the ground and made of various materials. Nonbreeding adults and immatures have a brown-gray back with white belly. Breeding adults develop stronger black coloration around the face near the shoulders, eyes, and forehead.
- Southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally and state-listed endangered species and MSHCP covered species. This flycatcher has a grayish-green back and

wings, white throat, gray olive breast and pale yellow belly. During its breeding season, it can be found near riparian forests.

- Coastal California gnatcatcher (*Polioptila californica californica*) is a federally listed threatened species and MSHCP covered species. It is also an SSC under CDFW. It is a small blue-gray songbird that has dark blue gray feathers on its back and grayish white on its underside. The wings are brown in color, and the tail is mostly black with white outer tail feathers. They have a white ring around the eyes. They prefer coastal sage scrub and desert scrub.

4.5.2.1 Critical Habitat

The USFWS designated Critical Habitat for coastal California gnatcatcher in 2000 and revised the designated Critical Habitat in 2007. Critical habitat exists within Riverside County and within the City for the coastal California gnatcatcher (Figure 2B). Critical habitat is located south and southeast of Bundy Canyon within the City. Furthermore, critical habitat is located immediate north of the City and just east of Lake Elsinore. Unit 10 exists within both San Bernardino and Riverside Counties. The 2007 revision of the critical habitat reduced the original 199,940 acres designated in 2000 to 27,529 acres. Of the total acres in this Unit, 21,776 acres are within the MSHCP plan area.

- Least bell's vireo (*Vireo bellii pusillus*) is a state and federally listed endangered species and MSHCP covered species. This species prefers dense shrub habitats including scrub oak, riverine scrub, saltcedar stands, and coastal chaparral. The least bell's vireo is gray/brown above and white below. It has a faint outline around the eyes.
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is a state and federally listed endangered species and a CDFW SSC. This species is also an MSHCP covered species. This species' preferred habitat is alluvial fan sage scrub. It is one of three recognized subspecies of *Dipodomys merriami* and the only one with four toes.
- Stephens' kangaroo rat (*Dipodomys stephensi*) is a federally endangered, state threatened species, and MSHCP covered species. It can be found in arid and semi-arid habitats. Stephens' kangaroo rats have tails that can be twice as long as the body. They have light brown fur that is lighter on the legs and along the ventral surface.

Table 6. Special-Status Wildlife Species Identified in the Literature Review		
Common and Scientific Name	Status* Federal/State/ USFS/MSHCP	Habitats
Invertebrates		
Crotch bumble bee <i>Bombus crotchii</i>	None/CAN/None/Not Covered	Found in coastal California east to the Sierra-Cascade crest and south into Mexico. Occurs in open grassland and scrub habitats. Prefers a diet consisting of certain plant species including milkweeds, dusty maidens, lupines, medics, phacelias, sages, clarkias, poppies, and wild buckwheats. Nests are often located underground in abandoned rodent nests or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	THR/None/None/Not Covered	Occurs in vernal pools and ephemeral wetlands. Typically occurs in small and shallow pools with mud or grassy bottoms.
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	END/None/None/Not Covered	Occurs in vernal pools and non-vegetated ephemeral basins.
Monarch butterfly <i>Danaus plexippus plexippus</i> pop. 1	CAN/None/S/Not Covered	Roosts in wind-protected tree groves (coastal California conifer and eucalyptus species) from Northern Mendocino to Baja California. Milkweed is essential for the larvae of this species.
Quino checkerspot butterfly <i>Euphydryas editha quino</i>	END/None/None/ Covered	Occurs in chaparral and coastal sage scrublands, containing the proper host plant and abundant nectar resources. Primary host plants include dwarf plantain (<i>Plantago erecta</i>), white snapdragon (<i>Anterrhinum coulterianum</i>), woolly plantain (<i>Plantago patagonica</i>), and Chinese houses (<i>Collinsia concolor</i>)
Santa Rosa Plateau fairy shrimp <i>Linderiella santarosae</i>	None/None/None/ Covered	Occurs in cool-water vernal pools that are formed from Southern Basalt Flows.
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	END/None/None/ Covered	Occurs in vernal pools, tectonic swales, and earth slump basins in Riverside County.

Table 6. Special-Status Wildlife Species Identified in the Literature Review		
Common and Scientific Name	Status* Federal/State/USFS/MSHCP	Habitats
Fish		
Arroyo chub <i>Gila orcuttii</i>	None/SSC/S/ Covered	Occurs in creeks, streams, and rivers with areas of slow-moving water with sand or mud bottoms. Ranges from San Diego to San Luis Obispo county.
Amphibians		
Arroyo toad <i>Anaxyrus californicus</i>	END/SSC/None/ Covered	Occurs along the sandy banks of rivers, arroyos, and streams with shallow sandy pools. Also found in riparian woodlands or uplands adjacent to arroyos.
California red-legged frog <i>Rana draytonii</i>	THR/SSC/None/ Covered	Occurs near water features such as ponds or streams in humid forests, grasslands, coastal scrub, and woodlands.
Western spadefoot <i>Spea hammondi</i>	None/SSC/None/ Covered	Occurs in open areas with sandy soils in a wide range of habitats including lowlands to foothills, coastal sage scrub, chaparral, mixed woodlands, alluvial fans, and grasslands.
Coast Range newt <i>Taricha torosa</i>	None/SSC/None/ Covered	Occurs in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, it will occur in drier chaparral, oak woodland, and grasslands. Eggs are laid or attached by the female to submerged vegetation, logs, or rocks.
Reptiles		
Southern California legless lizard <i>Anniella stebbinsi</i>	None/SSC/S/Not Covered	Occurs in coastal sand dunes, scrubs, chaparral, and a variety of interior habitats, including sandy washes and alluvial fans.
California glossy snake <i>Arizona elegans occidentalis</i>	None/SSC/None/Not Covered	Occurs in arid scrub, rocky washes, grasslands, chaparral. Typically in open areas and areas with loose soil for burrowing.
Orange-throated whiptail <i>Aspidoscelis hyperythra</i>	None/None/S/ Covered	Occurs in semi-arid open areas with coarse soils including coastal sage scrub, chaparral, and dry riparian areas and washes.

Table 6. Special-Status Wildlife Species Identified in the Literature Review		
Common and Scientific Name	Status* Federal/State/ USFS/MSHCP	Habitats
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	None/SSC/None/ Covered	Occurs in arid habitats including chaparral, woodlands, and dry riparian areas.
Red-diamond rattlesnake <i>Crotalus ruber</i>	None/SSC/S/ Covered	Occurs in coastal chaparral, arid scrub, rocky grassland, oak and pine woodlands, desert mountain slopes, and rocky desert flats.
Western pond turtle <i>Emys marmorata</i>	None/SSC/S/ Covered	Occurs in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with abundant vegetation. Also occurs in either rocky or muddy bottoms of these aquatic environments. Can also occur in woodland, forest, and grassland habitats.
Blainsville's horned lizard <i>Phrynosoma blainvillii</i>	None/SSC/None/ Covered	Occurs in open areas of valleys, foothills, and semiarid mountains with sandy soil and low vegetation including chaparral, woodlands, and grasslands.
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	None/SSC/None/Not Covered	Occurs in open arid and semi-arid areas such as deserts, brushland, grassland, and in scrub along canyons, rocky hillsides, sandy plains.
Two-striped gartersnake <i>Thamnophis hammondi</i>	None/SSC/S/Not Covered	Occurs along aquatic habitats such as creeks and pools with rocky areas in chaparral, brushland, oak woodlands, and conifer forests. Requires water for foraging.
Birds		
Cooper's hawk <i>Accipiter cooperii</i>	None/None/None/ Covered	Occurs within forests and woodlands. Also occurs in neighborhoods and parks. Nests are typically built in pines, oaks, Douglas-fir, birches, spruces, and other taller trees that occur on flat ground and in dense woods.
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	None/None/None/ Covered	Occurs on dry, open hillsides covered with grasses, rocks, and scattered shrubs. Chaparral, coastal sagebrush, scrub oaks, and pinyon pine are common habitats. Not associated with dense, woody vegetation. Nests are built on the ground near the base of a shrub.

Table 6. Special-Status Wildlife Species Identified in the Literature Review		
Common and Scientific Name	Status* Federal/State/ USFS/MSHCP	Habitats
Golden eagle <i>Aquila chrysaetos</i>	None/FP/None/ Covered	Occurs in open and semi-open habitats. Found alongside canyonlands, rimrock terrain, and riverside cliffs and bluffs. They avoid developed areas and uninterrupted stretches of forest. Nesting occurs on cliffs but can occur in trees, on the ground, or in artificial structures. Nesting can also occur in grassland, chaparral, shrubland, forest, and other vegetated areas.
Bell's sparrow <i>Artemisiospiza belli belli</i>	None/None/None/ Covered	Breeding occurs in coastal sagebrush, chaparral, and open, scrubby habitats. Within chaparral, they are often found in young, less dense stands. Nesting occurs within shrubs, bunchgrasses and occasionally California sagebrush, brittlebush, white sage, black sage, California buckwheat, bush mallow, chamise, cholla, and willow. During winter they will utilize saltbush-dominated desert scrub and creosote.
Burrowing owl <i>Athene cunicularia</i>	None/SSC/None/ Covered	Occurs in a variety of habitats characterized by dry annual or perennial low-growing vegetation. Occurs in grasslands, scrublands, agricultural fields, vacant lots, and other disturbed areas. Nests in abandoned burrows and requires an abundance of prey (e.g., ground squirrels and insects).
Swainson's hawk <i>Buteo swainsoni</i>	None/THR/None/ Covered	Occurs in great basin grassland, great basin scrub, pinyon and juniper woodlands and valley and foothill grasslands.
Western snowy plover <i>Charadrius nivosus nivosus</i>	THR/SSC/None/Not Covered	Occurs in sand spits and dune-backed beaches.
White-tailed kite <i>Elanus leucurus</i>	None/FP/None/Not Covered	Occurs in low elevation, open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Typically use riparian scrub, forest and woodland, and oak woodland and forest for breeding and use a wide variety of more open grassland/agricultural land and scrub lands for foraging. Nesting occurs in the upper third of trees; trees can be isolated or at the edge of or within a forest.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	END/END/None/ Covered	Occurs within riparian woodlands, particularly those with willow thickets. Nests in areas of shrubs and trees with low-density canopies.

Table 6. Special-Status Wildlife Species Identified in the Literature Review		
Common and Scientific Name	Status* Federal/State/ USFS/MSHCP	Habitats
California horned lark <i>Eremophila alpestris actia</i>	None/None/None/ Covered	Occurs in areas with bare, dry ground or with sparse vegetation. Common habitats include beaches, heavily grazed pastures, and deserts. They are common in areas with signs of human disturbance. Nests are placed on bare ground.
Yellow-breasted chat <i>Icteria virens</i>	None/SSC/None/ Covered	Occurs in riparian and upland thickets as well as dry overgrown pastures. Prefers to nest in dense scrub along streams or at the edges of ponds or swamps.
Loggerhead shrike <i>Lanius ludovicianus</i>	None/SSC/None/ Covered	Occurs in open country, with scattered shrubs and trees or other perches for hunting. Common habitats include agricultural fields, deserts, grasslands, savanna, and chaparral.
White-faced ibis <i>Plegadis chihi</i>	None/None/None/ Covered	Occurs in freshwater habitats such as ponds, rivers, marshes, and swamps. Nests in low trees or on the ground within reeds in marshes.
Coastal California gnatcatcher <i>Polioptila californica californica</i>	THR/SSC/None/ Covered	Occurs in dry coastal slopes, washes, and mesas with areas of low vegetation and coastal sage scrub. USFWS-designated critical habitat for this species is located within the City.
Least Bell's vireo <i>Vireo bellii pusillus</i>	END/END/None/ Covered	Occurs within willows and riparian forest, scrub, and woodlands. Breeds in low dense growth, especially in second-growth scrub or brushy fields.
Mammals		
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	END/END and SSC/None/ Covered	Occurs in alluvial sage scrub, flood plains, washes, and upland areas adjacent to desert habitat.
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	THR/THR/None/ Covered	Occurs in coastal scrub and valley and vegetated temperate foothill grasslands. Endemic to southern California, primarily in western Riverside County.

Table 6. Special-Status Wildlife Species Identified in the Literature Review		
Common and Scientific Name	Status* Federal/State/ USFS/MSHCP	Habitats
Western mastiff bat <i>Eumops perotis californicus</i>	None/SSC/None/Not Covered	Occurs in a variety of habitats including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas.
Western yellow bat <i>Lasiurus xanthinus</i>	None/SSC/None/Not Covered	Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitat.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	None/SSC/None/Not Covered	Occurs in arid Mojavean desert habitats, alkali desert scrub, succulent shrub, wash, and riparian areas. Also occurs in coastal scrub, mixed chaparral, sagebrush, and bitterbrush habitats.
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	None/SSC/None/ Covered	Occurs in arid and semi-arid habitats such as coastal sage scrub, grasslands, and washes.

***Status Codes:**

Federal

- END = Listed as endangered under the federal Endangered Species Act
- THR = Listed as threatened under the federal Endangered Species Act
- CAN = Candidate for threatened or endangered status
- None = No listing under the Federal Endangered Species Act

State

- END = Listed as endangered under the California Endangered Species Act
- THR = Listed as threatened under the California Endangered Species Act
- FP = Fully protected under the California Fish and Game Code
- SSC = Species of special concern in California
- None = No listing under the California Endangered Species Act

United States Forest Service (USFS)

- S = Listed as sensitive under the United States Forest Service
- None = No listing under the United States Forest Service

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

- Covered = Covered Species
- Not Covered = Not covered species

4.6 Critical Habitat and Essential Fish Habitat

The City does not include Essential Fish Habitat; however, it does include USFWS-designated Critical Habitat for coastal California gnatcatcher (USFWS 2023c; Figure 2B).

4.7 Riparian Habitats and Sensitive Natural Communities

Sensitive habitat types exist throughout the City. These are considered sensitive by resource agencies such as USFWS and CDFW due to their scarcity or ability to support state or federally endangered or threatened species of plants and wildlife. A CNDDDB search was conducted and recorded five sensitive natural vegetation communities within or near the City (Appendix D). Individual project surveys would be required to conduct project-level mapping to determine the extent of sensitive vegetation communities within the City. A description of each sensitive natural community is included below with the natural community's name identified through CNDDDB followed by the comparable vegetation alliance name found in *Manual of California Vegetation* (CNPS 2023b), when applicable. It is important to note that the vegetation communities and land cover types shown on Figure 4 were mapped by Western Riverside County RCA and may not include these five sensitive natural vegetation communities that were identified in the CNDDDB.

Southern Coast Live Oak Riparian Forest/*Quercus agrifolia* Forest & Woodland Alliance ranges from open to dense and is dominated by coast live oak. It is located in outer floodplains and along streams. Vegetation tends to be herbaceous with little to no understory. Common plants include mugwort (*Artemisia douglasiana*), California wild rose (*Rosa californica*), Mexican elderberry (*Sambucus mexicana*), and poison oak (*Toxicodendron diversilobum*).

Southern Cottonwood Willow Riparian Forest/*Populus fremontii*-*Fraxinus velutina*-*Salix gooddingii* Forest & Woodland Alliance consists of tall, open, deciduous riparian forest species with Fremont cottonwood (*Populus fremontii*), western sycamore, and willows (*Salix* spp.) as the predominant tree species. Commonly occurs near perennial drainages such as canyon bottoms and along streams.

Southern Interior Basalt Flow Vernal Pool does not have a comparable alliance in CNPS due to the location of the City. However, NatureServe (2022) does have a Group called California Vernal Pool that may most closely describe the Southern Interior Basalt Flow Vernal Pool. This group consists of wet meadows throughout southern California that form concentric rings around shallow ephemeral pools. These pools fill and dry out seasonally or semi-annually. Plant species common to this group include Jepson's button celery (*Eryngium aristulatum*), southern tarplant (*Centromadia parryi* ssp. *australis*), Coulter goldfields (*Lasthenia glabrata* ssp. *coulteri*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), San Diego mesa mint (*Pogogyne abramsii*), Otay mesa mint (*Pogogyne nudiuscula*), and San Jacinto bluecurls (*Trichostema austromontanum*).

Southern Sycamore Alder Riparian Woodland/*Platanus racemosa*-*Quercus agrifolia* Woodland Alliance consists of trees less than 35 meters with an intermittent or open canopy. The shrub layer is also open to intermittent while the herbaceous layer is sparse or grassy. Western sycamore makes up about 30 percent of the tree canopy; coast live oak, willows (*Salix* spp.), and Fremont cottonwood are co-dominant species. Along riparian areas, coast live oak is the dominant cover along with willows and poison oak.

Valley Needlegrass Grassland/*Nassella* spp.- *Melica* spp. Herbaceous Alliance consists of herbs that are less than one meter in height and that provide open to continuous coverage. Dominant species include California melic (*Melica californica*), Torrey's melic grass (*Melica torreyana*), nodding needlegrass (*Nassella cernua*), small flowered needlegrass (*Nassella lepida*), and purple needlegrass (*Nassella pulchra*). Soils are high in clay, loam, sand, or silt.

As described in Section 4.3, the general vegetation communities and land cover types within the City include agricultural lands, chaparral, coastal sage scrub, grassland, meadows and marshes, riparian scrub, woodland, and forests, water, woodland and forests, and developed/disturbed areas. These general vegetation communities and land cover types can be more finely classified into vegetation alliances. Further, these general communities have the potential to be composed of vegetation alliances, which may be considered sensitive natural communities by CDFW. The City likely includes vegetation communities other than those described in this assessment that may also be considered sensitive natural communities by CDFW.

4.8 Wildlife Movement/Corridors and Nursery Sites

The continued protection and establishment of wildlife corridors is highly important to the City. As development continues and habitat fragments, it becomes harder for wildlife to travel between these fragments of their habitat. Wildlife corridors are linear landscape elements that provide for wildlife species movement and dispersal between two or more habitats. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local displacement or ecological catastrophes (e.g., fires). Wildlife corridors could be bound by development or areas unsuitable for wildlife, but could contain enough food, cover, and/or water to facilitate wildlife movement between habitat patches and prevent isolation of populations. Travel routes are landscape features (i.e., ridgelines, drainages, canyons, or riparian areas) that are used by wildlife to gain access to essential resources. Areas adjoining two habitats are also often referred to as habitat linkages.

Wildlife corridors can exist throughout the City and projects should include an analysis of wildlife corridors and nursery sites. A large expanse of natural habitat within the City exists at the foothills of the Cleveland National Forest. However, due to development within the City, movement from the City into the Cleveland National Forest and vice versa, is limited. The City is highly developed, and I-15 bisects the City as it runs generally north-south and further limits the success of wildlife dispersal.

An additional movement corridor exists in the form of Murrieta Creek. Creeks and drainages often provide wildlife with ways to move throughout developed landscapes. Additionally, the San Andreas Rift Zone is within and adjacent to the City and provides unique topographical characteristics, microclimates, and habitats that allow for linkage of habitats and can facilitate movement.

The development of the MSHCP included an assessment of core habitat areas and linkages within the MSHCP plan area; these core habitats and linkages provide suitable habitat for Covered Species and allow movement throughout the plan area. Areas of core habitat generally consists of blocks of habitat of sufficient size to support the life history requirements of Covered Species or reduce edge effects. Linkages primarily facilitate movement and provide a connection to core habitat. Within the City, Criteria Cells

reference the preservation or contribution to the assembly of Proposed Linkage 8 and Proposed Extension of Existing Core 3. A summary of these as they relate to the City and facilitate wildlife movement is provided below:

- Proposed Linkage 8 consists primarily of upland habitat and is a major component of one of the two main east-west connections between Lake Mathews/Estelle Mountain, Alberhill, and the Cleveland National Forest in the west and French Valley, Johnson Ranch, Diamond Valley Lake, and San Jacinto Mountains in the east. This linkage begins on the west side of the I-15 near Lake Elsinore which is north of the City. It then continues south, parallel to the I-15, through the City until moving east toward Diamond Valley Lake. This linkage provides movement corridors and habitat for sensitive wildlife species such as coastal California gnatcatcher, Quino checkerspot butterfly, and Stephens' kangaroo rat. A total of 5,470 acres are included in this linkage.
- Proposed Extension of Existing Core 3 consists of two blocks of land that extend from the southern border of Lake Elsinore. This Extension occurs in the northeastern portion of the City. This Extension conserves soils of the Traver series and therefore protects habitat for Narrow Endemic Plants including Munz's onion, San Diego ambrosia, and smooth tarplant. Sensitive wildlife species are also associated with this Extension and include Riverside fairy shrimp, Quino checkerspot butterfly, western pond turtle, and shorebirds. A total of 1,290 acres are included in this Extension.

The City likely provides wildlife movement opportunities because it consists of open land and preserved areas. Although the City's value as a corridor is lessened by the high amount of development, the City still offers ways for wildlife to move through the landscape. Lastly, bird rookeries, bat maternity roost sites, and other nursery sites have the potential to exist within the City.

5.0 RECOMMENDATIONS

This section provides general recommendations to avoid, minimize, and/or mitigate potential impacts to biological resources that may be associated with future development and implementation of the General Plan within the City. These recommendations are consistent with requirements under the MSHCP. Appendix A includes flow charts that generally summarize the main steps for biological resources recommendations.

This section refers to project-related activities as *actions* and provides general recommendations to ensure compliance with the local policies, ordinances, and other relevant plans.

5.1 General Biological Measures

- BIO-1:** If an action may adversely impact biological resources, a qualified biologist or their trained designee should conduct mandatory worker environmental awareness training for all parties involved with implementation of the action (e.g., contractors and work crews) to aid the parties in recognizing special-status species and other sensitive biological resources that may occur within the action area. The training shall include identification of the special-status species with potential to occur and their habitats, a description of the regulatory

status of sensitive resources, and review of the impact limits, location of environmentally sensitive areas, and measures required to reduce impacts to avoided onsite and offsite biological resources.

- BIO-2:** If an action has potential to inadvertently impact avoided onsite or offsite biological resources, develop and implement appropriate measures to ensure all impacts occur only in the action area. Appropriate measures may include control of sediment, erosion, and hazardous materials; demarcation of action area prior to implementation and maintenance of demarcation through the duration of implementation; and measures to ensure all actions that have potential to impact biological resources stay within the demarcated limits.

5.2 Special-Status Species

Multiple special-status species are documented to occur or have the potential to occur within the City and/or may be potentially affected by activities in the City, as described in Tables 5 and 6. However, these tables should not be considered a complete list of special-status species that may occur within the City. New occurrences of special-status species, not yet recorded in the City Area, may be documented in the future. Recommendations to avoid, minimize, or mitigate potential impacts to special-status species from future project-related actions within the City are included in the following sections.

5.2.1 Wildlife

- WLD-1:** If an action has potential to adversely impact amphibian species (e.g., may impact potential habitat for amphibians or may otherwise result in disturbance to amphibians from noise, light, or some other potentially disturbing activity), determine if the proposed project falls within the mapped survey area for amphibian species (arroyo toad, California red-legged frog, and mountain yellow-legged frog [*Rana muscosa*]) and if suitable habitat is present, then focused surveys will be required. Focused surveys should be conducted in accordance with accepted survey protocols for the arroyo toad, California red-legged frog, and mountain yellow-legged frog. If the proposed project is not located within an amphibian survey area, include a statement to this effect and no further action is required. If it is determined after the habitat assessment that there is no potential habitat for amphibian species to occur within the proposed project, a conclusion that no suitable habitat is present on the site supported with solid evidence and no other measures are recommended. If conditions or circumstances change after the environmental analysis is conducted and prior to implementation of the action, then the validity of the results should be confirmed, or an updated environmental analysis should be conducted prior to impacting the project site.

If amphibian species are identified within the project site and the proposed project cannot avoid (permanent or temporary) at least 90% of the occupied portion of the property that contributes to the long-term conservation value of the species, a DBESP is required. A solid justification regarding how the 90% and 10% determinations were made is required.

- WLD-2:** If an action has potential to adversely impact the burrowing owl (*Athene cunicularia*) (e.g., may impact potential habitat or may otherwise result in disturbance to burrowing owls from

noise, light, or some other potentially disturbing activity), determine if the proposed project falls within the mapped (designated) survey area for the burrowing owl and if suitable habitat is present, then focused surveys will be required. Focused surveys should be conducted in accordance with the MSHCP Burrowing Owl Survey Instructions and during the breeding season (survey window is March 1-August 31). If the proposed project is not located within the burrowing owl survey area, include a statement to this effect and no further action is required. If it is determined after the habitat assessment that there is no potential habitat for burrowing owls to occur within the project site, a conclusion that no suitable habitat is present on the site supported with solid evidence and no other measures are recommended. If conditions or circumstances change after the environmental analysis is conducted and prior to implementation of the action, then the validity of the results should be confirmed, or an updated environmental analysis should be conducted prior to impacting the project site.

If burrowing owls are not found during focused surveys, documentation should include a written commitment to conduct pre-construction surveys for the burrowing owl in areas of suitable habitat no more than 30 days prior to the initiation of ground disturbance (e.g., vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will be required again to ensure burrowing owl has not colonized the site since it was last disturbed. If the burrowing owl is found, the same coordination described above will be necessary.

If burrowing owls are identified within the project site and the proposed project cannot avoid (permanent or temporary) at least 90% of the occupied portion of the property that contributes to the long-term conservation value of the species, a DBESP is required and a Burrowing Owl Protection and Relocation Plan. A solid justification regarding how the 90% and 10% determinations were made is required.

WLD-3: If the proposed project falls within an area with Delhi soils mapped using the MSHCP baseline data, an assessment of habitat for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; DSFLF) is required. If an action has potential to adversely impact DSFLF and if suitable habitat is present, then 2 years of focused surveys will be required. Focused surveys should be conducted in accordance with the accepted USFWS protocol and surveys are conducted 2 times per week from July 1 to September 20 for 2 consecutive years under suitable conditions. If the proposed project is not located within a Delhi soil mapped area, include a statement to this effect and no further action is required. If it is determined

after the habitat assessment that there is no potential habitat for DSFLF to occur within the project site, a conclusion that no suitable habitat is present on the site supported with solid evidence and no other measures are recommended. If conditions or circumstances change after the environmental analysis is conducted and prior to implementation of the action, then the validity of the results should be confirmed, or an updated environmental analysis should be conducted prior to impacting the proposed project.

- If DSFLF are identified within the project site and the proposed project cannot avoid DSFLF (permanent or temporary) then 75% of mapped Delhi soils on the site must be conserved and a DBESP is required. A solid justification regarding how the 75% determination was made is required and must be conducted in coordination with USFWS.

WLD-4: If an action has potential to adversely impact vernal pools or other suitable fairy shrimp habitats, then focused surveys will be required. Focused surveys should be conducted pursuant to the USFWS Survey Guidelines for the Listed Large Branchiopods, which includes six listed fairy shrimp species, including those species covered under the MSHCP Section 6.1.2. Two seasons of fairy shrimp surveys are required. If it is determined after the habitat assessment that there is no potential habitat for vernal pools or fairy shrimp species to occur within the project site, a conclusion that no suitable habitat is present on the site supported with solid evidence and no other measures are recommended. If conditions or circumstances change after the environmental analysis is conducted and prior to implementation of the action, then the validity of the results should be confirmed, or an updated environmental analysis should be conducted prior to impacting the proposed project.

- If fairy shrimp species are identified within the project site and the proposed project cannot avoid (permanent or temporary) at least 90% of the occupied portion of the property that contributes to the long-term conservation value of the species, a DBESP is required. A solid justification regarding how the 90% and 10% determinations were made is required.

WLD-5: If an action has potential to adversely impact riparian bird species (least Bell's vireo, southwestern willow flycatcher, or yellow-billed cuckoo [*Coccyzus americanus*]), if suitable habitat (nesting and/or foraging) is present, then protocol-level focused surveys will be required. Focused surveys should be conducted in accordance with accepted USFWS survey protocols for the least Bell's vireo, southwestern willow flycatcher, and yellow-billed cuckoo. If it is determined after the habitat assessment that there is no potential habitat for riparian bird species to occur within the project site, a conclusion that no suitable habitat is present on the site supported with solid evidence and no other measures are recommended. If conditions or circumstances change after the environmental analysis is conducted and prior to implementation of the action, then the validity of the results should be confirmed, or an updated environmental analysis should be conducted prior to impacting the proposed project.

- If least Bell's vireo are identified within the project site and the proposed project cannot demonstrate 90% avoidance of the occupied portion of the property that contributes to the long-term conservation value of the species, a DBESP is required. This includes 100 meters of undeveloped landscape on the property adjacent to the habitat conserved. A solid justification regarding how the 90% and 10% determinations were made is required.
- If southwestern willow flycatcher or yellow-billed cuckoo are identified within the project site, if the proposed project cannot avoid and demonstrate 100% conservation of the property that contributes to the long-term conservation value of the species, a DBESP is required. This includes 100 meters of undeveloped landscape on the property adjacent to the habitat conserved.

WLD-6: If suitable habitat is present (i.e., coastal sage scrub, Riversidean sage scrub) and an action has potential to adversely impact the coastal California gnatcatcher, avoid clearing, grubbing, grading, and associated construction actions in gnatcatcher occupied habitat within the Criteria Cells and/or PQP lands between March 1 and August 15. If this species is detected and the project could be potentially occupied and the habitat cannot be avoided, this habitat cannot be removed from March 1 to August 15 without conducting focused protocol-level surveys to prove absence. The MSHCP does not allow take of any nesting birds, regardless of the time of year, pursuant to the MBTA and applicable Fish and Game Codes.

BRD-1: If an action that may adversely impact birds or nests (e.g., ground or vegetation disturbance, noise near nesting habitat) and is expected to occur during the nesting season (generally February 1 through September 15), a pre-construction nesting-bird survey should be conducted for all suitable nesting habitat within 3 days prior to implementation of the action. The survey should be conducted by a qualified biologist within the project site plus a buffer for the project as determined by the qualified biologist (based on the action and what bird species may be impacted). If no nesting birds are observed during the survey, site preparation and construction activities may begin. If nesting birds (including nesting raptors) are found to be present, avoidance or minimization measures shall be undertaken to avoid potential Project-related impacts. Measures may include seasonal work restrictions or establishment of a non-disturbance buffer around each active nest until nesting has been completed as determined through periodic nest monitoring by the biologist. The size of the non-disturbance buffer will be determined by the Project biologist. Typically, this is 300-feet from the nest site in all directions (500-feet is typically recommended by CDFW for listed species and raptors), until the juveniles have fledged and there has been no evidence of a second attempt at nesting. Once nesting is deemed complete by the Project biologist, work may resume within the buffer.

5.3 Riparian Habitat/Riverine Areas, and Vernal Pools

- VEG-1:** If sensitive natural communities (riparian habitat, riverine areas, vernal pools) are identified within the impact area (permanent and temporary, direct and indirect), appropriate measures to avoid, minimize, or mitigate for impacts to sensitive natural communities should be implemented. If riparian/riverine resources and vernal pools are proposed for avoidance, the report should include a commitment to place a conservation easement or deed restriction over the area in order to demonstrate that the area will be protected in perpetuity. If the proposed project cannot avoid riparian/riverine habitat and/or vernal pools in perpetuity (both permanent and temporarily), a DBESP would be required that would propose mitigation that demonstrates equivalent or superior function and value.
- RIP-1:** If an action will impact riparian habitat, a Lake and Streambed Alteration Agreement, pursuant to Section 1602 of the California Department of Fish and Game Code should be obtained. Minimization measures will be developed during consultation with CDFW as part of the Lake and Streambed Alteration Agreement process to ensure protection for affected fish and wildlife resources.

5.4 Aquatic Resources, Including Waters of the U.S. and State

- WTR-1:** If an action has the potential to impact aquatic resources, an environmental analysis (i.e., a preliminary aquatic resources delineation) should be conducted to determine if potentially regulated aquatic resources occur within the proposed project. A qualified wetland delineator should conduct the environmental analysis and it should include review of the best available hydrological information, a reconnaissance-level site visit, and an evaluation of aquatic resources to determine the potential for regulated aquatic resources to occur within the project site. If it is determined that there are no potentially regulated aquatic resources, no other measures are recommended. If conditions or circumstances change after the environmental analysis is conducted and prior to implementation of the action, the validity of the results should be confirmed or an updated environmental analysis should be conducted prior to impacting the proposed project.
- WTR-2:** If an action may impact potentially regulated aquatic resources, an aquatic resources delineation should be conducted for the project consistent with the methods detailed within the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008), and State Wetlands Definitions and Procedures for Discharges of Dredged and Fill Material to Waters of the State, and local policies by the CDFW regarding their jurisdiction, following the definitions contained within the California Fish and Game Code pertaining to regulated resources (lakes, streams, and associated hydrophytic vegetation). If it is determined that potentially regulated aquatic resources are absent from the project site or will not be impacted by the action, no other measures are recommended. If it is determined that potentially regulated aquatic resources may be impacted by the

action, the delineation should be submitted to the USACE, and a Preliminary Jurisdictional Determination or Approved Jurisdictional Determination should be obtained.

5.5 Wildlife Movement/Corridors and Nursery Sites

WLD-7: If an action will substantially impact wildlife movement, established wildlife corridors, or impede the use of nursery sites, measures to avoid, minimize, or mitigate for significant impacts should be implemented and may be determined in consultation with the appropriate regulatory agency (e.g., CDFW, USFWS).

5.6 Local Policies, Ordinances, and Other Plans

Local policies and ordinances that are applicable to the City are discussed earlier in Section 2.3 of this document. Projects should ensure that these local policies and ordinances are included in the assessment of impacts to biological resources and any required mitigation to reduce impacts.

6.0 REFERENCES

- Calflora. 2023. The Calflora Database, Berkeley, CA. Available at: <https://www.calflora.org/search.html>. Accessed October 2023.
- California Department of Fish and Wildlife (CDFW). 2023a. California Natural Community List. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398>. Accessed October 2023.
- _____. 2023b. RareFind 5 California Natural Diversity Data Base (CNDDDB). Sacramento, CA, CDFW Biogeographic Data Branch.
- _____. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Sacramento, California. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>. Accessed October 2023.
- California Department of Transportation (Caltrans). 2016. Technical Guidance of Assessment and Mitigation of the Effects of Traffic Noise and Road Construction Noise on Bats. Available at: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/noise-effects-on-bats-jul2016-a11y.pdf>. Accessed October 2023.
- California Native Plant Society (CNPS). 2023a. Inventory of Rare and Endangered Plants in California (online edition, v8-03 0.39). California Native Plant Society. Sacramento, CA. Available online: <http://www.rareplants.cnps.org/>. Accessed October 2023.
- _____. 2023b. A Manual of California Vegetation, Online Edition. California Native Plant Society, Sacramento, CA. Available: <https://vegetation.cnps.org/>. Accessed October 2023.
- _____. 2001. CNPS Botanical Survey Guidelines. California Native Plant Society. Available online: https://cnps.org/wp-content/uploads/2018/03/cnps_survey_guidelines.pdf. Accessed October 2023.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U. S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.
- Jepson eFlora. 2023. Jepson Flora Project (eds.). Available: <https://ucjeps.berkeley.edu/eflora/>. Accessed October 2023.
- National Oceanic and Atmospheric Administration (NOAA). 2023a. NOAA NMFS ESA Critical Habitat Mapper. Available at: <https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=68d8df16b39c48fe9f60640692d0e318>. Accessed October 2023.
- _____. 2023b. NOAA Essential Fish Habitat Mapper. Available at: https://www.habitat.noaa.gov/apps/efhmapper/?page=page_4. Accessed October 2023.
- Natural Resources Conservation Service (NRCS). 2023a. Web Soil Survey. Retrieved from: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed October 2023.

- _____. 2023b. Soil Data Access Hydric Soils List. Retrieved from:
<https://www.nrcs.usda.gov/publications/query-by-ssa.html>. Accessed October 2023.
- NatureServe Explorer (NatureServe). 2022. Group Californian Vernal Pool. Available at:
https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.857252/Californian_Vernal_Pool_Group.
- Riverside County Integrative Project (RCIP). 2003a. County of Riverside General Plan. Available at:
https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_9894739/File/Government/Departments/Planning/General%20Plan.pdf.
- _____. 2003b. Conservation planning process/description and area plan criteria of the MSHCP conservation area. Elsinore area plan. Available at: https://www.wrc-rca.org/GIS_Online_Mapping/MSHCP_docs/AreaPlans/MSHCP%20Elsinore%20AreaPlan%20Doc.pdf.
- _____. 2003c. Conservation planning process/description and area plan criteria of the MSHCP conservation area. Southwest area plan. Available at: https://www.wrc-rca.org/GIS_Online_Mapping/MSHCP_docs/AreaPlans/MSHCP%20Southwest%20Area%20AreaPlan%20Doc.pdf.
- Riverside County Land Management Agency. 2023. Western riverside county multiple species habitat conservation plan. Available at: <https://rctlma.org/western-riverside-county-multiple-species-habitat-conservation-plan-mshcp>.
- Riverside County Planning Department. 2021a. General Plan Amendments Summary. Available at:
<https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-2021-GPA-RSLN-Cycles-2003-Current-Post-Online.pdf>
- _____. 2021b. Elsinore Area Plan. Available at:
<https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-GPA-2022-Compiled-ELAP-4-2022-rev.pdf>
- _____. 2015. Riverside County General Plan. Available at: [Riverside County General Plan | Planning Department Riverside County \(rctlma.org\)](https://planning.rctlma.org/Riverside-County-General-Plan).
- State Water Resources Control Board. 2021. *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted April 2, 2020, and revised April 6, 2021.
- U.S. Army Corps of Engineers (USACE). 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TR-08-12. Hanover, NH: Cold Regions Research and Engineering Laboratory and U.S. Army Engineer Research and Development Center.

U.S. Fish and Wildlife Service (USFWS). 2023a. USFWS Resource Report List. Information for Planning and Conservation. Available <https://ecos.fws.gov/ipac>. Accessed October 2023.

_____. 2023b. National Wetland Inventory. Available at:
<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>. Accessed October 2023.

_____. 2023c. Online Critical Habitat Mapper. Available at:
<https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed October 2023.

_____. 1918. Migratory bird treaty act of 1918. Section 16 of the U.S. Code (703-712), as amended 1989.

LIST OF APPENDICES

Appendix A – Biological Resources Recommendations Flow Charts

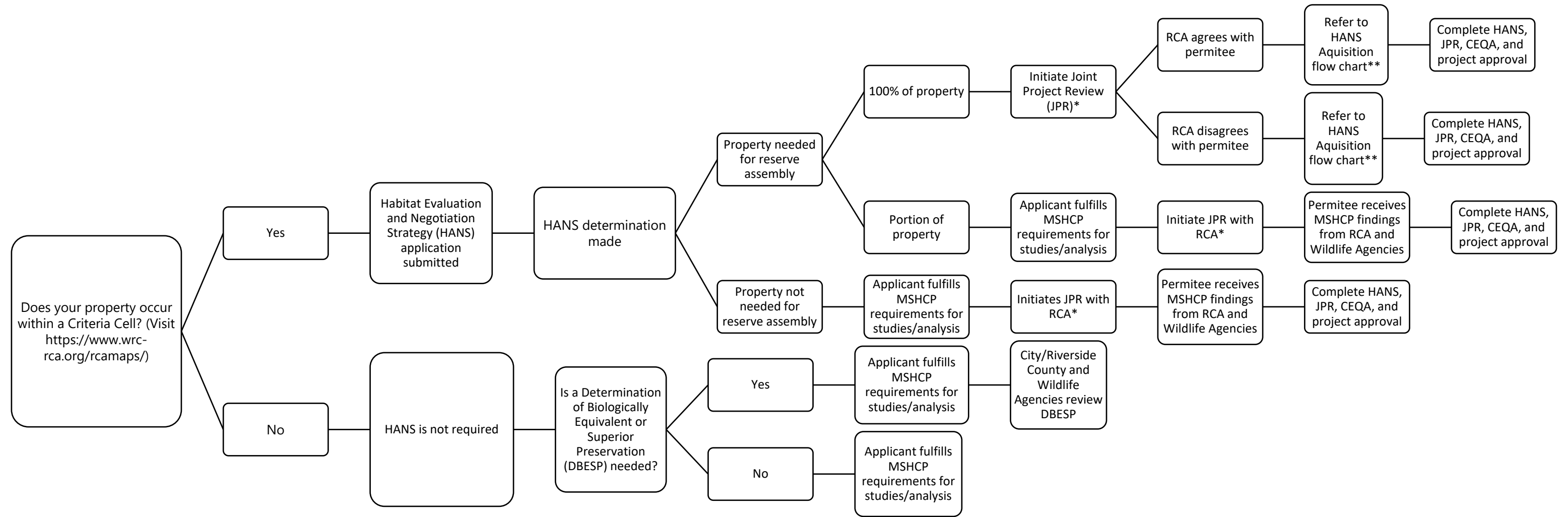
Appendix B – 2024 MSHCP Fee Schedule

Appendix C – SKR Plan Area

Appendix D – Literature Review And Database Results

Biological Resources Recommendations Flow Charts

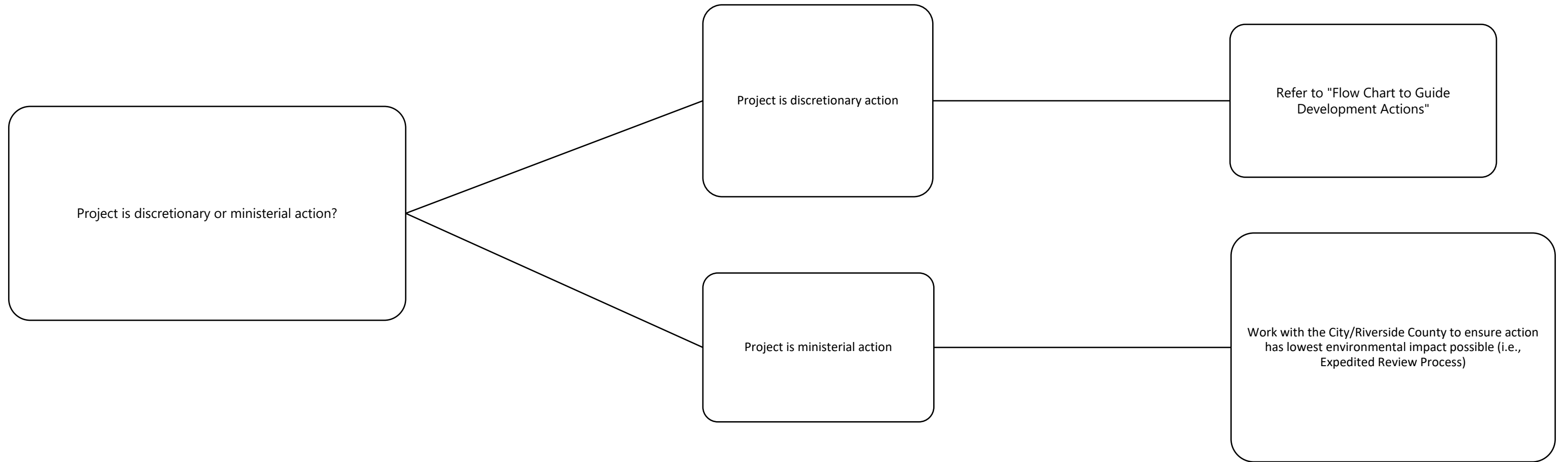
FLOW CHART TO GUIDE DEVELOPMENT APPLICATIONS



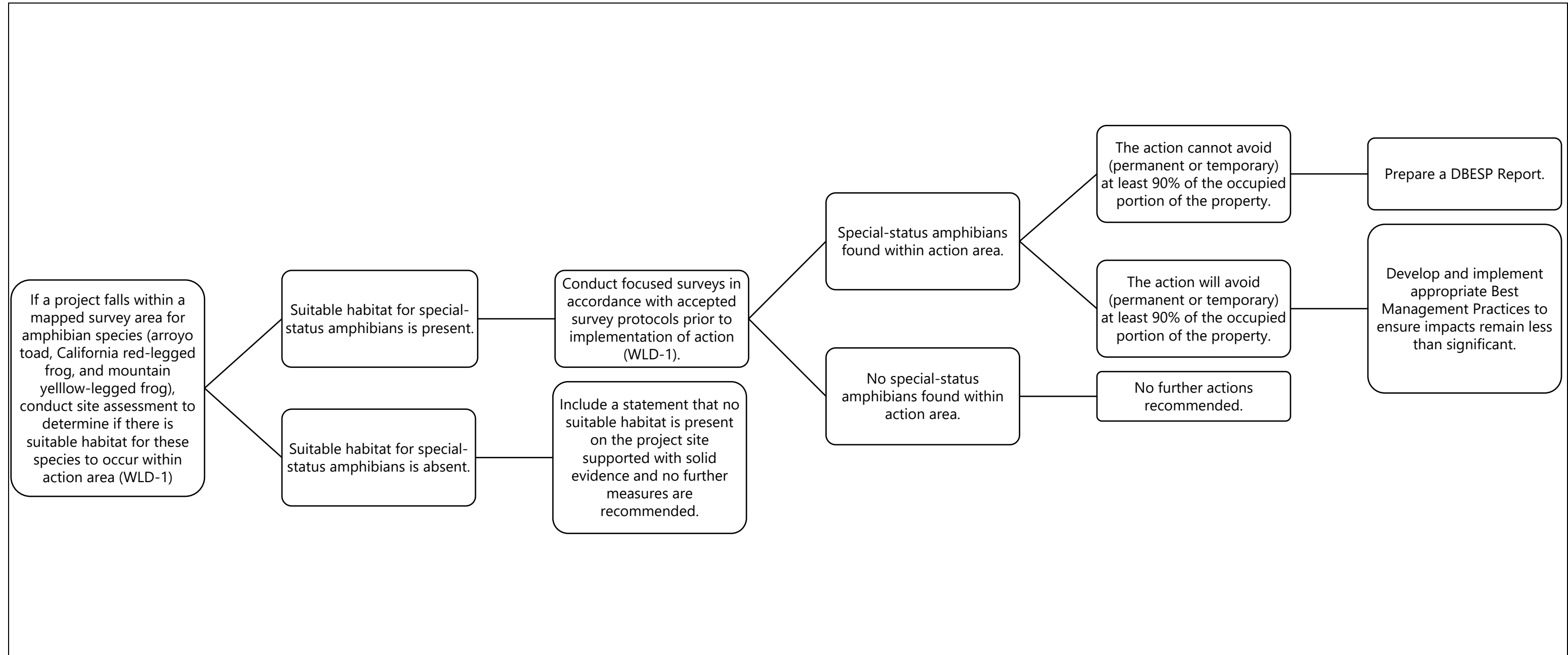
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* https://www.wrc-rca.org/wp-content/uploads/2022/11/0722_JPR_Flow_Chart_NEW.pdf

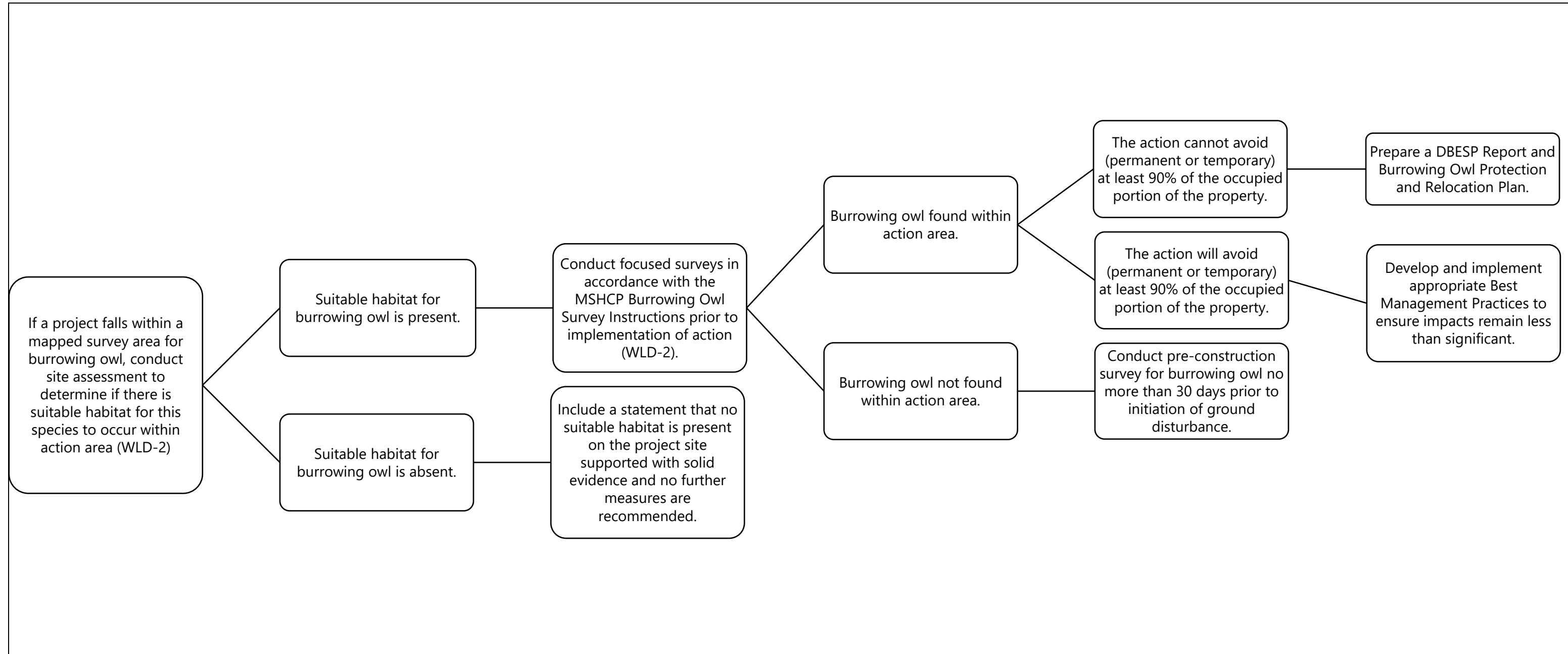
FLOW CHART BASED ON PROJECT ACTION



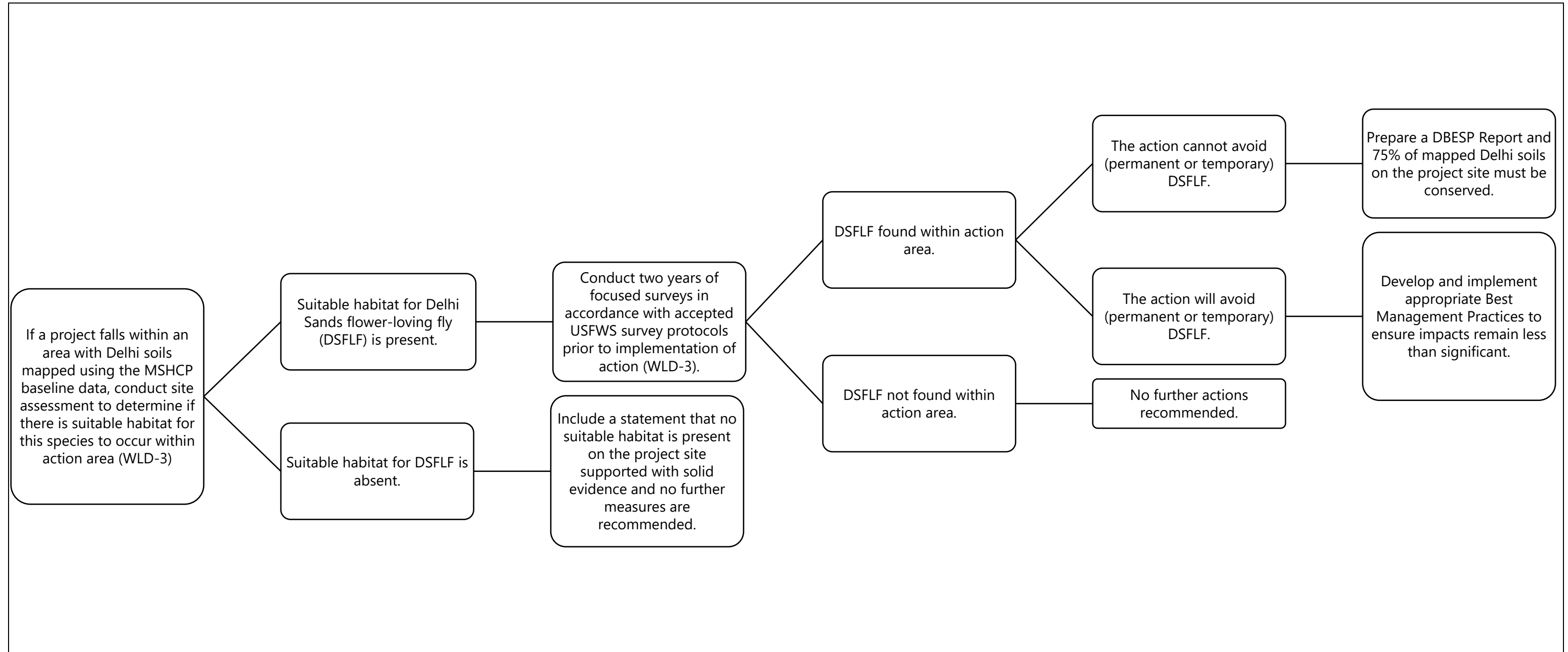
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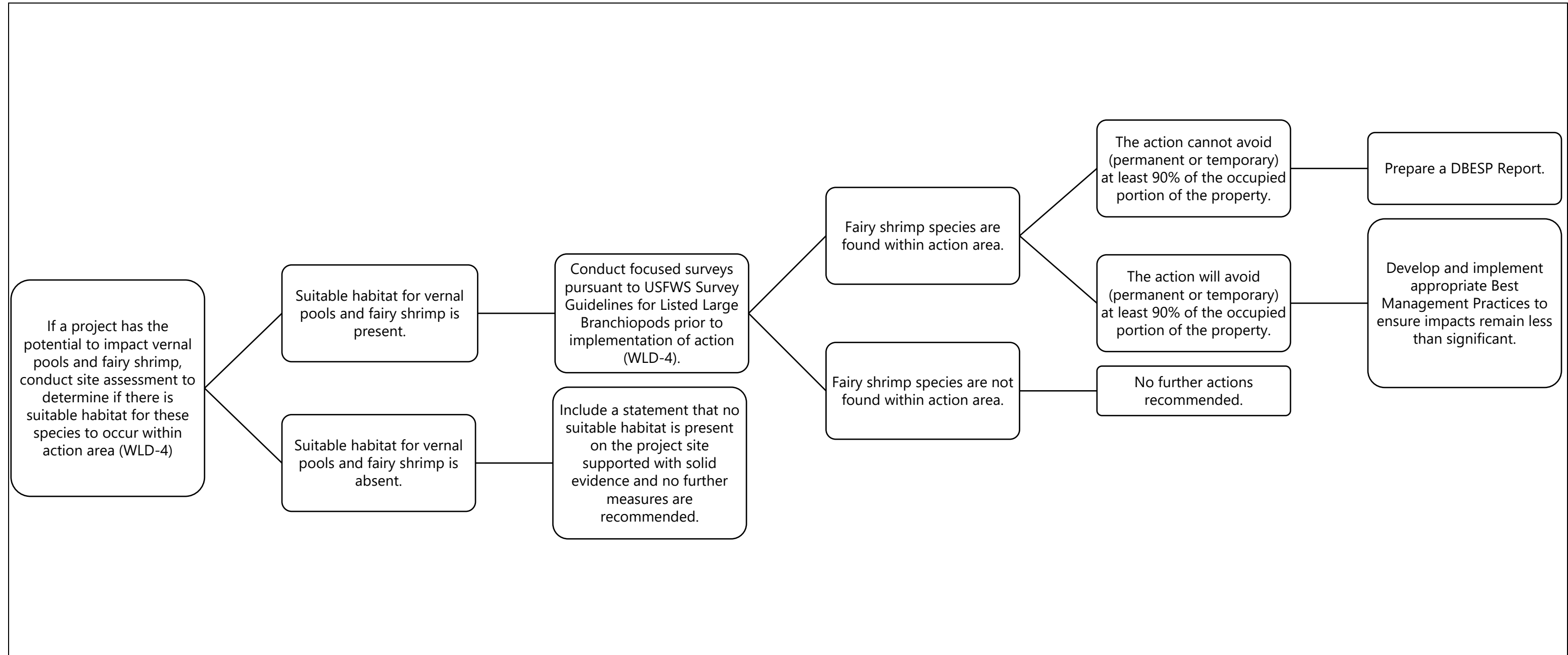
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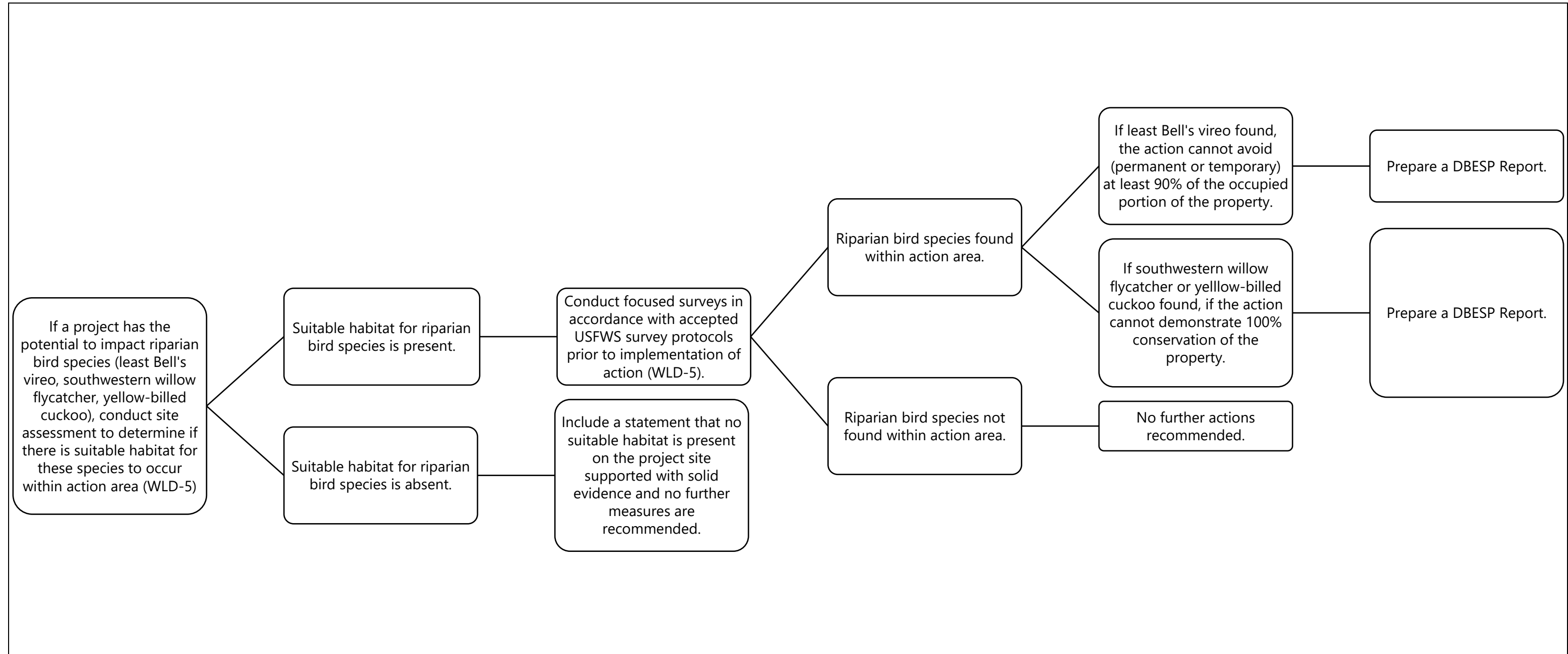
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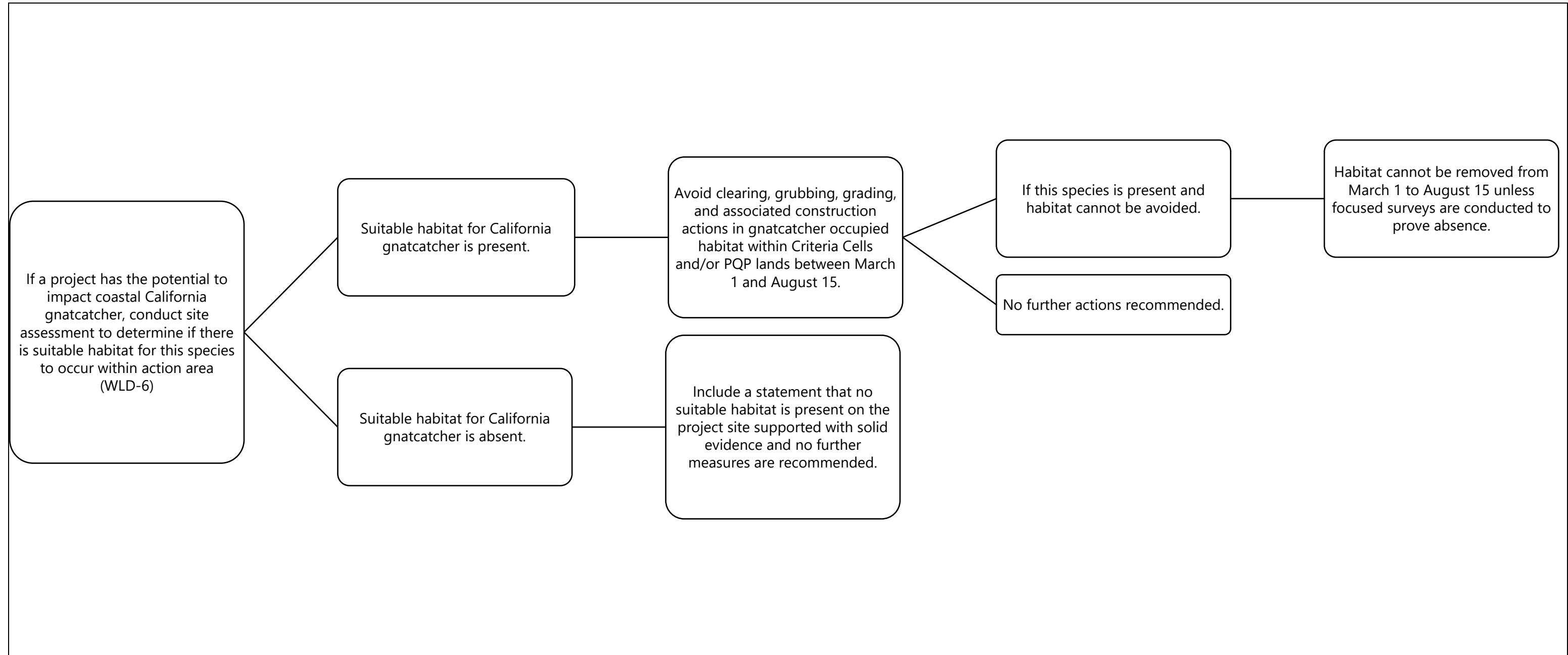
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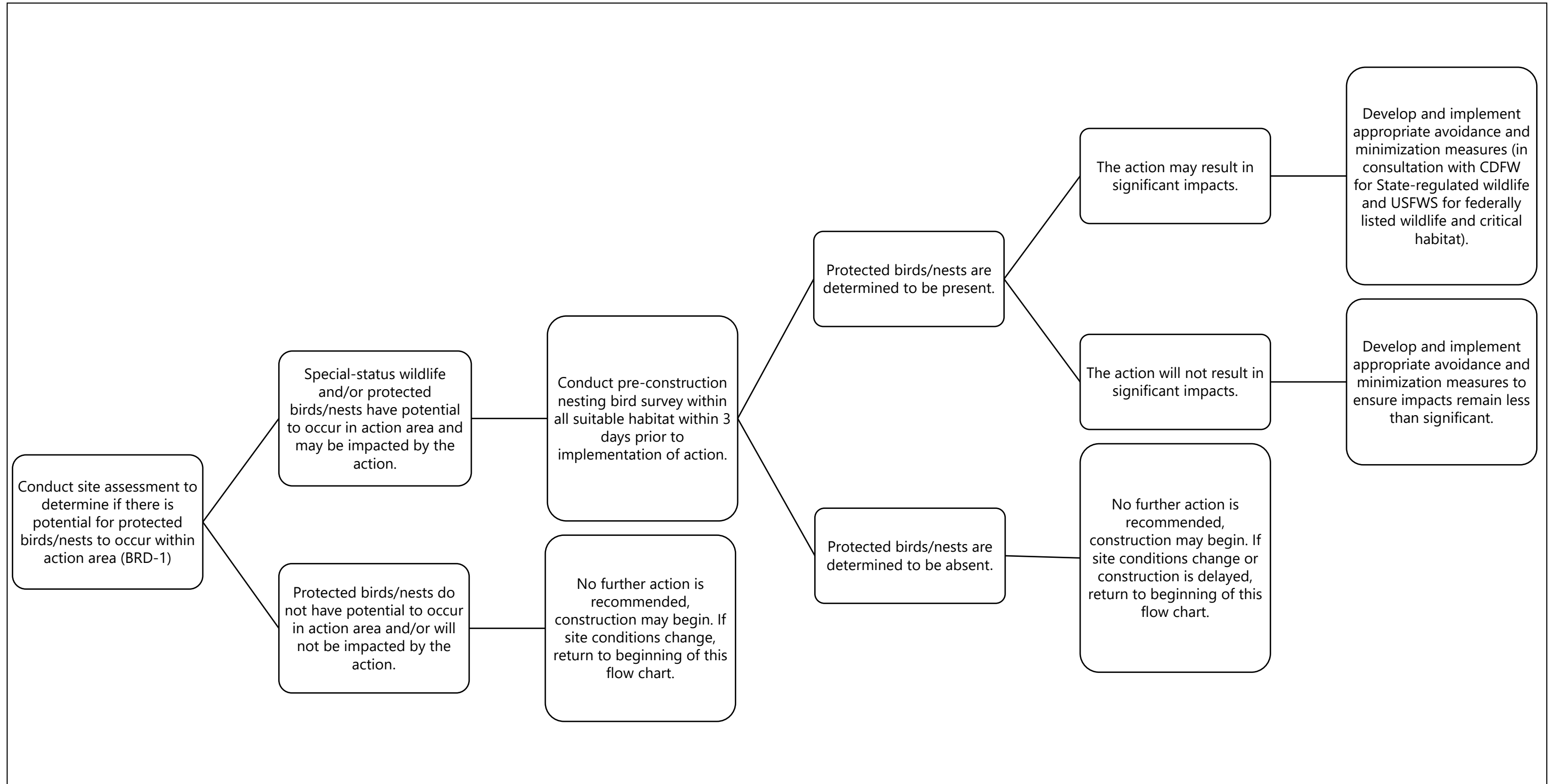
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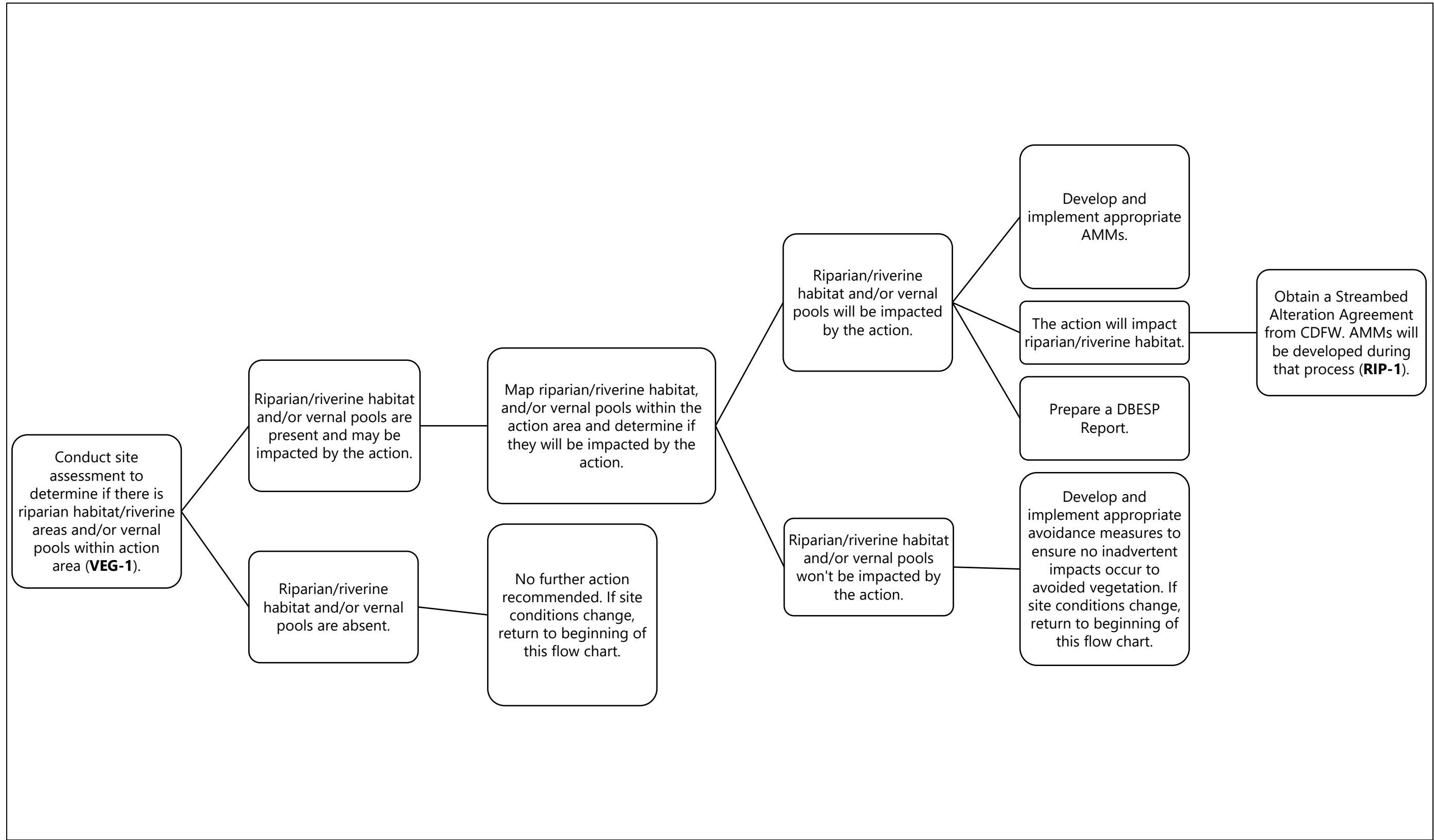
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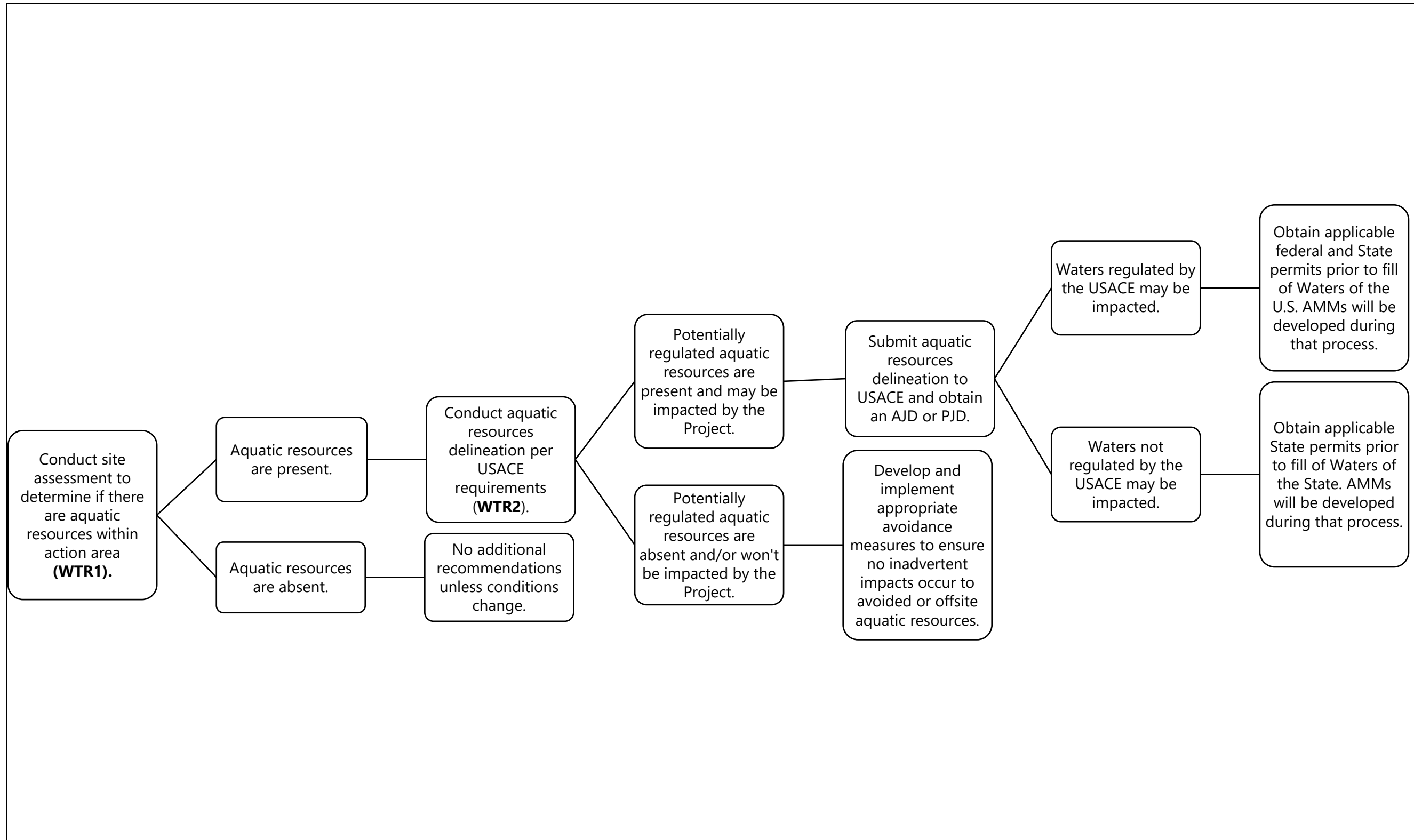
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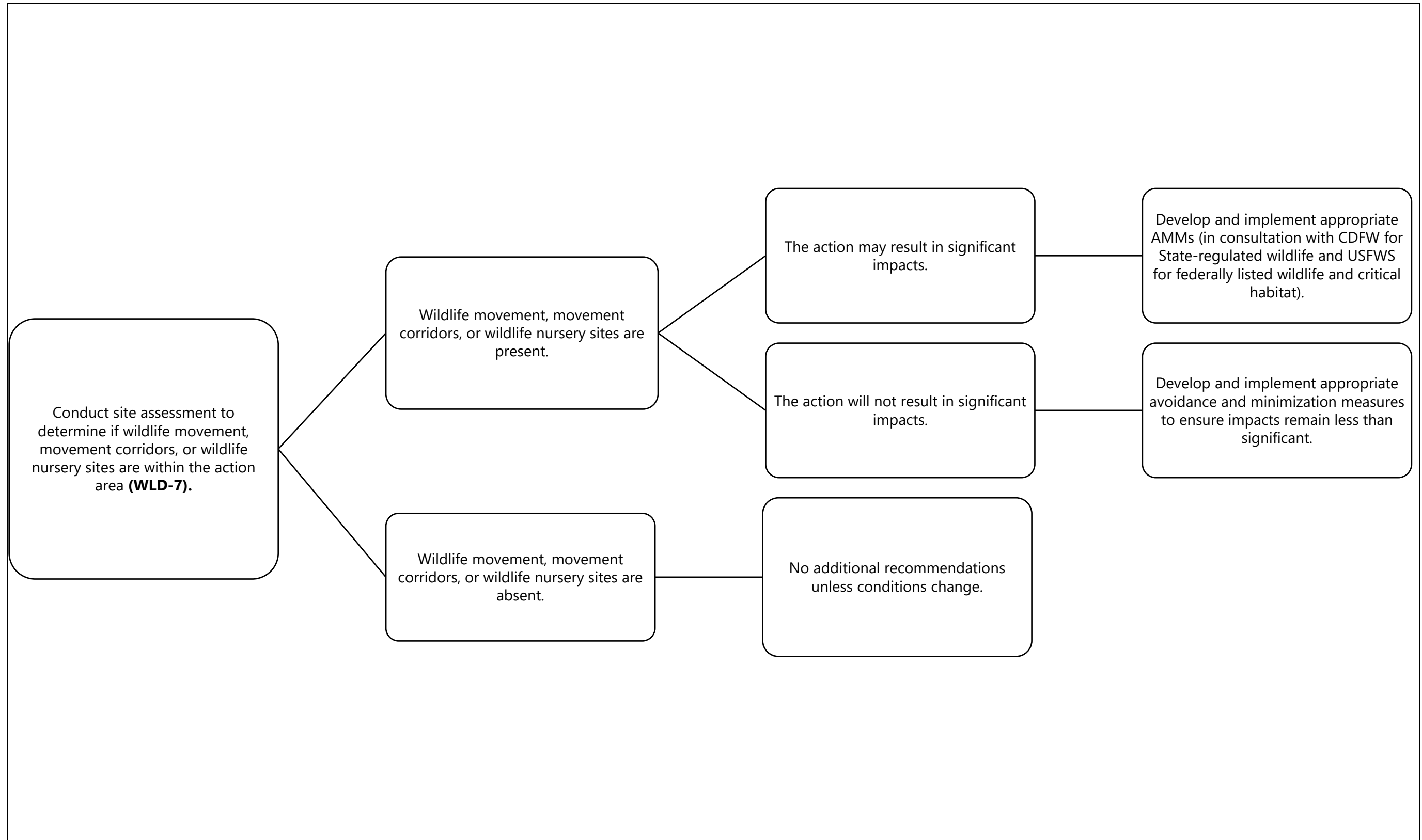
FLOW CHART TO GUIDE RIPARIAN HABITAT/RIVERINE AREAS AND VERNAL POOLS



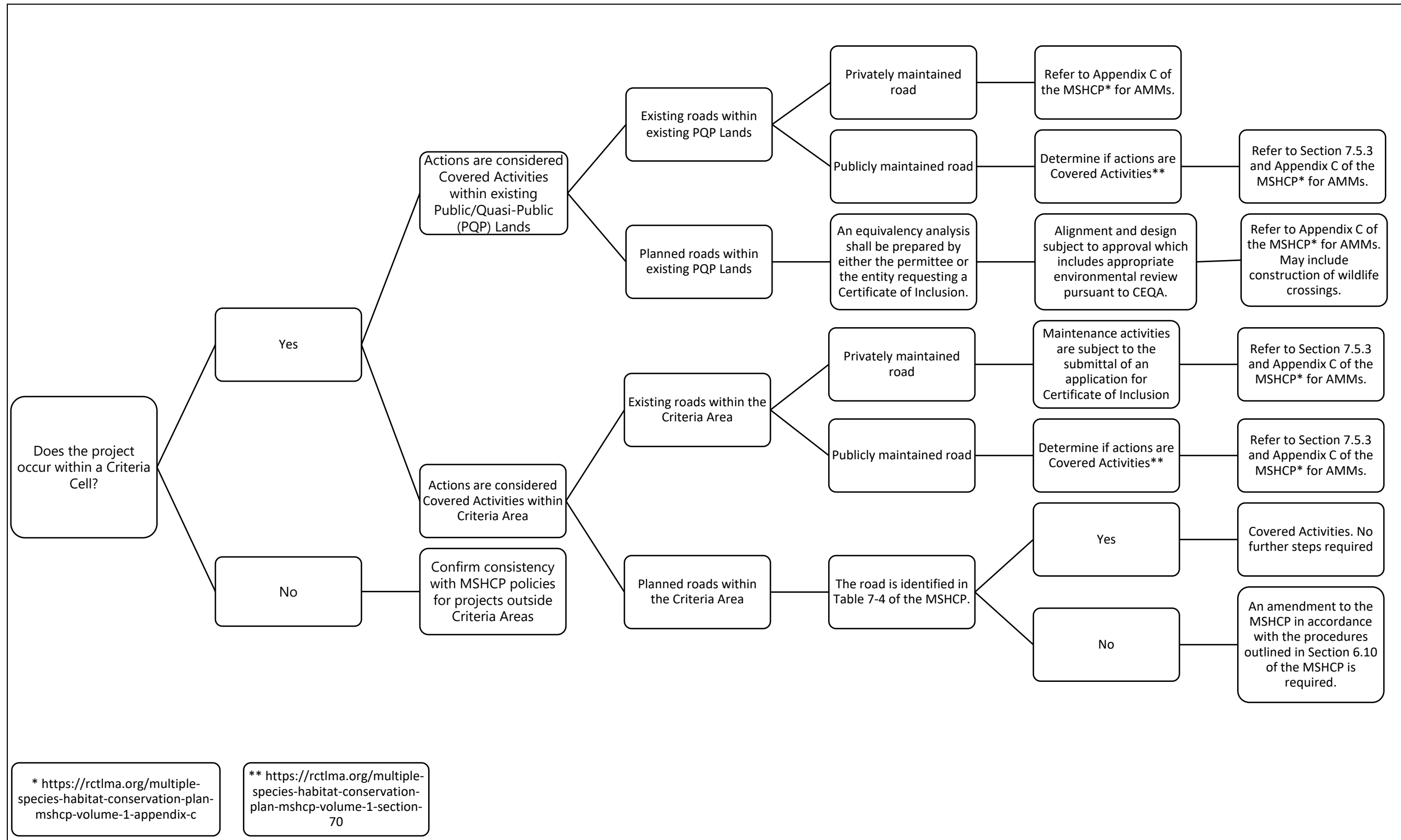
FLOW CHART TO GUIDE AQUATIC RESOURCES RECOMMENDATIONS



FLOW CHART TO GUIDE WILDLIFE CORRIDOR AND MOVEMENT PROTECTION RECOMMENDATIONS



FLOW CHART TO GUIDE COVERED ROADS RECOMMENDATIONS



* <https://rctlma.org/multiple-species-habitat-conservation-plan-mshcp-volume-1-appendix-c>

** <https://rctlma.org/multiple-species-habitat-conservation-plan-mshcp-volume-1-section-70>

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
AJD	Approved Jurisdictional Delineation
AMMs	Avoidance, Minimization, and Mitigation Measures
CDFW	California Department of Fish and Wildlife
EFH	Essential Fish Habitat
NMFS	National Marine Fisheries Service
PJD	Preliminary Jurisdictional Delineation
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

APPENDIX B

2024 MSHCP Fee Schedule



4080 Lemon St. 3rd Fl. Riverside, CA 92501
Mailing Address: P.O. Box 12008 Riverside, CA 92502-2208
951.787.7141 • wrc-rca.org

WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN

LOCAL DEVELOPMENT MITIGATION FEE SCHEDULE FOR FISCAL YEAR 2024 (Effective July 1, 2023 – June 30, 2024)

Fee Category

Fee

Residential, density less than 8.0 dwelling units per acre (fee per dwelling unit)	\$4,236
Residential, density between 8.0 and 14.0 dwelling units per acre (fee per dwelling unit)	\$1,766
Residential, density greater than 14.0 dwelling units per acre (fee per dwelling unit)	\$781
Commercial (fee per acre)	\$19,066
Industrial (fee per acre)	\$19,066

APPENDIX C

Stephens' Kangaroo Rat (SKR) Plan Area

RCHCA

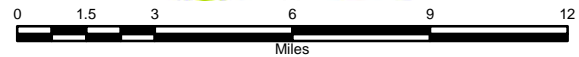
RIVERSIDE COUNTY HABITAT CONSERVATION AGENCY



SKR CORE RESERVES

1. LAKE MATHEWS / ESTELLE MOUNTAIN
2. SYCAMORE CANYON
3. STEELE PEAK
4. MOTTE / RIMROCK
5. SAN JACINTO/LAKE PERRIS
6. POTRERO ACEC
7. SOUTHWEST RIVERSIDE COUNTY MULTI-SPECIES RESERVE
8. POTRERO RESERVE

- Major Roads
- Highways
- SKR Plan Area
- County of Riverside
- Cities
- Waterbodies Excluded From Core Reserve

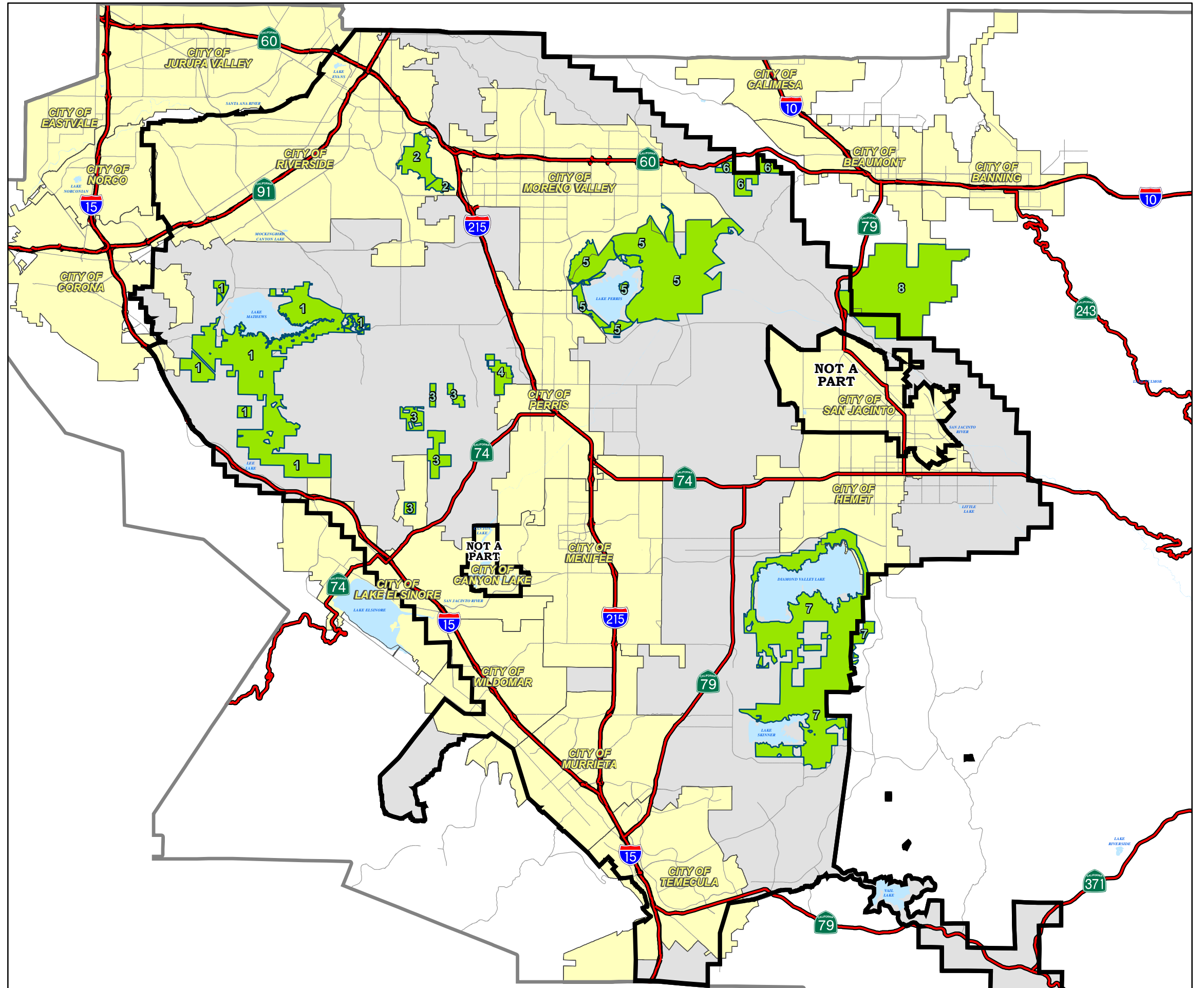
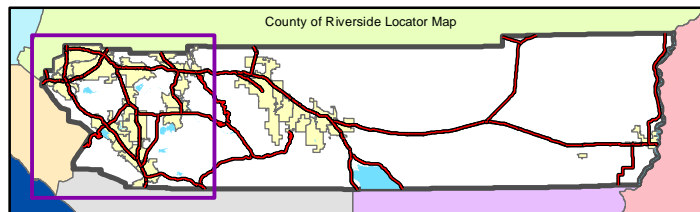


Map Source - County of Riverside, TLMA/GIS
Map Created By Vinnie Nguyen

Projects\IRCHCA\CRB_Project\mxd\SKR Plan Area (All)\SKRPlanArea_UpdatedVinnieNov142018.mxd

Coordinate System: NAD83 State Plane VI FIPS0406 (Feet)

Disclaimer: Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.



Literature Review and Database Results



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901

In Reply Refer To:
Project Code: 2023-0134261
Project Name: City of Wildomar GP

September 27, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A biological assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a biological assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a biological assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found at the Fish and Wildlife Service's Endangered Species Consultation website at:

<https://www.fws.gov/service/esa-section-7-consultation>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

(760) 431-9440

PROJECT SUMMARY

Project Code: 2023-0134261

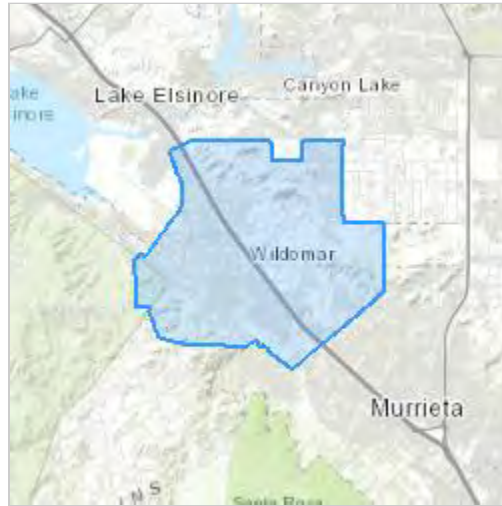
Project Name: City of Wildomar GP

Project Type: Introduction

Project Description: The City is working on its first city-specific general plan.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.6162489,-117.2559753331285,14z>



Counties: Riverside County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 20 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat <i>Dipodomys merriami parvus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2060	Endangered
Stephens' Kangaroo Rat <i>Dipodomys stephensi</i> (incl. <i>D. cascus</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3495	Threatened

BIRDS

NAME	STATUS
Coastal California Gnatcatcher <i>Polioptila californica californica</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

AMPHIBIANS

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3762	Endangered
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Quino Checkerspot Butterfly <i>Euphydryas editha quino</i> (= <i>E. e. wrighti</i>) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5900	Endangered

CRUSTACEANS

NAME	STATUS
Riverside Fairy Shrimp <i>Streptocephalus woottoni</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8148	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

FLOWERING PLANTS

NAME	STATUS
California Orcutt Grass <i>Orcuttia californica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4923	Endangered
Munz's Onion <i>Allium munzii</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2951	Endangered
San Diego Ambrosia <i>Ambrosia pumila</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
San Diego Button-celery <i>Eryngium aristulatum var. parishii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5937	Endangered
San Jacinto Valley Crownscale <i>Atriplex coronata var. notatior</i> There is final critical habitat for this species. However, no <i>actual</i> acres or miles were designated due to exemptions or exclusions. See Federal Register publication for details. Species profile: https://ecos.fws.gov/ecp/species/4353	Endangered
Slender-horned Spineflower <i>Dodecahema leptoceras</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4007	Endangered
Spreading Navarretia <i>Navarretia fossalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened
Thread-leaved Brodiaea <i>Brodiaea filifolia</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6087	Threatened

CRITICAL HABITATS

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Coastal California Gnatcatcher <i>Polioptila californica californica</i> https://ecos.fws.gov/ecp/species/8178#crithab	Final

IPAC USER CONTACT INFORMATION

Agency: ECORP Consulting, Inc.
Name: Corrina Tapia
Address: 215 N 5th Street
City: Redlands
State: CA
Zip: 92374
Email: ctapia@ecorpconsulting.com
Phone: 9092552983

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE *RareFind*

Query Summary:

Quad **IS** (Wildomar (3311753)) **OR** Murrieta (3311752) **OR** Romoland (3311762) **OR** Lake Elsinore (3311763)

CNDDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	Dicots	PDNYC010P1	98	1	None	None	G5T2?	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Desert dunes
<i>Accipiter cooperii</i>	Cooper's hawk	Birds	ABNKC12040	118	4	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Riparian forest, Riparian woodland, Upper montane coniferous forest
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	Birds	ABPBX91091	235	20	None	None	G5T3	S4	null	CDFW_WL-Watch List	Chaparral, Coastal scrub
<i>Allium marvinii</i>	Yucaipa onion	Monocots	PMLIL02330	47	2	None	None	G1	S1	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral
<i>Allium munzii</i>	Munz's onion	Monocots	PMLIL022Z0	21	8	Endangered	Threatened	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Pinon & juniper woodlands, Valley & foothill grassland
<i>Almutaster pauciflorus</i>	alkali marsh aster	Dicots	PDASTEL010	7	1	None	None	G4	S1S2	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Meadow & seep
<i>Ambrosia pumila</i>	San Diego ambrosia	Dicots	PDASTOC0M0	61	3	Endangered	None	G1	S1	1B.1	SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Coastal scrub, Valley & foothill grassland
<i>Anaxyrus californicus</i>	arroyo toad	Amphibians	AAABB01230	139	1	Endangered	None	G2G3	S2	null	CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered	Desert wash, Riparian scrub, Riparian woodland, South coast flowing waters, South coast standing waters
<i>Anniella stebbinsi</i>	Southern California legless lizard	Reptiles	ARACC01060	426	3	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Coastal dunes, Coastal scrub
<i>Aquila chrysaetos</i>	golden eagle	Birds	ABNKC22010	325	2	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub, Lower montane coniferous forest, Pinon & juniper woodlands, Upper montane coniferous forest, Valley & foothill grassland

Arctostaphylos rainbowensis	Rainbow manzanita	Dicots	PDERI042T0	89	15	None	None	G2	S2	1B.1	BLM_S-Sensitive, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, USFS_S-Sensitive	Chaparral, Ultramafic
Arizona elegans occidentalis	California glossy snake	Reptiles	ARADB01017	260	6	None	None	G5T2	S2	null	CDFW_SSC-Species of Special Concern	null
Artemisiospiza belli belli	Bell's sparrow	Birds	ABPBX97021	61	13	None	None	G5T2T3	S3	null	CDFW_WL-Watch List	Chaparral, Coastal scrub
Aspidoscelis hyperythra	orange-throated whiptail	Reptiles	ARACJ02060	369	26	None	None	G5	S2S3	null	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	ARACJ02143	148	1	None	None	G5T5	S3	null	CDFW_SSC-Species of Special Concern	null
Athene cucularia	burrowing owl	Birds	ABNSB10010	2011	35	None	None	G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Atriplex coronata var. notatior	San Jacinto Valley crowscale	Dicots	PDCHE040C2	16	1	Endangered	None	G4T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Alkali playa, Valley & foothill grassland, Vernal pool, Wetland
Ayenia compacta	California ayenia	Dicots	PDSTE01020	74	1	None	None	G4	S3	2B.3	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Desert wash, Mojavean desert scrub, Sonoran desert scrub
Bombus crotchii	Crotch bumble bee	Insects	IIHYM24480	437	4	None	Candidate Endangered	G2	S2	null	IUCN_EN-Endangered	null
Bombus pensylvanicus	American bumble bee	Insects	IIHYM24260	225	3	None	None	G3G4	S2	null	IUCN_VU-Vulnerable	Coastal prairie, Great Basin grassland, Valley & foothill grassland
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	796	2	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
Branchinecta sandiegonensis	San Diego fairy shrimp	Crustaceans	ICBRA03060	122	1	Endangered	None	G2	S1	null	IUCN_EN-Endangered	Chaparral, Coastal scrub, Vernal pool, Wetland
Brodiaea filifolia	thread-leaved brodiaea	Monocots	PMLIL0C050	141	6	Threatened	Endangered	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Brodiaea santarosae	Santa Rosa Basalt brodiaea	Monocots	PMLIL0C0G0	12	8	None	None	G1	S1	1B.2	USFS_S-Sensitive	Valley & foothill grassland
Buteo regalis	ferruginous hawk	Birds	ABNKC19120	107	2	None	None	G4	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2561	1	None	Threatened	G5	S4	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley & foothill grassland
Calochortus weedii var. intermedius	intermediate mariposa-lily	Monocots	PMLIL0D1J1	197	3	None	None	G3G4T3	S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Centromadia pungens ssp. laevis	smooth tarplant	Dicots	PDAST4R0R4	137	33	None	None	G3G4T2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Alkali playa, Chenopod scrub, Meadow & seep, Riparian woodland,

												Valley & foothill grassland, Wetland
Chaetodipus californicus femoralis	Dulzura pocket mouse	Mammals	AMAFD05021	50	2	None	None	G5T3	S3	null	null	Chaparral, Coastal scrub, Valley & foothill grassland
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	Mammals	AMAFD05031	101	3	None	None	G5T3T4	S3S4	null	null	Chaparral, Coastal scrub
Charadrius nivosus nivosus	western snowy plover	Birds	ABNNB03031	138	1	Threatened	None	G3T3	S3	null	CDFW_SSC-Species of Special Concern	Great Basin standing waters, Sand shore, Wetland
Chorizanthe parryi var. parryi	Parry's spineflower	Dicots	PDPGN040J2	150	26	None	None	G3T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland
Chorizanthe polygonoides var. longispina	long-spined spineflower	Dicots	PDPGN040K1	166	37	None	None	G5T3	S3	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Coastal scrub, Meadow & seep, Ultramafic, Valley & foothill grassland, Vernal pool
Cicindela senilis frosti	senile tiger beetle	Insects	IICOL02121	9	1	None	None	G2G3T1T3	S1	null	null	Mud shore/flats, Wetland
Clinopodium chandleri	San Miguel savory	Dicots	PDLAM08030	37	6	None	None	G2G3	S2	1B.2	BLM_S-Sensitive, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Ultramafic, Valley & foothill grassland
Crotalus ruber	red-diamond rattlesnake	Reptiles	ARADE02090	192	8	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Chaparral, Mojavean desert scrub, Sonoran desert scrub
Dipodomys merriami parvus	San Bernardino kangaroo rat	Mammals	AMAFD03143	81	3	Endangered	Candidate Endangered	G5T1	S1	null	CDFW_SSC-Species of Special Concern	Coastal scrub
Dipodomys stephensi	Stephens' kangaroo rat	Mammals	AMAFD03100	226	44	Threatened	Threatened	G2	S3	null	IUCN_VU-Vulnerable	Coastal scrub, Valley & foothill grassland
Dodecahema leptoceras	slender-horned spineflower	Dicots	PDPGN0V010	42	1	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub
Dudleya multicaulis	many-stemmed dudleya	Dicots	PDCRA040H0	154	1	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	184	6	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1518	7	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Eremophila alpestris actia	California horned lark	Birds	ABPAT02011	94	11	None	None	G5T4Q	S4	null	CDFW_WL-Watch List, IUCN_LC-	Marine intertidal & splash zone

												Least Concern	communities, Meadow & seep
Eryngium aristulatum var. parishii	San Diego button-celery	Dicots	PDAPI0Z042	83	3	Endangered	Endangered	G5T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland	
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	296	3	None	None	G4G5T4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland	
Euphydryas editha quino	quino checkerspot butterfly	Insects	IILEPK405L	186	10	Endangered	None	G5T1T2	S1S2	null	null	Chaparral, Coastal scrub	
Geothallus tuberosus	Campbell's liverwort	Bryophytes	NBHEP1C010	12	1	None	None	G2	S2	1B.1	IUCN_CR-Critically Endangered	Coastal scrub, Vernal pool, Wetland	
Gila orcuttii	arroyo chub	Fish	AFCJB13120	49	1	None	None	G2	S2	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, South coast flowing waters	
Harpagonella palmeri	Palmer's grapplinghook	Dicots	PDBOR0H010	57	3	None	None	G4	S3	4.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Coastal scrub, Valley & foothill grassland	
Hesperocyparis forbesii	Tecate cypress	Gymnosperms	PGCUP040C0	27	1	None	None	G2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, SB_UCSC-UC Santa Cruz, SB_USDA-US Dept of Agriculture, USFS_S-Sensitive	Chaparral, Closed-cone coniferous forest	
Icteria virens	yellow-breasted chat	Birds	ABPBX24010	101	1	None	None	G5	S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland	
Juncus luciensis	Santa Lucia dwarf rush	Monocots	PMJUN013J0	37	2	None	None	G3	S3	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Great Basin scrub, Lower montane coniferous forest, Meadow & seep, Vernal pool, Wetland	
Lanius ludovicianus	loggerhead shrike	Birds	ABPBR01030	110	2	None	None	G4	S4	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Broadleaved upland forest, Desert wash, Joshua tree woodland, Mojavean desert scrub, Pinon & juniper woodlands, Riparian woodland, Sonoran desert scrub	
Lasiurus xanthinus	western yellow bat	Mammals	AMACC05070	58	2	None	None	G4G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Desert wash	
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	PDAST5L0A1	111	7	None	None	G4T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Alkali playa, Marsh & swamp, Salt marsh, Vernal pool, Wetland	
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	Dicots	PDBRA1M114	142	2	None	None	G5T3	S3	4.3	null	Chaparral, Coastal scrub	
Lepus californicus bennettii	San Diego black-tailed	Mammals	AMAEB03051	103	16	None	None	G5T3T4	S3S4	null	null	Coastal scrub	








													marsh, Marsh & swamp, Riparian forest, Riparian scrub, Riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Salvadora hexalepis virgulata	coast patch-nosed snake	Reptiles	ARADB30033	34	1	None	None	G5T4	S3	null	CDFW_SSC-Species of Special Concern	Coastal scrub	
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	Dicots	PDLAM1U0A1	43	1	None	None	G4T3	S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Lower montane coniferous forest	
Sibaropsis hammittii	Hammitt's clay-cress	Dicots	PDBRA32010	7	2	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Valley & foothill grassland	
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Riparian	CTT61310CA	246	5	None	None	G4	S4	null	null	Riparian forest	
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	Riparian	CTT61330CA	111	6	None	None	G3	S3.2	null	null	Riparian forest	
Southern Interior Basalt Flow Vernal Pool	Southern Interior Basalt Flow Vernal Pool	Herbaceous	CTT44310CA	9	9	None	None	G1	S1.2	null	null	Vernal pool, Wetland	
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	Riparian	CTT62400CA	230	8	None	None	G4	S4	null	null	Riparian woodland	
Spea hammondi	western spadefoot	Amphibians	AAABF02020	1444	41	None	None	G2G3	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland	
Sphaerocarpos drewiae	bottle liverwort	Bryophytes	NBHEP35030	23	3	None	None	G1	S1	1B.1	IUCN_EN-Endangered	Chaparral, Coastal scrub	
Streptocephalus wooltoni	Riverside fairy shrimp	Crustaceans	ICBRA07010	83	11	Endangered	None	G1G2	S2	null	IUCN_EN-Endangered	Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland	
Symphotrichum defoliatum	San Bernardino aster	Dicots	PDASTE80C0	102	2	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, USFS_S-Sensitive	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Valley & foothill grassland	
Taricha torosa	Coast Range newt	Amphibians	AAAAF02032	88	3	None	None	G4	S4	null	CDFW_SSC-Species of Special Concern	null	
Thamnophis hammondi	two-striped gartersnake	Reptiles	ARADB36160	184	1	None	None	G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Marsh & swamp, Riparian scrub, Riparian woodland, Wetland	
Valley Needlegrass Grassland	Valley Needlegrass Grassland	Herbaceous	CTT42110CA	45	1	None	None	G3	S3.1	null	null	Valley & foothill grassland	
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	505	21	Endangered	Endangered	G5T2	S3	null	null	Riparian forest, Riparian scrub, Riparian woodland	





CNPS Rare Plant Inventory

Search Results








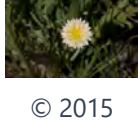

56 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3311753:3311762:3311752:3311763]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
<u><i>Abronia villosa</i></u> var. <u><i>aurita</i></u>	chaparral sand-verbena	Nyctaginaceae	annual herb	(Jan)Mar-Sep	None	None	G5T2?	S2	1B.1		2001-01-01	 © 2011 Aaron E. Sims
<u><i>Allium marvinii</i></u>	Yucaipa onion	Alliaceae	perennial bulbiferous herb	Apr-May	None	None	G1	S1	1B.2	Yes	2001-01-01	 © 2013 Keir Morse
<u><i>Allium munzii</i></u>	Munz's onion	Alliaceae	perennial bulbiferous herb	Mar-May	FE	CT	G1	S1	1B.1	Yes	1980-01-01	 © 2003 Guy Bruyeyea
<u><i>Almutaster pauciflorus</i></u>	alkali marsh aster	Asteraceae	perennial herb	Jun-Oct	None	None	G4	S1S2	2B.2		2017-03-14	 © 2014 Richard Spellenberg
<u><i>Ambrosia pumila</i></u>	San Diego ambrosia	Asteraceae	perennial rhizomatous herb	Apr-Oct	FE	None	G1	S1	1B.1		1974-01-01	 © 2010 Benjamin Smith
<u><i>Amsinckia douglasiana</i></u>	Douglas' fiddleneck	Boraginaceae	annual herb	Mar-May	None	None	G4	S4	4.2	Yes	2007-08-20	 © 2013 Chris Winchell
<u><i>Arctostaphylos rainbowensis</i></u>	Rainbow manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	None	None	G2	S2	1B.1	Yes	1994-01-01	No Photo Available
<u><i>Atriplex coronata</i></u> var. <u><i>notatior</i></u>	San Jacinto Valley crownscale	Chenopodiaceae	annual herb	Apr-Aug	FE	None	G4T1	S1	1B.1	Yes	1988-01-01	 © 2008 Larry Sward
<u><i>Atriplex parishii</i></u>	Parish's brittlescale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G1G2	S1	1B.1		1988-01-01	No Photo Available

<u><i>Ayenia compacta</i></u>	California ayenia	Malvaceae	perennial herb	Mar-Apr	None	None	G4	S3	2B.3		1974- 01-01	No Photo Available
<u><i>Brodiaea filifolia</i></u>	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	FT	CE	G2	S2	1B.1	Yes	1974- 01-01	 © 2016 Keir Morse
<u><i>Brodiaea santarosae</i></u>	Santa Rosa Basalt brodiaea	Themidaceae	perennial bulbiferous herb	May-Jun	None	None	G1	S1	1B.2	Yes	2008- 02-05	 © 2021 W. Juergen Schrenk
<u><i>Calochortus catalinae</i></u>	Catalina mariposa lily	Liliaceae	perennial bulbiferous herb	(Feb)Mar- Jun	None	None	G3G4	S3S4	4.2	Yes	1974- 01-01	No Photo Available
<u><i>Calochortus weedii</i></u> <u>var. intermedius</u>	intermediate mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	G3G4T3	S3	1B.2	Yes	1994- 01-01	No Photo Available
<u><i>Carex buxbaumii</i></u>	Buxbaum's sedge	Cyperaceae	perennial rhizomatous herb	Mar-Aug	None	None	G5	S3	4.2		2001- 01-01	 © 2008 Dean Wm. Taylor, Ph.D.
<u><i>Caulanthus simulans</i></u>	Payson's jewelflower	Brassicaceae	annual herb	(Feb)Mar- May(Jun)	None	None	G4	S4	4.2	Yes	1974- 01-01	No Photo Available
<u><i>Centromadia pungens</i></u> <u>ssp. laevis</u>	smooth tarplant	Asteraceae	annual herb	Apr-Sep	None	None	G3G4T2	S2	1B.1	Yes	1994- 01-01	No Photo Available
<u><i>Chorizanthe leptotheca</i></u>	Peninsular spineflower	Polygonaceae	annual herb	May-Aug	None	None	G3	S3	4.2		1994- 01-01	No Photo Available
<u><i>Chorizanthe parryi</i></u> <u>var. parryi</u>	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	None	None	G3T2	S2	1B.1	Yes	1994- 01-01	 © 2012 Keir Morse
<u><i>Chorizanthe polygonoides</i></u> <u>var. longispina</u>	long-spined spineflower	Polygonaceae	annual herb	Apr-Jul	None	None	G5T3	S3	1B.2		1994- 01-01	No Photo Available
<u><i>Clinopodium chandleri</i></u>	San Miguel savory	Lamiaceae	perennial shrub	Mar-Jul	None	None	G2G3	S2	1B.2		1974- 01-01	No Photo Available
<u><i>Convolvulus simulans</i></u>	small- flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	None	None	G4	S4	4.2		1994- 01-01	No Photo Available

<u><i>Deinandra paniculata</i></u>	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov	None	None	G4	S4	4.2		2001-01-01	No Photo Available
<u><i>Dodecahema leptoceras</i></u>	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1	Yes	1980-01-01	No Photo Available
<u><i>Dudleya multicaulis</i></u>	many-stemmed dudleya	Crassulaceae	perennial herb	Apr-Jul	None	None	G2	S2	1B.2	Yes	1974-01-01	No Photo Available
<u><i>Eryngium aristulatum</i> var. <i>parishii</i></u>	San Diego button-celery	Apiaceae	annual/perennial herb	Apr-Jun	FE	CE	G5T1	S1	1B.1		1974-01-01	No Photo Available
<u><i>Erythranthe diffusa</i></u>	Palomar monkeyflower	Phrymaceae	annual herb	Apr-Jun	None	None	G4	S3	4.3		1974-01-01	 Ron Vanderhoff, 2019
<u><i>Geothallus tuberosus</i></u>	Campbell's liverwort	Sphaerocarpaceae	ephemeral liverwort		None	None	G2	S2	1B.1	Yes	2001-01-01	 © 2023 Nathan Taylor
<u><i>Harpagonella palmeri</i></u>	Palmer's grapplinghook	Boraginaceae	annual herb	Mar-May	None	None	G4	S3	4.2		1980-01-01	 © 2015 Keir Morse
<u><i>Hesperocypris forbesii</i></u>	Tecate cypress	Cupressaceae	perennial evergreen tree		None	None	G2	S2	1B.1		1974-01-01	 © 2011 Joey Malone
<u><i>Holocarpa virgata</i> ssp. <i>elongata</i></u>	graceful tarplant	Asteraceae	annual herb	May-Nov	None	None	G5T3	S3	4.2	Yes	1994-01-01	 © 2013 Anna Bennett
<u><i>Hordeum intercedens</i></u>	vernal barley	Poaceae	annual herb	Mar-Jun	None	None	G3G4	S3S4	3.2		1994-01-01	No Photo Available
<u><i>Juglans californica</i></u>	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	None	None	G4	S4	4.2	Yes	1994-01-01	 © 2020 Zoya Akulova
<u><i>Juncus acutus</i> ssp. <i>leopoldii</i></u>	southwestern spiny rush	Juncaceae	perennial rhizomatous herb	(Mar)May-Jun	None	None	G5T5	S4	4.2		1988-01-01	 © 2019 Belinda Lo

<u><i>Juncus luciensis</i></u>	Santa Lucia dwarf rush	Juncaceae	annual herb	Apr-Jul	None	None	G3	S3	1B.2	Yes	2009-04-30	 © 2009 Keir Morse
<u><i>Lasthenia glabrata</i></u> <u><i>ssp. coulteri</i></u>	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1		1994-01-01	 © 2013 Keir Morse
<u><i>Lathyrus splendens</i></u>	pride-of-California	Fabaceae	perennial herb	Mar-Jun	None	None	G4	S4	4.3		1974-01-01	 © 2012 Ron Clark
<u><i>Lepidium virginicum</i></u> var. <u><i>robinsonii</i></u>	Robinson's pepper-grass	Brassicaceae	annual herb	Jan-Jul	None	None	G5T3	S3	4.3		1994-01-01	 © 2015 Keir Morse
<u><i>Lilium humboldtii</i></u> <u><i>ssp. ocellatum</i></u>	ocellated Humboldt lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	None	None	G4T4?	S4?	4.2	Yes	1980-01-01	 © 2008 Thomas Stoughton
<u><i>Lilium parryi</i></u>	lemon lily	Liliaceae	perennial bulbiferous herb	Jul-Aug	None	None	G3	S3	1B.2		1974-01-01	 © 2009 Thomas Stoughton
<u><i>Limnanthes alba</i></u> <u><i>ssp. parishii</i></u>	Parish's meadowfoam	Limnanthaceae	annual herb	Apr-Jun	None	CE	G4T2	S2	1B.2	Yes	1974-01-01	 © 2005 Christopher L. Christie
<u><i>Microseris douglasii</i></u> ssp. <u><i>platycarpha</i></u>	small-flowered microseris	Asteraceae	annual herb	Mar-May	None	None	G4T4	S4	4.2		2001-01-01	 © 2015 Richard Spellenberg
<u><i>Monardella hypoleuca</i></u> ssp. <u><i>intermedia</i></u>	intermediate monardella	Lamiaceae	perennial rhizomatous herb	Apr-Sep	None	None	G4T2?	S2?	1B.3	Yes	2012-10-16	 © 2016 Ron Vanderhoff
<u><i>Myosurus minimus</i></u> <u><i>ssp. apus</i></u>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1		1980-01-01	No Photo Available
<u><i>Navarretia fossalis</i></u>	spreading navarretia	Polemoniaceae	annual herb	Apr-Jun	FT	None	G2	S2	1B.1		1980-01-01	No Photo Available

<u><i>Navarretia prostrata</i></u>	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available
<u><i>Orcuttia californica</i></u>	California Orcutt grass	Poaceae	annual herb	Apr-Aug	FE	CE	G1	S1	1B.1		1974-01-01	No Photo Available
<u><i>Pseudognaphalium leucocephalum</i></u>	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	None	None	G4	S2	2B.2		2006-11-03	No Photo Available
<u><i>Quercus engelmannii</i></u>	Engelmann oak	Fagaceae	perennial deciduous tree	Mar-Jun	None	None	G3	S3	4.2		1988-01-01	No Photo Available
<u><i>Rhinotropis cornuta var. fishiae</i></u>	Fish's milkwort	Polygalaceae	perennial deciduous shrub	May-Aug	None	None	G5T4	S4	4.3		1974-01-01	No Photo Available
<u><i>Romneya coulteri</i></u>	Coulter's matilija poppy	Papaveraceae	perennial rhizomatous herb	Mar-Jul(Aug)	None	None	G4	S4	4.2		1974-01-01	No Photo Available
<u><i>Scutellaria bolanderi ssp. austromontana</i></u>	southern mountains skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Aug	None	None	G4T3	S3	1B.2	Yes	1994-01-01	No Photo Available
<u><i>Sibaropsis hammittii</i></u>	Hammitt's clay-cress	Brassicaceae	annual herb	Mar-Apr	None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available
<u><i>Sphaerocarpos drewiae</i></u>	bottle liverwort	Sphaerocarpaceae	ephemeral liverwort		None	None	G1	S1	1B.1	Yes	2001-01-01	No Photo Available
<u><i>Symphotrichum defoliatum</i></u>	San Bernardino aster	Asteraceae	perennial rhizomatous herb	Jul-Nov	None	None	G2	S2	1B.2	Yes	2004-01-01	No Photo Available
<u><i>Viguiera laciniata</i></u>	San Diego County viguiera	Asteraceae	perennial shrub	Feb-Jun(Aug)	None	None	G4	S4	4.3		1974-01-01	No Photo Available

Showing 1 to 56 of 56 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 4 October 2023].

Appendix 5.5-1 Cultural Resources Assessment

Appendices

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October 27, 2023

PlaceWorks, Inc.
750 B Street, Suite 1620
San Diego, CA 92101

RE: Cultural Resources Assessment for City of Wildomar General Plan Update, Riverside County, California

Greetings:

At the request of PlaceWorks, Inc., ECORP Consulting, Inc. conducted a cultural resources assessment to provide a summary of known cultural resources and provide potential mitigation measure recommendations as part of the City of Wildomar General Plan Update. The planning area consists of approximately 15,165 acres (hereinafter, referred to as the *Study Area*). ECORP conducted a records search to determine the number, type, and significance of recorded cultural resources and potential cultural resources that future development within the planning area could potentially impact.

REGULATORY SETTING

National Historic Preservation Act

The federal law that covers cultural resources that could be affected by federal undertakings is the National Historic Preservation Act (NHPA) of 1966, as amended. Section 106 of the NHPA requires that federal agencies take into account the effects of a federal undertaking on properties listed in or eligible for the National Register of Historic Places (NRHP). The agencies must afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. A federal undertaking is defined in 36 Code of Federal Regulations (CFR) 800.16(y) as:

A federal undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval.

The regulations that stipulate the procedures for complying with Section 106 are in 36 CFR 800. The Section 106 regulations require:

- definition of an Area of Potential Effect (APE);
- identification of cultural resources within the APE;
- evaluation of the identified resources in the APE using NRHP eligibility criteria;
- determination of whether the effects of the undertaking or project on eligible resources will be adverse; and
- agreement on and implementation of efforts to resolve adverse effects, if necessary.

The federal agency must seek comment from the State Historic Preservation Officer (SHPO) and, in some cases, the ACHP, for its determinations of eligibility, effects, and proposed mitigation measures. Section 106 procedures for a specific project can be modified by negotiation of a Memorandum of Agreement or Programmatic Agreement between the federal agency, the SHPO, and, in some cases, the project proponent.

Effects to a cultural resource are potentially adverse if the lead federal agency, with the SHPO's concurrence, determines the resource eligible for the NRHP, making it a Historic Property, and if application of the Criteria of Adverse Effects (36 CFR 800.5[a][2] et seq.) results in the conclusion that the effects will be adverse. The NRHP eligibility criteria, contained in 36 CFR 63, are as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

- a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) that are associated with the lives of persons significant in our past; or
- c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) that have yielded, or may be likely to yield, information important in prehistory or history.

In addition, the resource must be at least 50 years old, barring exceptional circumstances (36 CFR 60.4). Resources that are eligible for, or listed on, the NRHP are *historic properties*.

Regulations implementing Section 106 of the NHPA (36 CFR 800.5) require that the federal agency, in consultation with the SHPO, apply the Criteria of Adverse Effect to historic properties within the APE. According to 36 CFR 800.5(a)(1):

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association.

California Environmental Quality Act

The California Environmental Quality Act is the state law that applies to a project's impacts on cultural resources. A project is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a

state or local agency. CEQA requires that impacts to Historical Resources be identified and, if the impacts will be significant, then apply mitigation measures to reduce the impacts.

A Historical Resource is a resource that 1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR; 2) is included in a local register of historical resources, as defined in Public Resources Code (PRC) 5020.1(k); or 3), and has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g) (California Code of Regulations [CCR] Title 14, Section 15064.5(a)).

The eligibility criteria for the CRHR are as follows (CCR Title 14, Section 4852(b)):

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 U.S.;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; 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.

In addition, the resource must retain integrity, which is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, Section 4852(c)). Resources that have been determined eligible for the NRHP are automatically eligible for the CRHR.

Impacts to a Historical Resource, as defined by CEQA (listed in an official historic inventory or survey or eligible for the CRHR), are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired (CCR Title 14, Section 15064.5(b)). Demolition or alteration of eligible buildings, structures, and features that they would no longer be eligible would result in a significant impact. Whole or partial destruction of eligible archaeological sites would result in a significant impact. In addition to impacts from construction resulting in destruction or physical alteration of an eligible resource, impacts to the integrity of setting (sometimes termed *visual impacts*) of physical features in the project area could also result in significant impacts.

Riverside County Landmarks

The City of Wildomar is within the County of Riverside. To be eligible for consideration as a Riverside County Historic Landmark, a historic resource must be nominated through the following application and approval process:

- A. Historical resources that may be considered by nomination include:
 - Historical resources found as eligible for local, state, or national landmark status during CEQA cultural review.
 - Historical resources found as eligible for local, state, or national landmark status during a historic resource survey.

- A historic resource or district already so designated under a municipal or county preservation or landmark ordinance. (Riverside County Historic Preservation Districts are established by a different set of criteria under Riverside County Ordinance 578 and are not established under the criteria and procedures contained in this document.)
- Nominations for historic resources not already having some level of landmark designation, or found to be eligible for such, will be reviewed under criteria established below in Section VI, Types of Historical Resources and Criteria for Listing.

The typology and criteria listed below are consistent with those developed by the California Office of Historic Preservation but have been modified for local application at the county level.

Types of resources eligible for nomination:

- **Building:** A resource, such as a house, barn, church, factory, hotel, or similar structure created principally to shelter or assist in carrying out any form of human activity.
- **Site:** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possessed historical, cultural, or archaeological value. A site need not be marked by physical remains if it is the location of a prehistoric or historic event. Nor is it required that a building, structure, or object marked the site at the time of its historic significance, occupation, or activity. Examples: trails, landscapes features, battlefields, habitation sites, Native American ceremonial areas, and rock art.
- **Structure:** The term “structure” is used to describe a construction made for a functional purpose rather than creating human shelter. Examples: mines, flumes, roads, bridges, and tunnels.
- **Object:** The term “object” is used to describe those constructions that are primarily artistic or commemorative in nature, relatively small in scale, and associated with a specific setting or environment. Objects that are located in museums are not eligible for landmark listing. Examples: fountains, monuments, maritime resources, sculptures, and boundary markers.
- **Historic Districts:** A geographic area designated as containing multiple historic resources that collectively have a special character or value—historical, cultural, architectural, archaeological, community, or aesthetic. A district must meet at least one of the criteria discussed below.

To be considered a historic resource eligible for landmark listing, the resource must be at least 45 years of age at the time of nomination.

- A historical resource must be significant under one or more of the following criteria in order to qualify for listing as a Riverside County Historical Landmark.
 - Is associated with events that have made a significant contribution to the broad patterns of Riverside County's history and cultural heritage.
 - Is associated with the lives of persons important to the history of Riverside County or its communities.
 - Embodies the distinctive characteristics of a type, period, Riverside County region, or method of construction, or represents the work of an important creative individual or possesses high artistic values.
 - Has yielded or may be likely to yield, information important in Riverside County, state of California, or national prehistory or history.
- Integrity—historical resources that have been preserved, rehabilitated, or restored according to the U. S. Secretary of Interiors Standards for integrity will be given the highest consideration in the approval process.
- Reconstructed buildings will not be considered for landmark status unless they are more than 45 years old and embody traditional building methods and techniques or they exhibit high artistic values in the execution of the reconstruction.

Public Resource Code 21073 and 21074

Public Resource Codes 21073 and 21074 define California Native American tribe and tribal cultural resources, respectively. PRC 21073 defines a "California Native American tribe" as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission (NAHC).

Tribal cultural resources (TCRs) are defined in Section 21074 of the California PRC as sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either included in or determined to be eligible for inclusion in the CRHR, or are included in a local register of historical resources as defined in subdivision (k) of Section 5020.1, or are 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 Section 5024.1.

California State Assembly Bill 52

Assembly Bill 52, Section 1(b)(4) established that a project that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment. A lead agency

must begin consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requests to be informed of projects prior to the determination of a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report ,or if the tribe responds within 30 days of formal notification. Only California Native American tribes, as defined in Section 21073 of the California PRC, are experts in the identification of TCRs and impacts thereto. If the lead agency determines that a tribal cultural resource is present in a project area and mitigation measures are not otherwise specified by the tribe, the lead agency may use the following to avoid impacts to the TCR:

- Avoid damaging effects to any tribal cultural resource;
- Protect the cultural character and integrity of the resource;
- Protect the traditional use of the resource;
- Protect the confidentiality of the resource; and
- Development of permanent conservation easements or other cultural appropriate management plans.

California Senate Bill 18

California Senate Bill (SB) 18 requires any local agency to consult with California Native American tribes for the preservation of or mitigation of impacts to specified Native American places, prior to the adoption or amendment of a city or county general plan. It also specifies that consultation with California Native American tribes is required for the purposes of preserving specified places, features, and objects that are located within a cities or counties jurisdiction.

The goal of SB 18 is to recognize that pre-contact, archaeological, cultural, spiritual, and ceremonial places are essential elements of Native American culture and to establish meaningful government-to-government consultations early in the planning process to identify, consider, and preserve these places. The legislation enables California Native American tribes to manage and act as caretakers of California Native American prehistoric, archaeological, cultural, spiritual, and ceremonial places. Local governments are encouraged to consider the preservation and cultural aspects of these places.

Laws Pertaining to Human Remains

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 is a federal law that mandates museums and federal agencies to return certain Native American cultural items—such as human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants or culturally affiliated Native American tribes.

California Health and Safety Code

Section 7050.5 of the California Health and Safety Code requires that all work in the vicinity of the find stop until the county coroner determines if the remains are Native American and not the result of a crime scene. If the remains are determined to be Native American, the coroner must notify the NAHC within 24 hours. The NAHC will designate a Most Likely Descendent. Section 5097.94 provides additional guidance if human remains are identified during the course of a project.

CONTEXT

Regional Pre-Contact History, Southern California Non-Desert Regions

Paleo-Indian Period/Terminal Pleistocene (12,000 to 10,000 BP)

The first inhabitants of Southern California were big game hunters and gatherers exploiting extinct species of Pleistocene megafauna (e.g., mammoth and other Rancholabrean fauna). Local "fluted point" assemblages composed of large spear points or knives are stylistically and technologically similar to the Clovis Paleo-Indian cultural tradition dated to this period elsewhere in North America (Moratto 1984). Archaeological evidence for this period in southern California is limited to a few small temporary camps with fluted points found around late Pleistocene Lake margins in the Mojave Desert and around Tulare Lake in the southern San Joaquin Valley. Single points are reported from Ocotillo Wells and Cuyamaca Pass in eastern San Diego County and from the Yuha Desert in Imperial County (Rondeau et al. 2007).

Early Archaic Period/Early Holocene (10,000 to 8,500 BP)

Approximately 10,000 years ago, at the beginning of the Holocene, warming temperatures, and the extinction of the megafauna resulted in changing subsistence strategies with an emphasis hunting smaller game and increasing reliance on plant gathering. Previously, Early Holocene sites were represented by only a few sites and isolates from the Lake Mojave and San Dieguito complexes found along former lakebeds and grasslands of the Mojave Desert and in inland San Diego County. More recently, southern California Early Holocene sites have been found along the Santa Barbara Channel (Erlandson 1994), in western Riverside County (Goldberg 2001; Grenda 1997), and along the San Diego County coast (Gallegos 1991; Koerper et al. 1991; Warren 1967).

The San Dieguito Complex was defined based on material found at the Harris site (CA-SDI-149) on the San Dieguito River near Lake Hodges in San Diego County. San Dieguito artifacts include large leaf-shaped points; leaf-shaped knives; large ovoid, domed, and rectangular end and side scrapers; engraving tools; and crescentics (Koerper et al. 1991). The San Dieguito Complex at the Harris site dates to 9,000 to 7,500 BP (Gallegos 1991). However, sites from this time period in coastal San Diego County have yielded artifacts and subsistence remains characteristic of the succeeding Encinitas Tradition, including manos, metates, core-cobble tools, and marine shell (Gallegos 1991; Koerper et al. 1991).

Encinitas Tradition or Milling Stone Period/Middle Holocene (8,500 to 1,250 BP)

The Encinitas Tradition (Warren 1968) and the Milling Stone Period (Wallace 1955) refer to a long period of time during which small mobile bands of people who spoke an early Hokan language foraged for a wide variety of resources including hard seeds, berries, and roots/tubers (yucca in inland areas), rabbits and other small animals, and shellfish and fish in coastal areas. Sites from the Encinitas Tradition consist of residential bases and resource acquisition locations with no evidence for overnight stays. Residential bases have hearths and fire-affected rock indicating overnight stays and food preparation. Residential bases along the coast have large amounts of shell and are often termed shell middens.

The Encinitas Tradition as originally defined (Warren 1968) applied to all of the non-desert areas of southern California. Recently, four patterns within the Encinitas Tradition have been proposed which apply to different regions of southern California (Sutton and Gardner 2010). The Topanga Pattern includes archaeological material from the Los Angeles Basin and Orange County. The Greven Knoll Pattern pertains to southwestern San Bernardino County and western Riverside County (Sutton and Gardner 2010). Each of the patterns is divided into temporal phases. The Topanga Pattern included the Los Angeles Basin and Orange County. The Topanga I phase extends from 8,500 to 5,000 BP and Topanga II runs from 5,000 to 3,500 BP. The Topanga Pattern ended about 3,500 BP with the arrival of Takic speakers, except in the Santa Monica Mountains where the Topanga III phase lasted until about 2,000 BP.

The Encinitas Tradition in inland areas east of the Topanga Pattern (southwestern San Bernardino County and western Riverside County) is the Greven Knoll Pattern (Sutton and Gardner 2010). Greven Knoll I (9,400 to 4,000 BP) has abundant manos and metates. Projectile points are few and are mostly Pinto points. Greven Knoll II (4,000 to 3,000 BP) has abundant manos and metates and core tools. Projectile points are mostly Elko points. The Elsinore site on the east shore of Lake Elsinore was occupied during Greven Knoll I and Greven Knoll II. During Greven Knoll I faunal processing (butchering) took place at the lakeshore and floral processing (seed grinding), cooking, and eating took place farther from the shore. The primary foods were rabbit meat and seeds from grasses, sage, and ragweed. A few deer, waterfowl, and reptiles were consumed. The recovered archaeological material suggests that a highly mobile population visited the site at a specific time each year. It is possible that their seasonal round included the ocean coast at other times of the year. These people had an unspecialized technology as exemplified by the numerous crescents, a multi-purpose tool. The few projectile points suggest that most of the small game was trapped using nets and snares (Grenda 1997). During Greven Knoll II, which included a warmer drier climatic episode known as the Altithermal, it is thought that populations in interior southern California concentrated at oases and that Lake Elsinore was one of them. The Elsinore site (CA-RIV-2798) is one of five known Middle Holocene residential sites around Lake Elsinore. Tools were mostly manos, metates, and hammerstones. Scraper planes were absent. Flaked-stone tools consisted mostly of utilized flakes used as scrapers. The Elsinore site during the Middle Holocene was a "recurrent extended encampment" which could have been occupied during much of the year.

The Encinitas Tradition lasted longer in inland areas because Takic speakers did not move east into these areas until circa 1,000 BP. Greven Knoll III (3,000 to 1,000 BP) is present at the Liberty Grove site in Cucamonga (Salls 1983) and at sites in Cajon Pass that were defined as part of the Sayles Complex (Kowta 1969). Greven Knoll III sites have a large proportion of manos and metates and core tools as well as

scraper planes. Kowta (1969) suggested the scraper planes may have been used to process yucca and agave. The faunal assemblage consists of large quantities of lagomorphs (rabbits and hares) and lesser quantities of deer, rodents, birds, carnivores, and reptiles.

Palomar Tradition (1,250 to 150 BP)

The native people of southern California (north of a line from Agua Hedionda to Lake Henshaw in San Diego County) spoke Takic languages which form a branch or subfamily of the Uto-Aztecan language family. The Takic languages are divided into the Gabrielino-Fernandeño language, the Serrano-Kitanemuk group (the Serrano [includes the Vanyume dialect] and Kitanemuk languages), the Tataviam language, and the Cupan group (the Luiseño-Juaneño language, the Cahuilla Language, and the Cupeño language) (Golla 2011). According to Sutton (2009), Takic speakers occupied the southern San Joaquin Valley before 3,500 BP. Perhaps because of the arrival of Yokutsan speakers (a language in the Penutian language family) from the north, Takic speakers moved southeast. The ancestors of the Kitanemuk moved into the Tehachapi Mountains and the ancestors of the Tataviam moved into the upper Santa Clara River drainage. The ancestors of the Gabrielino (Tongva) moved into the Los Angeles Basin about 3,500 BP, replacing the native Hokan speakers. Speakers of proto-Gabrielino reached the southern Channel Islands by 3,200 BP (Sutton 2009) and moved as far south as Aliso Creek in Orange County by 3,000 BP.

Takic people moved south into southern Orange County after 1,250 BP and became the ancestors of the Juaneño. Takic people moved inland from southern Orange County about 1,000 BP, becoming the ancestors of the Luiseño, Cupeño, and Cahuilla. Takic people from the Kitanemuk area moved east along the northern slopes of the San Gabriel Mountains and spread into the San Bernardino Mountains and along the Mojave River becoming the ancestors of the Serrano and the Vanyume.

The material culture of the inland areas where Takic languages were spoken at the time of Spanish contact is part of the Palomar Tradition (Sutton 2011). San Luis Rey I Phase (1,000 to 500 BP) and San Luis Rey II Phase (500 to 150 BP) pertain to the area occupied by the Luiseño at the time of Spanish contact. The Peninsular I (1,000 to 750 BP), II (750 to 300 BP), and III (300 to 150 BP) Phases are used in the areas occupied by the Cahuilla and Serrano (Sutton 2011).

San Luis Rey I is characterized by Cottonwood Triangular arrow points, use of bedrock mortars, stone pendants, shell beads, quartz crystals, and bone tools. San Luis Rey II sees the addition of ceramics, including ceramic cremation urns, red pictographs on boulders in village sites, and steatite arrow straighteners. San Luis Rey II represents the archaeological manifestation of the antecedents of the historically known Luiseño (Goldberg 2001). During San Luis Rey I there were a series of small permanent residential bases at water sources, each occupied by a kin group (probably a lineage). During San Luis Rey II people from several related residential bases moved into a large village located at the most reliable water source (Waugh 1986). Each village had a territory that included acorn harvesting camps at higher elevations. Villages have numerous bedrock mortars, large dense midden areas with a full range of flaked and ground stone tools, rock art, and a cemetery.

Ethnographic Context

The City of Wildomar falls within the territory of both the Luiseño and Juaneño. The Luiseño occupied most of the area drained by the San Luis Rey and Santa Margarita Rivers (Bean and Shipek 1978; Hodge 1907). The Luiseño lived in sedentary and autonomous village groups. Permanent villages were typically located in valley bottoms, along streams, or along coastal strands near mountain ranges where water was available and village defense was possible (Bean and Shipek 1978). The Luiseño speak a subfamily of the widespread Uto-Aztecan family of languages, which is vibrant and complex (Native Talk n.d.).

Villages had hereditary chiefs who controlled religious, economic, and territorial activities. An advisory council of ritual specialists and shamans was consulted for environmental and other knowledge. Large villages located along the coast or in inland valleys may have had more complex social and political structures than settlements controlling smaller territories (Bean and Shipek 1978; Strong 1929).

Luiseño subsistence centered on gathering acorns, seeds, greens, bulbs, roots, berries, and other vegetal foods. This was supplemented by hunting mammals such as deer, antelope, rabbit, woodrat, ground squirrels, and mice, as well as birds including quail, doves, and ducks. Inland populations had access to fishing and gathering sites on the coast, which they used during the winter months. Bands along the coast exploited marine resources, such as sea mammals, fish, crustaceans, and mollusks. Inland, trout and other fish were taken from mountain streams (Bean and Shipek 1978). Regions were allotted to each band and then further divided among the various families. These locations for procuring resources were valuable and protected by the family which owned the region (Sparkman 1908).

Hunting was done both individually and by organized groups. Tool technology for food acquisition, storage, and preparation reflects the size and quantity of items procured. Small game was hunted with the use of curved throwing sticks, nets, slings, or traps. Bows and arrows were used for hunting larger game. Dugout canoes, basketry fish traps, and shell hooks were used for near-shore ocean fishing. Coiled and twined baskets were made for food gathering, preparation, storing, and serving. Other items used for food processing included large shallow trays for winnowing chaff from grain, ceramic and basketry storage containers, manos and metates for grinding seeds, and ceramic jars for cooking (Bean and Shipek 1978).

Houses were brush-thatched, conical structures, partially subterranean and held up-right by a series of main support and numerous lighter poles (Curtis 1970). Personal ornaments were made from "bone, clay, stone, shell, bear claws, glass, deer hooves," abalone shell, deerskin, otter skin, and rabbit skin. These materials were used to create nose ornaments, cloaks, moccasins, Yucca fiber sandals and beads, among others (Bean and Shipek 1978).

Ethnographic descriptions of the Juaneño are often given in terms of their neighbors to the south, the Luiseño (Bean and Shipek 1978; White 1963), but also point to a separate ethnic identity (Kroeber 1925; Strong 1929). Perhaps the most important account of Juaneño culture are the observations made by Gerónimo Boscana, friar at Mission San Juan Capistrano from 1812 to 1826 (Boscana 1933).

Juaneño settlement and subsistence systems may extend back in time to the beginning of the Angeles IV Phase about 1,250 BP when Takic speakers moved south beyond Aliso Creek. The Juaneño were semi-sedentary hunters and gatherers. One of the most important food resources for inland groups were acorns gathered from oak groves in canyons, drainages, and foothills. Acorns were ground into flour using mortars and pestles. Seeds from sage and grasses, goosefoot, and California buckwheat were collected and ground into meal with manos and metates. Protein was supplied through the meat of deer, rabbits, and other animals hunted with bow and arrow or trapped using snares, nets, and deadfalls. Coastal dwellers collected shellfish and used carved shell hooks for fishing in bay/estuary, nearshore, and kelp bed zones. Dried fish and shellfish were probably traded for inland products such as acorns and venison.

The Juaneño lived in villages of up to 250 people located near permanent water and a variety of food sources. Each village was typically located at the center of an established territory from which resources for the group were gathered. Small groups left the village for short periods of time to hunt, fish, and gather plant foods. While away from the village, they established temporary camps and created locations where food and other materials were processed. Archaeologically, such locations are evidenced by manos and metates for seed grinding, bedrock mortars for acorn processing, and lithic scatters indicating manufacturing or maintenance of stone tools (usually made of chert) used in hunting or butchering. Overnight stays in field camps are evidenced by fire-affected rock used in hearths.

Mission San Luis Rey

After the San Luis Rey Mission was established in 1798 on the lower San Luis Rey River, most Luiseño were converted and taken to the mission. Poor living conditions at the missions and introduced European diseases led to a rapid decline of the Luiseño population. Following closure of the missions by the Mexican Government, Luiseño dispersed throughout Southern California. Some worked on the Mexican ranchos, others moved to newly founded towns established for them, some sought refuge among inland groups, and a few managed to acquire land grants. Later, many moved to or were forced onto reservations established by the U.S. Government. Although many of their cultural traditions had been suppressed during the Mission Period, the Luiseño were successful at retaining their language and certain rituals and ceremonies. Starting in the 1970s, there was a revival of interest in the Luiseño language and culture. Today, the Luiseño consist of seven bands and work for "civil rights, cultural preservation and language revitalization" (Native Talk n.d.).

City of Wildomar

Rancho La Laguna was a grant of 3 square leagues made by Mexican governor Manuel Micheltoarena to Julian Manriquez in 1844 (Gunther 1984). Rancho La Laguna included Lake Elsinore and what is now the City of Wildomar. The land grant did not include the surrounding hills.

After Julian Manriquez died, Rancho La Laguna was sold to Abel Stearns in 1852. Stearns sold the rancho to Agustín Machado in 1858. When confirmed by the United States in 1872, the grant had an area of 13,339 acres (Gunther 1984). Machado's widow and 11 of the 12 children sold most of the rancho to an Englishman, Charles A. Sumner, in 1873. Sumner mortgaged his property in 1875 and lost the property through foreclosure and a sheriff's sale in 1877. The new owner sold the property to Frederick M. Sumner,

the brother of Charles A. Sumner. In 1881, ownership was transferred to a San Francisco bank and in 1883, it was purchased by Franklin Heald, William Collier, and Donald Graham. The partners subdivided part of the property and began selling lots in what would become the Town of Elsinore. (Gunther 1984). These partners divided the La Laguna Ranch property in 1885 with Collier and Graham taking the area southeast of Corydon Road, which became the City of Wildomar (Gunther 1984).

Wildomar began as the Car B station, established in 1884 by the California Southern Railroad Company (CSRR) 6 miles south of the Elsinore Junction station (Gunther 1984). The station began as a railroad car on a siding. The name was changed to Wildon and lots were surveyed and platted in 1885. Wildon was based on the names of William Collier and Donald Graham. A new plat was recorded in 1886 with the name changed to Wildomar. The name Wildomar was formed using Wildon plus part of the first name of Margaret Collier, wife of William Collier and sister of Donald Graham (City of Wildomar n.d.a).

The original townsite was between Palomar Street and Grand Avenue and between Gruwell Street and Pasadena Avenue, according to the 1901 edition of the U.S. Geological Survey Elsinore Quadrangle. The Wildomar post office and the elementary school were established in 1886. With the arrival of many Quaker families from West Branch, Iowa, Wildomar became a Quaker colony. Wildomar was one of the election precincts and school districts when Riverside County was formed in 1893 (Gunther 1984).

Wildomar's growth slowed when the CSRR's tracks in Temecula Canyon were washed out for the final time in 1892, which severed the connection with San Diego; the tracks were not rebuilt (Robertson 1998). In 1927, the track in Railroad Canyon washed out and the Atchison, Topeka, & Santa Fe railroad track from Perris to Temecula was abandoned (Gunther 1984), after which, Wildomar no longer had rail service.

Wildomar remained a rural farming and horse ranching community for most of the 20th century (City of Wildomar n.d.b). Wildomar was incorporated as a city on July 1, 2008 with a population of 28,000. (City of Wildomar n.d.a, n.d.b).

KNOWN CULTURAL RESOURCES

Records Search

ECORP submitted a records search request to the Eastern Information Center of the California Historical Resources Information System on April 11, 2022. The Eastern Information Center returned the results on April 22, 2022, which indicated that a total of 82 previously recorded cultural resources are within the Study Area (Appendix A). These previously recorded cultural resources consist of 26 pre-contact sites, 15 pre-contact isolates, 10 historic sites, 18 historic buildings or structures, 10 historic isolates, and 3 multicomponent sites comprising both historic and pre-contact components.

Types of Sites

Both pre-contact and historic sites are known to exist within the City of Wildomar. Pre-contact sites include lithic reduction sites, bedrock milling features, hearths, and remnants of habitation sites, and isolated pre-contact artifacts. Historic sites include privies or refuse scatters, irrigation systems, family homes, farms, and ranches.

Pre-contact sites are often found situated along the banks of rivers and streams (current and former) in locations that provide easy access to a variety of resources. Historic sites are located in similar areas; however, some resources sought by settlers encouraged land use in unfavorable locations. Historic buildings or structures are generally located in or near the City of Wildomar center, although some structures or buildings associated with ranching activities or homesteads may be located in more rural areas. Artifacts associated with all of these activities may be found throughout the City; however, these artifacts are isolated.

The Built Environment Resources Directory

The Built Environment Resources Database lists 14 properties within the Study Area whose dates of occupancy or construction range between the years 1885 to 1940, and which range from single-family homes to health resorts (Table 1). Although none are currently listed on the CRHR or NRHP, four resources have been evaluated as potentially eligible, with a status code of 3S.

Table 1. Previously Evaluated Built Environment Resources within Study Area			
Address	Name	Date of Construction	CRHR/ NRHP Code
25025 Catt Road	—	1940	5S2
2525 Catt Road	Schwartz	1934	5S2
32785 Central Street	Judge William Collier Home, Lois Cook House	1885	5S2
21343 Dunn Street	Ben Taylor House	1934	3S
35880 Frederick Street	Heal Ranch, Robinson	1922	5S2
20619 Grand Avenue	—	1935	7N
21999 Grand Avenue	R.J. Brown	1886	3S
22060 Grand Avenue	Easterbrook	1886	3S
22180 Grand Avenue	—	1899	5S2
34860 Iodine Springs Road	Iodine Springs	1925	5S2
21680 Lime Street	—	1945	6Y
Palomar Street	Wildomar Bell	1887	5S2
21564 Palomar Street	—	1910	7N
21457 Pecan Street	Dr. O.S. Brown	1888	3S

Notes: CRHR = California Register of Historical Resources; NRHP = National Register of Historic Places; 3S: Appears eligible for NRHP individually through survey evaluation; 5S2: Individually eligible for local listing or designation; 6Y: Determined ineligible for NRHP by consensus through Section 106 process – Not evaluated for CR local listing; 7N: Needs to be reevaluated – formerly coded as may become NRHP eligible with specific conditions.

The National Register of Historic Places

The National Register of Historic Places lists two properties near the Study Area; both are located in the City of Lake Elsinore. The first property is the Armory Hall—a meeting hall that was originally constructed and used by the Grand Army of the Republic, which was a Civil War veterans’ organization in 1887. The hall is located at 252 North Main Street in Lake Elsinore, approximately 2 miles west of the City of Wildomar. The second property is the Crescent Bath House, which is also located about 2 miles west of the City of Wildomar, at 201 West Graham Avenue. This mineral bath house was built in the 1880s at the area’s largest mineral spring in Moorish style architecture (The Historical Marker Database 2022).

California Historic Landmarks

The nearest California Historic Landmark to the City of Wildomar is the Santa Rosa Rancho, which is located approximately 4.5 miles to the south.

RECOMMENDATIONS

There are a number of potential impacts to cultural resources that may occur through the implementation of development within the Study Area:

- the destruction of existing or unanticipated pre-contact and historical archaeological resources;
- the destruction or adverse changes to built environment resources;
- the potential to disturb Native American human remains; and/or
- the destruction or adverse changes to tribal cultural resources.

In accordance with current city standards, ECORP recommends implementing the mitigations measures below to minimize potential impacts to cultural resources within the Study Area:

Cultural Resources

CUL-1 Human Remains. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (i.e., 24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains, as provided in Public Resources Code Section 5097.98.

Timing/Implementation: *During any ground-disturbing construction activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

CUL-2 Site-Specific Cultural Resources Study and Evaluation of Resources. A site-specific cultural resources study shall be completed prior to the approval of projects. This site-specific cultural resources study shall include, but not be limited to, a records search with the California Historical Resource Information System, review of historical documents, a Sacred Lands File search with the NAHC, and a field survey/site effort. The findings of the study shall be submitted as a report that follows the California Office of Historic Preservation’s recommended content and format. The report will provide the historic context, methods, results, and recommendations for appropriate findings.

Timing/Implementation: Prior to project approval

Enforcement/Monitoring: City of Wildomar Engineering Department and Community Development Department

Tribal Cultural Resources

TRI-1 Unanticipated Discoveries. If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological report(s) and/or environmental assessment conducted prior to project approval, the following procedures shall be followed. Cultural resources are defined, as being multiple artifacts in close association with each other, but also include fewer artifacts if the area of the find is determined to be of significance due to its sacred or cultural importance as determined in consultation with the lead agency and Native American tribe(s) that elected to consult under Assembly Bill (AB) 52 (“Consulting Tribe(s)”).

- a. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the developer, the archaeologist, the tribal representative(s) and the Community Development Director to discuss the significance of the find.
- b. At the meeting, the significance of the discoveries shall be discussed, and after consultation with the tribal representative(s), developer, and the archaeologist, a decision shall be made, with the concurrence of the Community Development Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.
- c. Grading or further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. Work shall be allowed to continue outside of the buffer area and will be monitored by additional Tribal monitors if needed.
- d. Treatment and avoidance of the newly discovered resources shall be approved by the City. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils and/or re-burial on the project property so they are not subject to further disturbance in perpetuity as identified in Mitigation Measures TRI-2 and TRI-7.

- e. If the find is determined to be significant and avoidance of the site has not been achieved, a Phase III data recovery plan (see Mitigation Measure TRI-6) shall be prepared by the project archeologist, in consultation with the Consulting Tribe(s), and shall be submitted to the City for their review and approval prior to implementation of the plan.
- f. Pursuant to California Public Resources Code Section 21083.2(b), avoidance is the preferred method of preservation for archaeological resources and tribal cultural resources. If the landowner and the Consulting Tribe(s) cannot agree on the significance or the mitigation for the archaeological or tribal cultural resources, these issues will be presented to the Community Development Director for decision. The City's Community Development Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological and tribal cultural resources, recommendations of the project archeologist, substantial evidence, and shall take into account the cultural and religious principles and practices of the Consulting Tribe(s). Notwithstanding any other rights available under the law, the decision of the City Community Development Director shall be appealable to the City Planning Commission and/or City Council.

Timing/Implementation: During any ground-disturbing or construction activities

Enforcement/Monitoring: City of Wildomar Engineering Department and Community Development Department

TRI-2 Cultural Resources Disposition. In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

- a. One or more of the following treatments, in order of preference, shall be employed with the Consulting Tribe(s). Evidence of such shall be provided to the City of Wildomar Community Development Department:
 - i. *Preservation-In-Place of the cultural resources, if feasible.* Preservation in place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resources.
 - ii. *Reburial of the resources on the project property.* The measures for reburial shall include, at least, the following: measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed, with an exception that sacred items, burial goods, and Native American human remains are excluded. Any reburial process shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV report (see Mitigation Measure TRI-6). The Phase IV report shall be filed with the City under a confidential cover and not subject to Public Records Requests.

- iii. If preservation-in-place or reburial is not feasible, then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that is approved by the City. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees by the applicant necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the City. There shall be no destructive or invasive testing on sacred items, burial goods, and Native American human remains, as defined by the cultural and religious practices of the most likely descendant. Results concerning finds of any inadvertent discoveries shall be included in the Phase IV monitoring report.

Timing/Implementation: *During grading activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

TRI-3 Archaeological Monitoring. Prior to issuance of a grading permit, the project applicant shall retain a Riverside County-qualified Registered Professional Archaeologist (RPA) to monitor all ground disturbing activities in an effort to identify any unknown archaeological resources.

The Registered Professional Archaeologist and tribal monitor(s) required by Mitigation Measures TRI-4 and TRI-5 shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the project site, including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, structure demolition, etc. The Registered Professional Archaeologist and tribal monitor(s) shall independently have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with any required special interest or tribal monitors.

The developer/permit holder shall submit a fully executed copy of the contract to the Community Development Department to ensure compliance with this condition of approval. Upon verification, the Community Development Department shall clear this condition.

In addition, the Registered Professional Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural Resources Management Plan (CRMP) pursuant to the definition in AB 52 to address the details, timing, and responsibility of all archaeological and cultural activities that will occur on the project site. A *consulting tribe* is defined as a tribe that initiated the AB 52 tribal consultation process for the project, has not opted out of the AB 52 consultation process, and has completed AB 52 consultation with the City as provided for in Public Resources Code Section 21080.3.2(b)(1) of AB 52.

Details in the Plan shall include the following:

- a. Project grading and development scheduling

- b. The project archaeologist and the Consulting Tribes(s) shall attend the pre-grading meeting with the City, the construction manager, and any contractors, and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The training will include a brief review of the cultural sensitivity of the project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the project following the initial training must take the Cultural Resources Worker Sensitivity Training prior to beginning work and the project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis;
- c. The protocols and stipulations that the contractor, City, Consulting Tribe(s) and project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

Timing/Implementation: *Prior to issuance of grading permit*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

TRI-4 Native American Monitoring (Pechanga Band of Luiseno Indians). Tribal monitor(s) shall be required onsite during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Pechanga Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned tribe and the land divider/permit holder for the monitoring of the project to the Community Development Department and to the Engineering Department. The tribal monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the project archaeologist.

Timing/Implementation: *During ground-disturbing activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

TRI-5 Native American Monitoring (Soboba Band of Luiseno Indians). Tribal monitor(s) shall be required onsite during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Soboba Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-

mentioned tribe and the land divider/permit holder for the monitoring of the project to the Community Development Department and to the Engineering Department. The tribal monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the project archaeologist.

Timing/Implementation: *During ground-disturbing activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

TRI-6 Archeology Report - Phase III and IV. Prior to final inspection, the developer/permit holder shall prompt the project archeologist to submit two (2) copies of the Phase III Data Recovery report (if required for the project) and the Phase IV Cultural Resources Monitoring report. The Phase IV report shall include evidence of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting. The Community Development Department shall review the reports to determine adequate mitigation compliance. Provided the reports are adequate, the Community Development Department shall clear this condition. Once the report(s) are determined to be adequate, two (2) copies shall be submitted to the Eastern Information Center (EIC) at the University of California, Riverside, and one (1) copy shall be submitted to the Consulting Tribe(s) Cultural Resources Department(s).

Timing/Implementation: *Prior to final inspection*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

TRI-7 Non-Disclosure of Reburial Locations. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The coroner, pursuant to the specific exemption set forth in California Government Code 6254 (r), parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).

Timing/Implementation: *During discovery of Native American human remains*


Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

TRI-8 No-Build Easement or Similar Instrument. In the event that Native American artifacts are found and buried within the project vicinity, a no-build easement or similar legal instrument shall be used to preclude future development from taking place on the reburial site(s).

Timing/Implementation: *Reburial of Native American Artifacts*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Community Development Department*

Sincerely,

A handwritten signature in black ink, appearing to read 'Sonia Sifuentes', with a long horizontal flourish extending to the right.

Sonia Sifuentes, RPA
Southern California Manager of Cultural Resources
Senior Archaeologist

REFERENCES

City of Wildomar.

_____. n.d.a. Celebrating 10 Years of Cityhood.

[https://www.cityofwildomar.org/DocumentCenter/View/598/10-Years-of-Cityhood-PDF?bidId=.](https://www.cityofwildomar.org/DocumentCenter/View/598/10-Years-of-Cityhood-PDF?bidId=)

Accessed June 31, 2023.

_____. n.d.b. About Wildomar. <https://www.cityofwildomar.org/256/History>. Accessed June 7, 2023.

Bean, Lowell John and Florence C. Shipek. 1978 Luiseño. In Handbook of North American Indians, Volume 8: California. Edited by R.F. Heizer, pp. 550-563. Smithsonian Institution, Washington, D.C.

Boscana, G. 1933. Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Fater Geronimo Boscana's Historical Account of the Belief, Usages, Customs and Extravagancies of the Indians of San Juan Capistrano Called the Acagchemem Tribe. Originally published in 1846. Fine Arts Press, Santa Ana.

Curtis, Edward 1970. The North American Indian. Being a series of volumes picturing and describing the Indians of the United States, the dominion of Canada and Alaska. Johnson Reprint Corporation, New York, N.Y.

Erlandson, J. M. 1994. Early Hunter-Gatherers of the California Coast. Plenum Press, New York.

Gallegos, D. 1991. Antiquity and Adaptation at Agua Hedionda, Carlsbad, California. In Hunter-Gatherers of Early Holocene Coastal California, edited by J. M. Erlandson and R. H. Colten, pp. 19-41. Perspectives in California Archaeology, Volume 1. Institute of Archaeology, University of California, Los Angeles.

Goldberg, S. 2001. Eastside Reservoir Project: Final Report of Archaeological Investigations (Five volumes). Applied Earthworks, Inc., Hemet, California.

Golla, V. 2011. California Indian Languages. University of California Press, Berkeley.

Grenda, D. R. 1997. Continuity and Change: 8,500 Years of Lacustrine Adaptation on the Shores of Lake Elsinore: Archaeological Investigations at a Stratified Site in Southern California. Statistical Research Technical Series No 59. Statistical Research, Inc., Tucson, Arizona.

Gunther, Jane D. 1984. Riverside County, California, Placenames: Their Origins and Their Stories. Rubidoux Printing Company, Riverside.

Historical Marker Database. 2022. Crescent Bath House. <https://www.hmdb.org/m.asp?m=178935>.

Accessed October 25, 2023.

Hodge, Fredrick 1907 Handbook of American Indians. Bureau of American Ethnology, Bulletin 30, Part I.

Koerper, H. C., P. Langenwalter II, and A. Schroth. 1991. Early Holocene Adaptations and the Transition Problem: Evidence from the Allan O. Kelly Site, Agua Hedionda Lagoon. In Hunter-Gatherers of Early Holocene Coastal California, edited by J. M. Erlandson and R. H. Colten, pp. 81-88.

- Perspectives in California Archaeology, Volume 1. Institute of Archaeology, University of California, Los Angeles.
- Kowta, M. 1969. The Sayles Complex: A Late Milling Stone Assemblage from Cajon Pass and the Ecological Implications of Its Scraper Planes. University of California Publications in Anthropology 6. Berkeley.
- Kroeber, A. L. 1925. Handbook of the Indians of California. Bureau of American Ethnology Bulletin 78. Washington.
- Moratto, Michael J. 1984. California Archaeology. Academic Press, Inc. (Harcourt, Brace, Jovanovich, Publishers), Orlando, Florida.
- Native Talk. n.d. The Luiseño of California. <http://nativetalk.org/the-Luiseño-of-california/>. Accessed April 21, 2022.
- Robertson, Donald B. 1998. Encyclopedia of Western Railroad History, Volume IV, California. The Caxton Printers, Caldwell, Idaho.
- Rondeau, M. F., J. Cassidy, and T. L. Jones. 2007. Colonization Technologies: Fluted Projectile Points and the San Clemente Island Woodworking/Microblade Complex. In California Prehistory: Colonization, Culture, and Complexity, edited by T. L. Jones and K. A. Klar, pp. 299-315. Altamira Press, Lanham, Maryland.
- Salls, R. A. 1983. The Liberty Grove Site: Archaeological Interpretation of a Late Milling Stone Horizon Site on the Cucamonga Plain. M.A. Thesis, Department of Anthropology, University of California, Los Angeles.
- Sparkman, Philip S. 1908. The Culture of the Luiseño Indians. The University Press, Berkeley, California.
- Strong, William D. 1929. Aboriginal Society in Southern California. University of California Publications in American Archaeology and Ethnology 26(1):1-358.
- Sutton, M. Q. 2011. The Palomar Tradition and Its Place in the Prehistory of Southern California. Pacific Coast Archaeological Society Quarterly 44(4):1-74.
- _____. 2009. People and Language: Defining the Tadic Expansion into Southern California. Pacific Coast Archaeological Society Quarterly 41(2 and 3):31-93.
- Sutton, M. Q. and J. K. Gardner. 2010. Reconceptualizing the Encinitas Tradition of Southern California. Pacific Coast Archaeological Society Quarterly 42(4):1-64.
- Wallace, W. J. 1955. A Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology 11:214-230.
- Warren, C. N. 1968. Cultural Tradition and Ecological Adaptation on the Southern California Coast. In Archaic Prehistory in the Western United States, edited by Cynthia Irwin-Williams, pp. 1-14. Eastern New Mexico University Contributions in Anthropology 1. Portales, New Mexico.

____. 1967. The San Dieguito Complex: a Review and Hypothesis. *American Antiquity* 32:168-185.

White, Raymond C. 1963. Luiseño Social Organization. *University of California Publications in American Archaeology and Ethnology* 48(2):91-194. Berkeley.

Records Search Confirmation

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-00108	NADB-R - 1080121; Submitter - 76; Voided - MF-0094	1973	Joan R. Smith and Robert L. Bettinger	Bundy Canyon Development: Potential Impact On Archaeological Resources	Archaeological Research Unit, U.C. Riverside	33-001255, 33-001256, 33-001257
RI-00109	NADB-R - 1080122	1987	Ronald M. Bissell	Cultural Resources Evaluation of the Warm Springs Property, Approximately 650 Acres In Western Riverside County, California.	RMW Paleo Associates, Mission Viejo, CA	33-003956, 33-007881, 33-011624
RI-00349	NADB-R - 1080406; Voided - MF-0314	1978	Paul G. Chace	An Archaeological Survey of the Joaquin Ranch (Tentative Tract # 10,459) in the County of Riverside, California	Paul G. Chace & Associates, Escondido, CA	33-001139, 33-001273, 33-001274, 33-001276, 33-001279, 33-001281, 33-001282, 33-001283, 33-001285, 33-001287, 33-001288, 33-001289, 33-001290, 33-002418, 33-002808, 33-002809, 33-002810, 33-002811, 33-002812, 33-002813, 33-002814, 33-011266, 33-011268, 33-013512, 33-013744, 33-013746, 33-013749, 33-013848
RI-00351	NADB-R - 1083207; Voided - MF-0314	1989	Brooke S. Arkush	Letter Report: Archaeological Monitoring of Grading-Tracts 21370, 21371, and 24342	Archaeological Reseach Unit, U.C. Riverside	33-001273
RI-00508	NADB-R - 1080547; Voided - MF-0440	1978	Stan Wilmoth	Environmental Impact Evaluation: Archaeological Assessment of Tentative Tract Map 11495, Near Wildomar, Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-00509	NADB-R - 1080548; Other - UCRARU #337; Voided - MF-0441	1978	Stan Wilmoth	Environmental Impact Evaluation: Archaeological Assessment of Tentative Parcel Map 12198, Murrieta Area of Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-00562	NADB-R - 1080600; Voided - MF-0490	1979	Larry L. Bowles and Jean A. Salpas	An Archaeological Assessment of Parcel 13, 290	Archaeological Consultant	
RI-00703	NADB-R - 1080754; Voided - MF-0626	1979	Roger J. Desautels	Archaeological Survey Report on Lot 25 in Block "B" of Murrieta Eucalyptus Company's Tract as Shown by Map on File in Book 6, Page 73 of Maps, Riverside County Records, in Temecula Rancho	Scientific Resource Surveys, Inc., Santa Ana, CA	
RI-00829	NADB-R - 1080882; Other - UCRARU #600; Voided - MF-0750	1980	Alan Davis	Enivornmental Impact Evaluation: An Archaeological Assessment of Tentative Parcel 16945, Northwest of Murrieta in Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-00984	NADB-R - 1081034; Voided - MF-0894	1978	Larry L. Bowles and Jean A. Salpas	An Archaeological Assessment of Parcel 12,139	Archaeological Consultants, Colton and Riverside, CA	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-00985	NADB-R - 1081035; Submitter - UCRARU #584; Voided - MF-0894	1980	Stephen Bouscaren	Environmental Impact Evaluation: An Archaeological Assessment of Tentative Parcel 16761, Southeast of Sun City in Riverside County, California	Archaeological Research Unit, U.C. Riverside	33-001999, 33-002001
RI-01068	NADB-R - 1081169; Submitter - 597; Voided - MF-1014	1980	Richard C. Jenkins	Environmental Impact Evaluation: An Archaeological Assessment of the Bundy Canyon Project, Riverside County, California	Archaeological Research Unit, U.C. Riverside	
RI-01089	NADB-R - 1081186; Voided - MF-1031	1980	Jean A. Salpas	An Archaeological Assessment of Parcel 16684	Archaeological Consultant, Riverside, CA	33-002042
RI-01246	NADB-R - 1081408; Other - UCRARU #628; Voided - MF-1241	1981	Alan Davis	Environmental Impact Evaluation: An Archaeological Assessment of Tentative Parcel 17625, Northwest of Murrieta in Riverside County, California	Archaeological Reseach Unit, U.C. Riverside	
RI-01482	NADB-R - 1081743; Voided - MF-1556	1982	SALPAS, JEAN	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL 16683	AUTHOR(S)	
RI-01563	NADB-R - 1081855; Voided - MF-1663	1978	BOWLES, LARRY L. and JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL 12,108	Archaeological Consultant, Colton & Riverside, CA	
RI-01564	NADB-R - 1081856; Voided - MF-1664	1978	BOWLES, LARRY L. and JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL 12142	AUTHOR(S)	
RI-01620	NADB-R - 1081909; Voided - MF-1715	1982	BOWLES, LARRY L.	AN ARCHAEOLOGICAL ASSESSMENT FOR THE FARM AMENDED S.P. 116 C/W #2	AUTHOR(S)	33-012770, 33-013503
RI-01656	NADB-R - 1081948; Voided - MF-1752	1983	COOK, J.R.	ARCHAEOLOGICAL ASSESSMENT OF PM 19059	ARCHAEOLOGICAL SYSTEMS MANAGMENT	
RI-01696	NADB-R - 1082023; Voided - MF-1824	1983	SALPAS, JEAN	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL 19427	AUTHOR(S)	
RI-01720	NADB-R - 1082045; Voided - MF-1845	1983	MCCARTHY, DANIEL F.	AN ARCHAEOLOGICAL ASSESSMENT FOR CHANGE OF ZONE 4015, RANCHO CALIFORNIA AREA OF RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-001274
RI-01768	NADB-R - 1082115; Submitter - UCRARU #763; Voided - MF-1912	1984	MCCARTHY, DANIEL F. and PHILIP J. WILKE	ARCHAEOLOGICAL TEST EXCAVATIONS AT CA-RIV-2769, A LATERAL DEBRIS BASIN, WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-002769
RI-01769	NADB-R - 1082116; Voided - MF-1912	1984	MCCARTHY, DANIEL F.	AN ARCHAEOLOGICAL ASSESSMENT OF FOUR PROPOSED FLOOD CONTROL PROJECTS NEAR WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-002766, 33-002767, 33-002768, 33-002769
RI-01890	NADB-R - 1082261; Voided - MF-2046	1984	SALPAS, JEAN	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL 20349	AUTHOR(S)	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-01906	NADB-R - 1082281; Voided - MF-2065	1984	SCIENTIFIC RESOURCE SURVEYS, INC.	ARCHAEOLOGICAL ASSESSMENT - TPM19842	AUTHOR(S)	
RI-02020	NADB-R - 1082444; Voided - MF-2210	1985	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF TRACT 20311, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02106	NADB-R - 1082532; Voided - MF-2298	1987	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL 22000, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02121	NADB-R - 1082548; Voided - MF-2309	1987	SCIENTIFIC RESOURCES SURVEYS, INC.	ARCHAEOLOGICAL ASSESSMENT FORM: TP 22611	AUTHOR(S)	
RI-02164	NADB-R - 1082593; Voided - MF-2351	1987	DIBBLE, D. STEPHEN and M.G. COTTRELL	ARCHAEOLOGICAL ASSESSMENT OF APPROXIMATELY 2000 ACRES IN THE VICINITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, CALIFORNIA	ARCHAEOLOGICAL RESOURCE MANAGEMENT CORPORATION	33-001021, 33-003331, 33-003332, 33-003333, 33-003334, 33-013326
RI-02215	NADB-R - 1082646; Submitter - UCRARU #939; Voided - MF-2402	1988	GOODMAN, JOHN D.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL 23087, LOCATED NORTH OF MURRIETA IN SOUTHWESTERN RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	
RI-02219	NADB-R - 1082650; Voided - MF-2406	1988	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP NO. 22776, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02283	NADB-R - 1082720; Voided - MF-2476	1988	DROVER, C.E.	AN ARCHAEOLOGICAL ASSESSMENT OF THE FARM-SECONDARY HIGHWAY ACCESS STUDY	AUTHOR(S)	33-003413
RI-02297	NADB-R - 1082735; Voided - MF-2491	1987	CHACE, PAUL G. and DONNA COLLINS	AN ARCHAEOLOGICAL SURVEY - VICTORY HILL	CHACE AND ASSOCIATES	
RI-02313	NADB-R - 1082770; Voided - MF-2514	1988	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF TTM # 23281, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-02325	NADB-R - 1082782; Voided - MF-2526	1988	DE MUNCK, VICTOR	AN ARCHAEOLOGICAL ASSESSMENT OF AN 18.27 ACRE TRACT OF LAND SHOWN ON TTM # 23361, IN WILDOMAR, RIVERSIDE COUNTY	ARCHAEOLOGICAL AND ETHNOGRAPHIC FIELD ASSOCIATES	
RI-02333	NADB-R - 1082791; Voided - MF-2535	1987	WHITNEY-DESAUTELS, NANCY	ARCHAEOLOGICAL ASSESSMENT FORM: WINKER ACRES (TRACT 22948)	SCIENTIFIC RESOURCE SURVEYS, INC.	33-003405

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-02382	NADB-R - 1082880; Submitter - UCRARU #986; Voided - MF-2622	1989	PARR, ROBERT E.	AN ARCHAEOLOGICAL ASSESSMENT OF T.P. 23508 LOCATED NORTH OF MURRIETA IN SOUTHWESTERN RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, UNIVERSITY OF CALIF, RIVERSIDE	
RI-02438	NADB-R - 1082929; Submitter - 974; Voided - MF-2670	1988	SWOPE, KAREN K.	AN ARCHAEOLOGICAL ASSESSMENT OF 8.12 ACRES OF LAND LOCATED IN THE WILDOMAR AREA OF RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-013515
RI-02508	NADB-R - 1082994; Voided - MF-2733	1989	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP NO. 24469, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02533	NADB-R - 1083020; Voided - MF-2757	1989	LERCH, MICHAEL K.	CULTURAL RESOURCES ASSESSMENT OF TENTATIVE TRACT 24647, WILDOMAR AREA, RIVERSIDE COUNTY, CALIFORNIA.	MICHAEL K LERCH & ASSOCIATES	
RI-02535	NADB-R - 1083022; Voided - MF-2759	1989	KELLER, JEAN S.	AN ARCHAEOLOGICAL ASSESSMENT OF CHANGE OF ZONE 5328/PLOT PLAN 10,893 RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	
RI-02537	NADB-R - 1083024; Voided - MF-2761	1989	DEL CHARIO, KATHLEEN C.	ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT 24722, NEAR WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA.	ARCHAEOLOGICAL RESOURCE MANAGEMENT CORPORATION	
RI-02625	NADB-R - 1083100; Submitter - 1045; Voided - MF-2836	1990	YOHE, ROBERT M.	AN ARCHAEOLOGICAL ASSESSMENT OF THE BUNDY CANYON ROAD REALIGNMENT PROJECT LOCATED IN RIVERSIDE COUNTY, CALIFORNIA.	ARCHAEOLOGICAL RESEARCH UNIT	
RI-02684	NADB-R - 1083154; Submitter - #914; Voided - MF-2886	1989	SCIENTIFIC RESOURCE SURVEYS	ARCHAEOLOGICAL AND PALEONTOLOGICAL ASSESSMENT OF A 3+ ACRE PORTION OF TPM 25065 ADJACENT TO INLAND VALLEY REGIONAL MEDICAL CENTER, RIVERSIDE COUNTY, CALIFORNIA.	SRS, INC.	
RI-02699	NADB-R - 1083175; Voided - MF-2903	1990	ARKUSH, BROOKE	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT 25113 LOCATED IN WILDOMAR IN SOUTH WESTERN RIVERSIDE COUNTY, CALIFORNIA.	ARCHAEOLOGICAL RESEARCH UNIT	
RI-02746	NADB-R - 1083354; Voided - MF-2949	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT MAP 25177 RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-02747	NADB-R - 1083355; Voided - MF-2950	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT MAP 23295 RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-02823	NADB-R - 1083429; Voided - MF-3023	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT MAP 25545 RIVERSIDE COUNTY, CALIFORNIA	Consulting Archaeologist, Temecula, CA	
RI-02842	NADB-R - 1083446; Voided - MF-3040	1990	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF A 20.31 ACRE PARCEL DESIGNATED APN 365-250-014 LOCATED BETWEEN CROOKED ARROW DRIVE AND CRAB HOLLOW CIRCLE IN THE SEDO HILLS AREA OF LAKE ELSINORE, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL ASSOCIATES, LTD.	
RI-02848	NADB-R - 1083451; Voided - MF-3045	1990	KATHLEEN C. DEL CHARIO	ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT NO. 24274 CALIFORNIA OAKS AREA, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESOURCE MANAGEMENT CORPORATION, Fullerton, CA	
RI-02888	NADB-R - 1083242; Voided - MF-3087	1989	SCIENTIFIC RESOURCE SURVEYS	SURFACE COLLECTION AND TEST EXCAVATION AT THE TUNSTALL EAST AND WEST SITES, WILDOMAR, RIVERSIDE COUNTY.	SRS	33-004725, 33-004726
RI-02940	NADB-R - 1083311; Voided - MF-3168	1990	JENKINS, RICHARD	VEGETATION MANAGEMENT ARCHAEOLOGICAL REVIEW SUNSET VMP PROJECT.	CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION	33-001991
RI-03003	NADB-R - 1083547; Voided - MF-3227	1990	DILLON, BRIAN D.	ARCHAEOLOGICAL ASSESSMENT OF 23250 BAXTER ROAD, A 2.35 ACRE PARCEL IN WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR	
RI-03028	NADB-R - 1083575; Voided - MF-3253	1990	DROVER, CHRISTOPHER E.	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL MAP 25282, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR	
RI-03052	NADB-R - 1083600; Voided - MF-3276	1990	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF A 20.28 ACRE PARCEL DESIGNATED APN 365-25-005, LOCATED ADJACENT TO CROOKED ARROW DRIVE IN THE SEDO HILLS AREA OF LAKE ELSINORE, RIVERSIDE COUNTY.	ARCHAEOLOGICAL ASSOCIATES, LTD., Sun City, CA	33-004154

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-03078	NADB-R - 1083627; Voided - MF-3300	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT MAP 26372 RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR	
RI-03079	NADB-R - 1083628; Voided - MF-3301	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE MAP 26371 RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR	
RI-03127	NADB-R - 1083680; Voided - MF-3347	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF CONDITIONAL USE PERMIT 3109, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-03134	NADB-R - 1083687; Voided - MF-3354	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE TRACT MAP 25994, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR(S)	
RI-03171	NADB-R - 1083729; Voided - MF-3389	1990	KELLER, JEAN A.	AN ARCHAEOLOGICAL ASSESSMENT OF TENTATIVE PARCEL MAP 26184, RIVERSIDE COUNTY, CALIFORNIA	Consulting Archaeologist, Temecula, CA	
RI-03240	NADB-R - 1084094; Submitter - 2129A; Voided - MF-3472	1990	WADE, SUSAN A.	LETTER REPORT: AN ARCHAEOLOGICAL SURVEY OF THE TENTATIVE MAP NO. 25247, WILDOMAR PROPERTY	RECON	
RI-03305	NADB-R - 1083903; Voided - MF-3537	1991	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF A 2300+ FOOT SEWER ALIGNMENT LOCATED IN THE CITY OF LAKE ELSINORE, RIVERSIDE COUNTY	ARCHAEOLOGICAL ASSOCIATES, LTD.	
RI-03333	NADB-R - 1083949; Other - DACW09-90-D-0004; Voided - MF-3571	1991	HAMPSON, R. PAUL	CULTURAL RESOURCES SURVEY AND TEST EXCAVATION, LAKE ELSINORE, CALIFORNIA	GREENWOOD AND ASSOCIATES, AND INFOTEC RESEARCH, INC.	33-002798, 33-004042, 33-004043, 33-004044, 33-004045
RI-03340	NADB-R - 1083958; Voided - MF-3580	1988	KELLER, JEAN SALPAS	AN ARCHAEOLOGICAL ASSESSMENT OF CHANGE OF ZONE 5231, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-03341	NADB-R - 1085264; Submitter - 311; Voided - MF-3580	1998	LOVE, BRUCE and Bai "Tom" Tang	CULTURAL RESOURCES REPORT: SENIOR LIFESTYLE PERSPECTIVES PROJECT, APNS 369-050-040, -041, AND -042, NEAR THE COMMUNITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA	CRM TECH	33-008173
RI-03353	NADB-R - 1083981; Submitter - 2129A; Voided - MF-3592	1989	WADE, SUE A.	LETTER REPORT: AN ARCHAEOLOGICAL SURVEY OF THE TENTATIVE MAP NO. 25094, WILDOMAR PROPERTY	RECON	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-03458	NADB-R - 1084137; Submitter - 1175; Voided - MF-3719	1992	LOVE, BRUCE	CULTURAL RESOURCES ASSESSMENT: WILDOMAR CHANNEL LATERAL C; WILDOMAR AREA OF RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	33-004722
RI-03486	NADB-R - 1084156; Voided - MF-3743	1992	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF A 7.22-ACRE PARCEL, AS SHOWN ON PM 26991	ARCHAEOLOGICAL ASSOCIATES, LTD.	
RI-03496	NADB-R - 1084178; Voided - MF-3757	1992	JONES & STOKES ASSOCIATES, INC.	ARCHAEOLOGICAL SURVEY REPORT FOR RIVERSIDE COUNTY MURRIETA CREEK FLOOD CONTROL PROJECT	JONES & STOKES ASSOCIATES, INC.	33-001085
RI-03498	NADB-R - 1084183; Voided - MF-3761	1992	DEMCAK, CAROL R.	CULTURAL RESOURCES ASSESSMENT OF RANCHO CALIFORNIA WATER DISTRICT DATE STREET PUMP STATION, RESERVOIR AND PIPELINE, MURRIETA QUAD, CITY OF MURRIETA, CALIFORNIA	ARCHAEOLOGICAL RESOURCE MANAGEMENT CORP.	
RI-03757	NADB-R - 1084591; Submitter - 163; Voided - MF-4094	1994	LOVE, BRUCE and STEPHEN MOFFITT	CULTURAL RESOURCES REPORT: PHASE I RECORDS SEARCH AND FIELD SURVEY, DAVID A. BROWN MIDDLE SCHOOL DEBRIS BASIN AND STORM DRAIN PROJECT, RIVERSIDE COUNTY	CRM TECH	33-002766, 33-002767
RI-03956	NADB-R - 1084914; Voided - MF-4327	1995	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF THE WILDOMAR MDP LATERAL E PROJECT LOCATED IN THE COMMUNITY OF WILDOMAR, UNINCORPORATED RIVERSIDE COUNTY	ARCHAEOLOGICAL ASSOCIATES	33-006980
RI-03986	NADB-R - 1084961; Other - PP 14543; Voided - MF-4357	1996	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF THE SENIOR LEISURE LIVING DEVELOPMENT PROJECT: A 10.94 ACRE PARCEL AS SHOWN ON PLOT PLAN 14543, WILDOMAR, UNINCORPORATED RIVERSIDE COUNTY	ARCHAEOLOGICAL ASSOCIATES	
RI-04070	NADB-R - 1085219; Submitter - 306; Voided - MF-4519	1998	LOVE, BRUCE and BAI "TOM" TANG	CULTURAL RESOURCES REPORT WATER AND SEWER PIPELINE RIGHTS-OF-WAY AND ASSOCIATED FACILITIES IN COMMUNITY FACILITIES DISTRICT NO. 97- 1, NEAR WILDOMAR ELSINORE VALLEY MUNICIPAL WATER DISTRICT RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-04116	NADB-R - 1085304; Voided - MF-4591	1998	BRECHBIEL, BRANT A.	CULTURAL RESOURCES RECORDS SEARCH AND SURVEY REPORT FOR A PACIFIC BELL MOBILE SERVICES TELECOMMUNICATIONS FACILITY: CM 118-01, WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	CHAMBERS GROUP, INC.	
RI-04142	NADB-R - 1085333; Other - TT 22555(1989) TR 29029 (1999)7; Voided - MF-4618	1989	DE MUNCK, VICTOR C.	AN ARCHAEOLOGICAL ASSESSMENT OF A 20 ACRETRACT OF LAND DESIGNATED TENTATIVETRACT #22555 LOCATED IN THE WILDOMAR AREA, RIVERSIDE COUNTY, CALIFORNIA	ARCHAEOLOGICAL AND ETHNOGRAPHIC FIELD ASSOCIATES	
RI-04259	NADB-R - 1085497; Submitter - 425; Voided - MF-4740	1999	LOVE, BRUCE, BAI "TOM" TANG, MICHAEL HOGAN, and DANIEL BALLESTER	CULTURAL RESOURCES REPORT: TENTATIVE TRACT 29332, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA.	CRM TECH	
RI-04279	NADB-R - 1085524; Voided - MF-4757	2000	WHITE, ROBERT S. and LAURA S. WHITE	A CULTURAL RESOURCES ASSESSMENT OF TRACT 29511, 6.35-ACRES LOCATED IMMEDIATELY NORTHWEST OF THE INTERSECTION OF GRAND AVENUE AND CHADLYN COURT IN WILDOMAR, RIVERSIDE COUNTY.	ARCHAEOLOGICAL ASSOCIATES	
RI-04297	NADB-R - 1085559; Other - HR 98006; Voided - MF-4780	1998	WADE, SUE A.	CULTURAL RESOURCES SURVEY AND ARCHAEOLOGICAL EVALUATIONS FOR THE CLINTON KEITH ROAD AND RESIDENTIAL PROJECT (TRACT MAP 29039 AND PARCEL MAP 29040), COUNTY OF RIVERSIDE, CALIFORNIA.	HERITAGE RESOURCES	33-008652, 33-008654
RI-04298	NADB-R - 1085560; Submitter - 08-99-460; Voided - MF-4781	1999	MCKENNA, JEANETTE A. and DAVID	A PHASE I CULTURAL RESOURCES INVESTIGATION OF THE HIGHLANDS SPECIFIC PLAN PROJECT AREA, NEAR MURRIETA, RIVERSIDE COUNTY, CALIFORNIA.	MCKENNA ET AL	33-003413, 33-003956
RI-04323	NADB-R - 1085593; Submitter - 544; Voided - MF-4806	2000	LOVE, BRUCE, BAI "TOM" TANG, and MICHAEL HOGAN	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: APN 367-300-030, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA.	CRM TECH	
RI-04335	NADB-R - 1085627; Voided - MF-4831	1999	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF TENTATIVE TRACT MAP 29163, CHANGE OF ZONE 6128, 6.5 ACRES OF LAND IN WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-04350	NADB-R - 1085648; Submitter - 99-1471; Voided - MF-4846	1999	BROWN, JOAN C.	A CULTURAL RESOURCES RECONNAISSANCE FOR THE MACARTHUR PROPERTIES, LOCATED IN RIVERSIDE COUNTY, CALIFORNIA.	RMW PALEO	33-008949
RI-04382	NADB-R - 1085708; Voided - MF-4884	2000	WHITE, ROBERT S. and LAURA S. WHITE	A CULTURAL RESOURCES ASSESSMENT OF A 3.86-ACRE PORTION OF APN 368-150-001 LOCATED IMMEDIATELY SOUTH OF GRAND AVENUE AT WESLEY STREET, WILDOMAR, RIVERSIDE COUNTY.	ARCHAEOLOGICAL ASSOCIATES	33-009641
RI-04390	NADB-R - 1085717; Voided - MF-4892	2000	KELLER, JEAN A.	A PHASE 1 CULTURAL RESOURCES ASSESSMENT OF GENERAL PLAN AMENDMENT 540/CHANGE OF ZONE 6536 LOCATED NEAR MURRIETA, RIVERSIDE COUNTY CALIFORNIA	JEAN A. KELLER	33-001257, 33-003405, 33-003956, 33-008173, 33-008652, 33-008949
RI-04470	NADB-R - 1085831; Submitter - 02-1	2002	ROBINSON, MARK C.	CULTURAL RESOURCES SURVEY AND ASSESSMENT OF APPROXIMATELY 10.73 ACRES: OAK CREEK APARTMENT COMPLEX PROJECT, ELIZABETH LANE AND PRIELIPP ROAD, WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	GREAT LAKES RESEARCH	33-011434, 33-011435, 33-011436
RI-04507	NADB-R - 1085868	2001	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF A PORTION OF TENTATIVE TRACT MAP NO. 29476, 8.82 ACRES OF LAND LOCATED NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-04509	NADB-R - 1085870	2001	Jean A. Keller	A Phase I Cultural Resources Assessment Of The Palomar Street Project, 5.0 Acres Of Land Near The City Of Murrieta, Riverside County, California	Jean A. Keller, Cultural Resources Consultant	
RI-04510	NADB-R - 1085871	2001	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF TENTATIVE TRACT NO. 29836, GPA 549/CZ6559, 16.07 ACRES OF LAND NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-04608	NADB-R - 1085968	2002	SHEPARD, RICHARD S.	PHASE I CULTURAL RESOURCES ASSESSMENT: TENTATIVE TRACT NO. 30917, WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	BONTERRA CONSULTING	33-012289

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-04641	NADB-R - 1086000	2001	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF CHANGE OF ZONE 6618, 29.10 ACRES OF LAND LOCATED NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	
RI-04655	NADB-R - 1086014	2003	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF APN 380-130-015, -016, 10.46 ACRES OF LAND IN WILDOMARK, RIVERSIDE COUNTY, CALIFORNIA	Jean A. Keller, consultant	
RI-04658	NADB-R - 1086017	1994	KELLER, JEAN A.	PHASE II TEST INVESTIGATION OF CA-RIV-2767, DAVID A. BROWN MIDDLE SCHOOL DEBRIS BASIN AND STORM PROJECT	AUTHOR	33-002766, 33-002767
RI-04698	NADB-R - 1086060	2003	TETRA TECH, INC.	A PHASE I ARCHAEOLOGICAL SURVEY OF APPROX. 3.5-ACRES FOR THE STONEBRIDGE MEDICAL OFFICE BUILDING, WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	TETRA TECH, INC.	
RI-04774	NADB-R - 1086136	2004	SCHMIDT, JAMES J.	LETTER REPORT: VALLEY-NEWCOMB-SKYLARK 115 KV TRANSMISSION LINE BURNED POLE REPLACEMENT PROJECT, RIVERSIDE COUNTY	COMPASS ROSE ARCHAEOLOGICAL, INC., Van Nuys, CA	
RI-04876	NADB-R - 1086238; Other - TC# 14455-01	2004	TETRA TECH, INC.	A PHASE I ARCHAEOLOGICAL SURVEY OF APPROXIMATELY 6.17-ACRES FOR THE MISSION TRAILS PROJECT LOCATED AT 32795-32788 CORYDON ROAD, LAKE ELSINORE, RIVERSIDE COUNTY, CALIFORNIA	TETRA TECH, INC.	
RI-04877	NADB-R - 1086239	2003	PEAK & ASSOCIATES, INC.	CULTURAL RESOURCES ASSESSMENT OF THE PROPOSED TEMECULA VALLEY REGIONAL WATER RECLAMATION FACILITY EFFLUENT PIPELINE, RIVERSIDE COUNTY, CALIFORNIA	PEAK & ASSOCIATES, INC.	33-010986
RI-04885	NADB-R - 1086247; Submitter - GD-03-R209	2003	IRISH, LESLIE NAY, ANNA M. HOOVER, and KRISTIE R. BELVINS	A PHASE I ARCHAEOLOGICAL RECORDS SEARCH AND SURVEY REPORT FOR TT#31009, APN 362-150-023, COUNTY OF RIVERSIDE, CALIFORNIA.	L&L ENVIRONMENTAL, INC.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-04937	NADB-R - 1086299; Submitter - 04-03-06-748	2003	MCKENNA, JEANETTE A.	A PHASE I CULTURAL REOURCES SURVEY OF THE DEPASQUALE FAMILY PARTNERSHIP PROPOERTY (TRACT 30155) IN THE OAK SPRINGS AREA OF RIVERSIDE COUNTY, CALIFORNIA.	MCKENNA ET AL.	
RI-04938	NADB-R - 1086300; Submitter - 11-02-01-686	2003	MCKENNA, JEANETTE A.	SUPPLEMENTAL INVESTIGATIONS: PHASE I ARCHAEOLOGICAL TESTING OF SITE CA-RIV-3956H, LOCATED WITHIN THE SUNSET RIDGE SPECIFIC PLAN PROJECT AREA, MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL.	33-003956
RI-04945	NADB-R - 1086307; Submitter - MF-03-273	2004	Leslie Nay Irish, Anna M. Hoover, Kristie R. Blevins, and Hugh M. Wagner	A Phase I Archaeological and Paleontological Survey Report for the Palomar Office Plaza, APN 380-170-020, Wildomar, County of Riverside, California	L&L Environmental, Inc.	
RI-04962	NADB-R - 1086324; Submitter - GLH-04-532	2004	HOOVER, ANNA M. and HUGH WAGNER	FINAL REPORT FOR THE PAHSE I ARCHAEOLOGICAL/PALEONTOLOGICAL SURVEY TRACT 32859, APN 380-070-018, 15.6-ACRE PROPERTY	L&L ENVIRONMENTAL, INC.	
RI-05009	NADB-R - 1086371; Submitter - 06-01-06-576	2001	MCKENNA ET AL.	A PALEONTOLOGICAL OVERVIEW OF THE USA PETROLEUM CORP. PROJECT SITE LOCATED IN THE WILDOMAR AREA OF RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL.	
RI-05058	NADB-R - 1086420; Submitter - 09-02-12-675	2002	Jeanette A. McKenna	SUPPLEMENTAL STUDIES: A PHASE I CULTURAL RESOURCES INVESTIGATION OF THE SUNSET RIDGE ACCESS ROUTES, MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL.	33-003513, 33-003956
RI-05095	NADB-R - 1086457	2003	APPLIED EARTHWORKS	CULTURAL RESOURCES SURVEY OF FOUR ACRES IN WILDOMAR, CALIFORNIA	APPLIED EARTHWORKS	
RI-05181	NADB-R - 1086544; Submitter - LSA Project No. PCY 232	2002	GOODWIN, RIORDAN and ROBERT E. REYNOLDS	CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT, WINDSOR PACIFIC CENTURY HOMES TENTATIVE TRACT 29402, RIVERSIDE COUNTY, CALIFORNIA	LSA ASSOCIATES, INC., Riverside, CA	33-008948, 33-008949
RI-05216	NADB-R - 1086579	2002	ROBINSON, MARK C.	PHASE II TESTING AND EVALUATION OF 33-11434 (CA-RIV-6821)	GREAT LAKES RESEARCH	33-011434
RI-05355	NADB-R - 1086718	2006	SWCA ENVIRONMENTAL CONSULTANTS	CULTURAL RESOURCES SURVEY FOR THE MISSION TRAILS DEVELOPMENT PROJECT, RIVERSIDE COUNTY, CA	SMCA ENVIRONMENTAL	33-014891

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-05369	NADB-R - 1086732	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCE ASSESSMENT OF TENTATIVE TRACT MAP 31896	JEAN KELLER	
RI-05370	NADB-R - 1086733	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCE ASSESSMENT OF TENTATIVE TRACT MAP 31895	JEAN KELLER	
RI-05378	NADB-R - 1086741	2004	KELLER, JEAN	A PHASE I CULTURAL RESOURCE ASSESSMENT OF TENTATIVE PARCEL MAP 29845	JEAN KELLER	
RI-05497	NADB-R - 1086860	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF CORNERSTONE CHURCH EXPANSION (APN 367-140-008, 367-210-018), +/-48.43 ACRES OF LAND IN WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	JEAN KELLER	
RI-05500	NADB-R - 1086863	2004	ROBINSON, MARK C.	CULTURAL RESOURCES SURVEY AND ASSESSMENT OF APPROXIMATELY 12.1 ACRES, MISSION HILLS, WILDOMAR PROJECT, TENTATIVE TRACE MAP #31993 (APN 368-030-007, -055, AND -056), WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	GREAT LAKES RESEARCH	
RI-05536	NADB-R - 1086899	2005	KELLER, JEAN A.	A PHASE I CULTURAL RESORUCES ASSESSMENT OF HIDDEN SPRINGS RANCH APN 380-290-029, +/-9.5 ACRES OF LAND NEAR WILDOMAR, RIVERSIDE COUNTY, CA	JENA KELLER	
RI-05578	NADB-R - 1086941	2004	WHITE, ROBERT S. and LAURA S. WHITE	A CULTURAL RESOURCES ASSESSMENT OF A 39.5 ACRE PARCEL AS SHOWN ON TTM 32024, LOCATED ADJACENT TO MONTE VISTA DRIVE, WILDOMAR, RIVERSIDE COUNTY	John Minch and Associates, Inc., Santa Barbara, CA	
RI-05611	NADB-R - 1086974	2000	DROVER, CHRISTOPHER E.	A CULTURAL RESOURCE INVENTORY: AN ARCHAEOLOGICAL ASSESSMENT OF CLYATON RANCH, APN'S 369-260-003/ 369-260-005, NEAR WILDOMAR, CLINTON KEITH ROAD, RIVERSIDE COUNTY, CA	CHRISTOPHER DROVER	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-05613	NADB-R - 1086976	2005	WHITE, ROBERT S. and LAURA S. WHITE	A CULTURAL RESOURCES ASSESSMENT OF A 9.58 ACRE PARCEL AS SHOWN ON TPM 32592 LOCATED AT 23800 OAK CIRCLE DRIVE, WILDOMAR, RIVERSIDE COUNTY	ARCHAEOLOGICAL ASSOCIATES	
RI-05617	NADB-R - 1086980	2003	WHITE, ROBERT S. and LAURA S. WHITE	A CULTURAL RESOURCES ASSESSMENT OF 6.23 ACRES OF LAND LOCATED AT THE SOUTHEAST CORNER OF BUNDY CANYON ROAD AND INTERSTATE 15, WILDOMAR, RIVERSIDE COUNTY, CA	ARCHAEOLOGICAL ASSOCIATES	
RI-05683	NADB-R - 1087046; Submitter - CA-7281A	2005	Erika Thal	Letter Report: Proposed Cellular Tower Project(s) in Riverside County, California, Site Name/Number: CA-7281A/ Wildomar	EarthTouch, Inc., Layton, UT	
RI-05732	NADB-R - 1087095	2003	Mark Bellini	Letter Report: Proposed Cellular Tower Project in Riverside County, California, Site Name/Number: CA-7281A/ Wildomar	EarthTouch, Inc.	
RI-05750	NADB-R - 1087113; Submitter - 1013	2003	DAH DUL, MARIAM and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: BEAR CREEK VILLAGE CENTER, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-05757	NADB-R - 1087120; Submitter - 998	2003	DAH DUL, MARIAM	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: TENTATIVE TRACT NO. 30939, GROSS RANCH PROJECT NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-05758	NADB-R - 1087121; Submitter - 997	2003	DAH DUL, MARIAM	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: TENTATIVE TRACT NO. 30839, DAVIS RANCH PROJECT, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-05920	NADB-R - 1087283; Submitter - 896	2002	LOVE, BRUCE, BAI TANG, TERESA WOODARD, MARIAM DAHDUL, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 30656, APNS 362-180-029 TO -032, WILDOMAR AREA, RIVERSIDE COUNTY, CA	CRM TECH	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-05921	NADB-R - 1087284; Submitter - 893	2002	LOVE, BRUCE, BAI TANG, TERESA WOODARD, MARIAM DAHDL, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 30734, CLINTON KEITH ROAD AND SMITH RANCH ROAD, WILDOMAR AREA, RIVERSIDE COUNTY, CA	CRM TECH	33-007804, 33-007812
RI-05967	NADB-R - 1087330; Submitter - 1096	2003	TANG, BAI, MICHAEL HOGAN, JOSH SMALLWOOD, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 31499, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-05970	NADB-R - 1087333; Submitter - 1061	2003	TANG, BAI, MICHAEL HOGAN, CASEY TIBBET, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 31479, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06023	NADB-R - 1087386; Submitter - 1079	2003	TANG, BAI, MICHAEL HOGAN, and MARIAM DAHDL	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT NO. 31331, EA NO. 39030, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06024	NADB-R - 1087387; Submitter - 1095	2003	TANG, BAI, MICHAEL HOGAN, CASEY TIBBET, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESORUCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 31353 AND ASSESSOR'S PARCEL NO. 369-180-025, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06030	NADB-R - 1087393	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF TENTATIVE TRACT MAP 31896 AMENDED NO. 1, +/-4.88 ACRES OF LAND IN WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	JEAN A. KELLER	
RI-06031	NADB-R - 1087394	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF THE CLINTON KEITH ROAD PROJECT (APN 380-110-025, 026) +/- 4.35 ACRES OF LAND IN WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	JEAN A. KELLER	
RI-06033	NADB-R - 1087396	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF VESTING TENTATIVE PARCEL MAP 32166, +/-20.20 ACRES OF LAND IN WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	JEAN A. KELLER	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06035	NADB-R - 1087398	2004	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF PLOT PLAN 19064, +/-10 ACRES OF LAND NEAR MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	JEAN A. KELLER	
RI-06036	NADB-R - 1087399	2005	KELLER, JEAN A.	A PHASE I CULTURAL RESOURCES ASSESSMENT OF TENTATIVE TRACT MAP 31813, 27.57 ACRES OF LAND NEAR WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	JEAN A. KELLER	
RI-06161	NADB-R - 1087524	2003	Michael Dice	Letter Report: Records Search and Site Visit for Sprint Telecommunications Facility Candidate RV54XC512E (Chico Hills & Bundy), NE Corner Chico Hills Rd. & Bundy Canyon, Menifee, Riverside County, California	Michael Brandman Associates	
RI-06170	NADB-R - 1087533	2004	Marnie Aislin-Kay	Letter Report: Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate SC-236-02 (Archer Ranch), 21745 Grand Avenue, Wildomar, Riverside County, Riverside	Michael Brandman Associates	
RI-06171	NADB-R - 1087534	2004	AISLIN-KAY, MARNIE	LETTER REPORT: RECORDS SEARCH AND SITE VISIT RESULTS FOR SPRINT TELECOMMUNICATIONS FACILITY CANDIDATE RV54XC511G (CALIFORNIA LUTHERAN HIGH SCHOOL), 31970 CENTRAL AVENUE, WILDOMAR, RIVERSIDE COUNTY, CA	MICHAEL BRANDMAN ASSOCIATES	
RI-06234	NADB-R - 1087597; Submitter - CRM TECH CONTRACT #1288	2004	TANG, BAI, MICHAEL HOGAN, and JOHN J. EDDY	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 31837, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-06245	NADB-R - 1087608; Submitter - CRM TECH CONTRACT #1258	2004	TANG, BAI "TOM"	THE SCHWARTZ-SMITH HOUSE, 25025 CLINTON KEITH ROAD (FORMERLY CATT ROAD), WILDOMAR, CA 92395	CRM TECH	33-007804, 33-007812
RI-06248	NADB-R - 1087611; Submitter - CRM TECH CONTRACT #1184	2004	HOGAN, MICHAEL, BAI "TOM" TANG, and JOSH SMALLWOOD	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE PARCEL MAP NO. 31219, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	33-002767

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06249	NADB-R - 1087612; Submitter - CRM TECH Contract #1289	2004	Bai Tang, Michael Hogan, Casey Tibbet, and John Eddy	Historical/Archaeological Resources Survey Report: Tentative Tract Map No. 32078, Near the City of Murrieta, Riverside County, California	CRM TECH	33-006980
RI-06286	NADB-R - 1087649; Submitter - CRM TECH CONTRACT #1191	2004	HOGAN, MICHAEL	LETTER REPORT: PALEONTOLOGICAL MONITORING, BEAR CREEK VILLAGE CENTER, C.U.P NO. 3390, ASSESSORS PARCEL NUMBERS 369-390-002,-010,-012,- 018, IN AN UNINCORPORATED AREA NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA, CRM TECH CONTRACT NO. 1191	CRM TECH	
RI-06345	NADB-R - 1087708; Submitter - CRM TECH Contract #1325	2004	Michael Hogan, Bai "Tom" Tang, Harry M. Quinn, and Ayse Taskiran-Johnson	Archaeological Test and Evaluation Report: Site CA-RIV-2767/H, Tentative Parcel Map No. 31219, Near the City of Murrieta, Riverside County, California	CRM TECH	33-002767
RI-06363	NADB-R - 1087726; Submitter - CONTRACT #1429	2004	TANG, BAI, MICHAEL HOGAN, DEIRDRE ENCARNACION, and THOMAS J. MELZER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NOS. 376-060-010 AND -013, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-06397	NADB-R - 1087760; Submitter - CONTRACT #6397	2005	TANG, BAI, MICHAEL HOGAN, MATTHEW WETHERBEE, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: TENTATIVE PARCEL MAP 32792, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06398	NADB-R - 1087761; Submitter - CONTRACT #1521	2005	TANG, BAI, MICHAEL HOGAN, MATTHEW WETHERBEE, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: GRIZZLY RIDGE RESERVOIR NO. 2, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06400	NADB-R - 1087763; Submitter - CONTRACT #1608	2005	TANG, BAI, MICHAEL HOGAN, MATTHEW WETHERBEE, and DANIEL BALLESTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: TENTATIVE TRACT MAP NO. 32535, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CA	CRM TECH	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06442	NADB-R - 1087807; Submitter - CONTRACT #1499	2005	TANG, BAI, MICHAEL HOGAN, MATTHEW WETHERBEE, and JOHN EDDY	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: TENTATIVE TRACT MAP NO. 31813, IN AN UNINCORPORATED AREA NEAR THE COMMUNITY OF WILDMOAR, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06465	NADB-R - 1087830; Submitter - CONTRACT #1272	2004	TANG, BAI, MICHAEL HOGAN, CASEY TIBBET, and JOHN EDDY	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 31409, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06493	NADB-R - 1087860; Submitter - CONTRACT #1326	2004	TANG, BAI, MICHAEL HOGAN, and MATTHEW WETHERBEE	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, TENTATIVE TRACT MAP NO. 25122, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CA	CRM TECH	33-006980
RI-06494	NADB-R - 1087861; Submitter - CONTRACT #1603A	2005	HOGAN, MICHAEL, BAI TANG, and MATTHEW WETHERBEE	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NUMBERS 376-190- 002, AND 376-108-006, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CA	CRM TECH	
RI-06556	NADB-R - 1087923; Submitter - CONTRACT #1779	2006	TANG, BAI, MICHAEL HOGAN, MELISSA HERNANDEZ, and TERRI JACQUEMAIN	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NUMBER 380-110- 003, NEAR THE CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-06592	NADB-R - 1087959	2005	HOGAN, MICHAEL, BAI "TOM" TANG, MATTHEW WETHERBEE, and JOSH SMALLWOOD	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NO. 366-320-145, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CA	CRM TECH	33-014780, 33-014781, 33-014782, 33-014783
RI-06593	NADB-R - 1087960; Submitter - CONTRACT #1773	2006	HOGAN, MICHAEL, BAI "TOM" TANG, JOSH SMALLWOOD, and THOMAS MELZER	ARCHAEOLOGICAL TESTING AND EVALUATION REPORT, SITE 33-14780 (CA- RIV-7868) AND ISOLATE 33-14783, THE CLARK PROPERTY, ASSESSOR'S PARCEL NO 366-320-045, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	33-014780, 33-014783

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06594	NADB-R - 1087961; Submitter - CONTRACT #1772	2006	HOGAN, MICHAEL, BAI "TOM" TANG, JOSH SMALLWOOD, and THOMAS MELZER	ARCHAEOLOGICAL TESTING AND EVALUATION REPORT, SITE 33-14778 (CA- RIV-7866/H) AND 33-14779 (CA-RIV-7867), THE KING PROPERTY, ASSESSOR'S PARCEL NOS. 366-320-024, -025, AND - 028, NEAR THE COMMUNITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	33-014778, 33-014779
RI-06596	NADB-R - 1087963; Submitter - CONTRACT #1942	2006	TANG, BAI "TOM", MICHAEL HOGAN, TERRI JACQUEMAIN, and ROBERT PORTER	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, THE BUNDY PROJECT, SECCO HILLS AREA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	33-017309
RI-06697	NADB-R - 1088064; Other - CONTRACT NO. 06998.06	2006	JORDAN, STACEY C.	ARCHEOLOGICAL SURVEY REPORT FOR THE SOUTHERN CALIFORNIA EDISON COMPANY: OVERHEAD TO UNDERGROUND CONVERSION PROJECT, RIVERSIDE COUNTY, CALIFORNIA (WO#6477-7274, AI#6-7212)	JONES & STOKES	
RI-06737	NADB-R - 1088104; Submitter - LSA PROJECT NO. OKE0601	2006	AUSTERMAN, VIRGINIA	CULTURAL RESOURCES ASSESSMENT, BAXTER PROJECT, AN UNINCORPORATED AREA OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	LSA ASSOCIATES, INC.	33-015306
RI-06827		2006	Williams, Audry	Archaeological Survey Report for the Southern California Edison Company, Wildomar Service Center Project	Southern California Edison Company, Natural and Cultural Resources Group	33-015304, 33-015305
RI-06830		2006	Sander, Jay K.	Cultural Resources Inventory of 3 Acres, A.P.N. 380-240-001, -001, and -003, Wildomar, Riverside County, California	Chambers Group, Inc.	
RI-06905	Other - Contract No. 06715.06, 06788.06	2006	Jordan, Stacey C.	Archaeological Survey Report for the Southern California Edison Company, DSP- DOROF 12Kv Circuit Project, Riverside County, California (WO# 6077-5395; AI# 6- 5301 and 6-5302)	Mooney Jones & Stokes, San Diego, CA	
RI-06906	Other - Contract No. 06788.06	2006	Jordan, Stacey C.	Archeological Survey Report for the Southern California Edison Company, DSP-Cereal 12Kv Circuit Project, Riverside County (WO#6577-5326, AI#6-5303)	Mooney, Jones & Stokes	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-06909	Other - Contract # 06327.06	2006	Jordan, Stacey C. and Joshua D. Patterson	Archaeological Survey Report for the So CA Edison Company, Syborne, Dominic C&D Land Co, Hemet Nazaren, Sunset Vista Homes, and Iodine Springs Projects, Riverside County, CA, (WO#6279-2326, 6377-1377, 6677-7101, 6577-1957, 6277-7164, AI# 6-2063, -1259 etc	Mooney, Jones & Stokes	
RI-06958		2006	Sander, Jay K.	Cultural Resources Survey, Consisting od 4.71 Acres, Tract Map 33062, A.P.N. 367-130-003, Wildomar, Riverside County,	Chambers Group, Inc.	
RI-06990	Other - Trumark J001	2006	Glenn, Brian K.	Phase I Cultural Resources Assessment: Canyon Hills Estates, Riverside County, California	BonTerra Consulting	33-014992, 33-014993
RI-07005		2006	White, Robert S. and White, Laura S.	A Cultural Resources Assessment of a 2.83-Acre Parcel As Shown on TPM 33782, Northwest Corner of Lost and Dial Roads, Wildomar, Riverside County	Archaeological Associates	
RI-07022		2006	Keller, Jean A.	A Phase I Cultural Resources Assessment	Jean A. Keller	
RI-07029	Other - APN 380-160-003 thru 009	2006	Jean A. Keller, Ph.D.	A Phase I Cultural Resources Assessment	Cultural Resources Consultant	
RI-07033		2006	Jean A. Keller, Ph.D.	A Phase I Cultural Resources Assessment of APN 380-120-012 & 013	Cultural Resources Consultant	
RI-07044	Submitter - KPA-03-273-ARS	2006	Anna M. Hoover and Kristie R. Blevins	A Phase I Archaeological Survey Report for APN 380-170-019, 3.5 Acres, Murrieta, County of Riverside, California	L & L Environmental, Inc., Corona, CA	
RI-07227	Submitter - Jones & Stokes Contract No. 00514.07	2007	Moreno, Adrian Sanchez	Archaeological Survey Report for Southern California Edison Company clinton Keith Reconductor Project Overhead Section Riverside County, California	Jones & Stokes	
RI-07228	Submitter - Jones & Stokes Contract No. 00514.07	2007	Moreno, Adrian Sanchez	Archeological Survey Report for Southern California Edison Company: Clinton Keith Reconductor Project Underground Section in Riverside County, California	Jones & Stokes	
RI-07250		2007	de Barros, Philip	Phase I Archaeological Assessment of Palomar Plaza a 2.43-Acre Parcel at Palomar Street and Kilgore Land in the Community of Wildomar, Riverside County, California		
RI-07251	Submitter - GTI130	2002	Curt Duke	Cultural Resource Assessment: AT&T Wireless Services Facility No. 08035A, Riverside County, California	LSA Associates	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-07378	Submitter - CRM TECH Contract No. 2108	2007	Tang, Bai "Tom" and Michael Hogan	Historical/Archaeological Resources Survey Report: Tentative Tract Map 33840 Near the Community of Wildomar, Riverside County, California	CRM Tech	
RI-07408		2006	Keller, Jean A.	A Phase I Cultural Resources Assessment of PAR #788 Crossroads Apartments, +- 23.19 Acres of Land in Wildomar, Riverside County, California, USGS Murrieta, California Quadrangle, 7.5' Series	Author	
RI-07525	Submitter - KPA-03-273	2008	Crull, Scott	A Archaeological Mitigation-Monitoring Report for PM 32159, with APNS: 380-170-019 & -20- A +_ 13.11-Acre Parcel Located in the Murrieta Area, Riverside County, California	L&L Environmental, Inc., Corona, CA	
RI-07577		2007	Moreno, Sara	A Phase I Archaeological Assessment for the Baxter Road Project, Riverside County, California, APN 367-300-003	Brian F. Smith and Associates	
RI-07578		2008	Lord, Kenneth J.	Phase I Cultural Resources Assessment Catt Road Project, Wildomar Area, Riverside County, California	Michael Brandman Associates	
RI-07593	Other - Contract No. 00104.08	2008	Tsunoda, Koji and Joshua D. Patterson	Archaeological Survey Report for Southern California Edison Company O&M -- Wildomar Service Center Fiber Optic Cables Project, on the Nutmeg 12 kV Circuit Riverside County, California	Jones and Stokes	
RI-07597		2008	Smith, Brian F.	Letter Report: Addendum to the Bear Creek Plaza, Wildomar Square cultural resources report; CUP 03504R1-FTA 2007-28; APNs 380-110-023, -024, -027, -028, and 380-230-001.	Brian F. Smith and Associates	
RI-07598		2007	Clowery-Moreno, Sara and Brian F. Smith	A Phase I Archaeological Assessment for the Wildomar Square Project, Riverside County, California, APN 380-230-001	Brian F. Smith and Associates	
RI-07600	Submitter - CRM Tech Contract No. 2202	2008	Bai "Tom" Tang, Clarence Bodmer, Daniel Ballester, and Laura Shaker	Phase I Archaeological Assessment: Assessor's Parcel No. 380-290-003, 36125 Jana Lane, Wildomar Area, Riverside County, California	CRM Tech	
RI-07663		2006	Smith, B.	A PHASE I ARCHAEOLOGICAL ASSESSMENT FOR THE WILDOMAR ANIMAL SHELTER PROJECT	BRIAN F. SMITH AND ASSOCIATES	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-07677	Other - Contract No.: #01128.07; Other - SCE 2007 CWA 93	2008	Tsunoda, Koji	ARCHAEOLOGICAL SURVEY REPORT FOR SOUTHERN CALIFORNIA EDISON COMPANY O&M-NEXUS RESIDENTIAL PROJECT ON THE NUTMEG 12kV CIRCUIT, RIVERSIDE COUNTY, CALIFORNIA (WO#6277-6784, AI#K-6757)	Jones & Stokes, San Diego, CA	33-016988
RI-07680		2006	Rosenberg, Seth A. and Brian F. Smith	A PHASE I ARCHAEOLOGICAL ASSESSMENT FOR THE BEAR CREEK PLAZA PHASE II PROJECT, RIVERSIDE COUNTY, CALIFORNIA.	Brian F. Smith and Associates	
RI-07789		2008	Carolyn E. Kyle	Cultural Resource Survey for the Elsinore Valley Municipal Water District Phase I Recycled Water System, Riverside County, California	Kyle Consulting	
RI-07791	Submitter - Contract No: 2184	2008	Eddy, John J. and Daniel Ballester	PHASE I ARCHAEOLOGICAL ASSESSMENT: ASSESSOR'S PARCEL NO. 363-250-014, SEDCO HILLS AREA, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-07797	Submitter - Contract No. 01128.07	2008	Tsunoda, Koji	Archaeological Survey Report for Southern California Edison Company O&M-Nexus Residential Project: Additional Survey for the Replacement of One Pole (#2228150E) on the Nutmeg 12 kV Circuit Riverside County, California (WO# 6377-6753, AI# X-6731)	ICF Jones & Stokes	
RI-07822	Submitter - 36302124.02124	2007	URS Corporation	Cultural Resources Report for the Verizon Wireless Project "The Farm"	URS Corporation	
RI-07852		2007	Smith Francesca G. and Caprice D. (Kip) Harper	Built-Environment Historic Resources Technical Memorandum for Bundy Canyon-Scott Road Improvement Project	PARSONS	33-007706, 33-016712, 33-017106, 33-017107, 33-017108, 33-017109, 33-017182
RI-07886	Submitter - CRM TECH Contract #1927	2006	Bai Tang and Michael Hogan	Photo Recordation of Historic Buildings Rudolph J. Brown Ranch, 22060 Grand Ave. Wildomar, Riverside County, California	CRM TECH	33-007808
RI-07920	Submitter - CRM TECH Contract No. 2273	2008	Tang, Bai, Dierdre Encarnacion, and Daniel Ballester	Phase I Archaeological Assessment: Assessor's Parcel Nos. 367-100-019 and -020, CUP 03403, City of Wildomar, Riverside County, California	CRM TECH	33-013170
RI-08172		2003	Riordan Goodwin	Letter Report: Results of the Cultural Resource Management Compliance Review and Paleontological Resources Assessment for the Oak Creek Apartments Parcel Riverside County, California	LSA Associates	33-011434, 33-011435, 33-011436

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-08419		2001	Laurie S. White	Letter Report: Records Search Results for Sprint PCS Facility RV54XC511D (Hilltop Ham), Wildomar, Riverside County, California.	Michael Brandman Associates	
RI-08479	Other - SCE JO No. 5877-0468; Other - SCE Purchase Order Number: Q1017910	2007	Christopher Doolittle and Susan Hogan-Conrad	Archaeological Survey Report for Southern California Edison's Tenaja Substation City of Wildomar, Riverside County, California	Earth Tech, Inc.	
RI-08480	Other - SCE Purchase Order Number: Q1017910; Other - SCE Work Order Number: 6077-2318 J-2267	2007	Susan Hogan-Conrad and Christopher J. Doolittle	Archaeological Survey Report Southern California Edison Operations and Maintenance Program Brehm Company Line Extension Survey. City of Wildomar, Riverside County, California	Earth Tech, Inc.	
RI-08510	Other - SCE Purchase Order Number: 4500179336; Other - WO 6026-4800, J-4815	2010	Linda Honey	Archaeological Survey Report for Southern California Edison's Poles Replacement Project: Menifee, Riverside County, California	Chambers Group, Inc.	
RI-08564		2010	Beth Padon	Archival Report for Cultural and Paleontological Resources: City of Menifee, Riverside, California	Discovery Works, Inc.	33-007708, 33-007714
RI-08680	Other - SCE Purchase Order Number: 4500179336; Other - Wos 6088-4811 and 6088-4800/4824	2011	Jay K. Sander	Archaeological Survey Report For Southern California Edison's Deteriorated Poles Project: Murrieta and Unincorporated Riverside County, California; WOs 6088-4800/1-4811 and 6088-4800/1-4824	Chambers Groups, Inc.	
RI-08723		2011	Rebecca S. Orfila	Archaeological Survey for the Southern California Edison Company: Replacement of Five Deteriorated Power Poles	RSO Consulting	
RI-08726		2011	Robert J Wlodarski	proposed AT&T Wireless Telecommunications Site RS0275 (Wildomar) located at 25125 Clinton Keith Road, Wildomar, California 92595	Cellular, Archaeological, Resource Evaluations	
RI-08769		2011	Carla Allred	Letter Report: Proposed Cellular Tower Project(s) in Riverside County, California, Site Number(s)/Name(s): LA5647A/ Palomar TMO Colo TCNS# 76331	EarthTouch, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-08770		2011	Jay K. Sanders	Archaeological Survey Report for SCE's Idle Facilities Removal Project	TD# 525428	
RI-08859	Submitter - CRM Tech Contract No. 2627A	2012	Bai "Tom" Tang, Michael Hogan, Daniel Ballester, Terri Jacquemain, and Nina Gallardo	Historical/Archaeological Resources Survey Report Assessor's Parcel No. 380-350-022, City of Wildomar, Riverside County, California	CRM Tech	33-003405, 33-007804, 33-007812, 33-008173, 33-008652, 33-008653, 33-008654, 33-008948, 33-008949, 33-011434, 33-011435, 33-011436, 33-013913, 33-015304, 33-015305, 33-016988, 33-017366
RI-08934	Submitter - Contract No. 2717	2013	Bai "Tom" Tang	Update to Historical/Archaeological Resources Survey, Assessor's Parcel Nos. 376-410-013, -022, and -023 (Westpark Project), City of Wildomar, Riverside County, California	CRM Tech	33-008173
RI-08935	Submitter - Contract No. 2716	2013	Bai "Tom" Tang	Update to Historical/Archaeological Resources Survey, Assessor's Parcel No. 380-290-029(Siena Apartments Project), City of Wildomar, Riverside County, California	CRM Tech	
RI-08939	Submitter - Contract No. 2730	2013	Bai "Tom" Tang	Update to Historical/Archaeological Resources Survey, Tentative Tract Map 33840; Assessor's Parcel No. 376-043-027, City of Wildomar, Riverside County, California	CRM Tech	
RI-09021		2013	Robert Cunningham, Wendy Jones, Evelyn N. Chandler, and Roger Mason	Cultural Resources Investigation Results of the Marshalling Yard Survey, Access Road Survey, and Supplemental 115kV Transmission Line Survey in Support of the Alberhill Substation, Riverside County, California	ECORP CONSULTING, INC.	33-003308, 33-012067, 33-015743, 33-019925, 33-021068, 33-021069, 33-021162
RI-09039	Submitter - Job No. 09-13-11-1640	2013	Jeanette A. McKenna and Richard S. Shepard,	A PHASE I CULTURAL RESOURCES INVESTIGATION OF THE WILDOMAR WALMART SUPERSTORE PROJECT AREA IN THE CITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	McKENNA et al.	
RI-09060		2013	Jean A. Keller	A PHASE I CULTURAL RESOURCES ASSESSMENT OF TENTATIVE TRACT MAP 36388, APN 362-070-001, 003, 006, 013, 018, 021,023, 024; 362-080-004,005,007,008,012,015; 362-090-009	Cultural Resources Consultant	33-001256, 33-015958

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-09066		2012	Tracy A. Stropes and Brian F. Smith	PHASE I CULTURAL RESOURCES SURVEY FOR THE WILDOMAR 23 PROJECT CITY OF WILDOMAR, COUNTY OF RIVERSIDE, Assessor's Parcel Numbers: 380-280-004, and 380-280-008 through -012	Brian F. Smith and Associates, Inc.	
RI-09159		2013	Jennifer R. Kraft and Tracy Stropes	Phase 1 Cultural Resources Survey for the Orange Street Project City of Wildomar, County of Riverside	Brain F Smith and Associates, Inc.	
RI-09208		2014	Carrie D. Wills	Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate 'Refa', Gruwell Street, Wildomar, Riverside County, California	First Carbon Solutions	
RI-09229		2014	Michael Hogan	Update of an Historical/ Archaeological Resources Survey Tentative Tract Map 32035; Assessor's Parcel Nos. 380-040-005, -007, -012, and -025 In the City of Wildomar, Riverside County, California	CRM Tech	33-023939
RI-09289		2014	Jean A. Keller	A Phase I Cultural Resources Assessment of APN 380-170-020 23151 Palomar Street, Wildomar, California	Jean A. Keller	
RI-09291		2014	Jean A. Keller	A Phase I Cultural Resources Assessment of Public Use Permit 778, Revised Permit No. 5 APN 367-210-008, 018, 034, 035, 039, 041, 043 and 367-140-008	Jean A. Keller	
RI-09295		2014	David Brunzell	Letter Report: Native American Consultation Correspondence for the Catt Cellular Communications New Tower Project, Wildomar, Riverside County, California (BCR Consulting Project No. TRF1402)	BCR Consulting	
RI-09325		2012	Jean A. Keller	A Phase II Cultural Resources Test Investigation of Archaeological Site CA-RIV-8282 Located Within The Boundaries of Tentative Tract Map 36388; City of Wildomar Riverside County, California Township 6 South, Range 3 West, Section 19, SBM USGS Romoland, California Quadrangle, 7.5' Series	Jean Keller	33-008282

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-09418		2015	Brian F. Smith, George L. Kennedy, and Todd A. Wirths	Paleontological, Archaeological, and Native American Monitoring Report, 34915 Orange Street (Tract 36519), City of Wildomar, Riverside County, California (APN 367-170-029)	Brian F. Smith and Associates Inc.	
RI-09427		2015	Tracy A. Stropes and Brian F. Smith	A Class III Archaeological Study for the Parkside Project for Section 106 Compliance, Riverside County, California (APNs 380-280-004 and 380-280-009 through -012)	Brian F. Smith and Associates Inc.	
RI-09441		2012	David Brunzell	Cultural Resources Assessment, Elsinore Valley Municipal Water District, Waite Street Reservoir and Pipeline Project, Wildomar, Riverside County, California	BCR Consulting	
RI-09443		2012	David Brunzell	Cultural Resources Assessment Clinton Keith/Prielipp Property, Wildomar, Riverside County, California	BCR Consulting	
RI-09499		2016	Josh Smallwood	Architectural Survey of Assessor Parcel Numbers (APNs) 369-021-031, -035, -036, -039, and -044 and Evaluation of a Historic-period Residence and Associated Structures on APN 369-021-035, in the City of Wildomar, Riverside County, California	Applied EarthWorks	33-024864
RI-09524		2012	David Brunzell	Cultural Resources Assessment Baxter Property Wildomar, Riverside County, California	BCR Consulting	
RI-09759		2015	Don C. Perez	Archaeological Sensitivity Assessment Banbury/ Ensie #26934 (290506) 22800 Grand Avenue Wildomar, Riverside County, California 92595 EBI Project #6115004284	EBI Consulting	
RI-09783		2014	Brian F. Smith	Results of Archaeological Monitoring at the North Ranch Project, Tentative Tract Map No. 32535, City of Wildomar, Riverside County, California (Negative Archaeological Monitoring Report)	Brian F. Smith & Associates	
RI-09798	Other - TR 36497	2016	Brian F. Smith and Jennifer R. Kraft	Cultural Resources Monitoring Report for the Briarwood Project, TR 36497, Wildomar, California	Brian F. Smith & Associates	
RI-09883		2016	Bai "Tom" Tang	Update to Historical/ Archaeological Resources Survey Assessor's Parcel No. 380-290-003 City of Wildomar, Riverside County, California CRM TECH Contract 3104	CRM TECH	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-09884	Other - CRM TECH Contract 3104B	2016	Bai "Tom" Tang	Addendum to Historical/ Archeological Resources Survey Big East RV and Boat Storage Facility Project (Conditional Use Permit 16-0095)	CRM TECH	
RI-09911		2005	Wayne H. Bonner and Marnie Aislin-Kay	Cultural Resource Records Search and Site Visit Results for T-Mobile Telecommunications Facility Candidate IE05295A (SC295 First Presgbyterian Church), 33122 Grape Street, Wildomar, Riverside County, California	Michael Brandman Associates	
RI-09967		2016	Stephen P. Anderson and Brian F. Smith	Phase 1 Cultural Resources Survey for the Bundy Canyon Project City of Wildomar, California APNs 367-100-018, -021, -025, -029, and -031	Brian F. Smith & Associates	
RI-10077		2018	Jennifer Roland	Phase I Investigation for the Verizon Wireless Jaro Tower Installation Project, Wildomar, Riverside, California	NWB Enviornmental Services, LLC	
RI-10113	Other - RBF1610	2016	DAVID BRUNZELL	CULTURAL RESOURCES ASSESSMENT FAITH BIBLE CHURCH PROJECT WILDOMAR RIVERSIDE COUNTY CALIFORNIA	BCRCONSULTING	33-015306
RI-10230	Other - NEXTEL COLO-CLINTON KEITH SITE; Other - SB-172-01	2002	DON LEWIS	CULTURAL RESOURCE ASSESSMENT PREPARED FOR: COLLEEN DOOLEY CINGULAR WIRELESS SB-172-01, NEXTEL COLO-CLINTON KEITH ROAD, 25125 CLINTON KEITH ROAD WILDOMAR, CA 92595	THE ALARIS GROUP, LLC	
RI-10290	Other - ASSESSOR'S PARCEL NOS. 367-140-008, 367-140-010, 367-140-012	2017	BAI "TOM" TANG, DEIRDRE ENCARNACION, DANIEL BALLESTER, and NINA GALLARDO	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: ASSESSOR'S PARCEL NOS. 367-140-008, -010 AND -012, CITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	
RI-10305		2018	Bai "Tom" Tang	Addendum to Phase I Historical/Archaeological Resources Survey Village at Monte Vista Project City of Wildomar, Riverside County, California CRM TECH Project Number 3278/3341	CRM TECH	
RI-10398		2018	Andrew J. Garrison and Brain F. Smith	A Cultural Resource Assessment for the St. Frances of Rome Project	Brian F. Smith & Associates	
RI-10489		2016	Kyle Garcia	Camelia Residential Development Project Phase 1 Cultural Resources Assesment	ESA PCR	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
RI-10508	Other - SB-174-01	2002	Don Lewis	Cultural Resource Assessment SB-174-01	The Alaris Group, LLC	
RI-10517	Other - IE04635-C Bear Creek Storage	2010	Wayne H. Bonner and Arabesque Said	Cultural Resource Records Search and Site Visit Results for T-Mobile USA Candidate IE04635-C (Bear Creek Storage), 32575 Clinton Keith Road, Wildomar, Riverside County, California	Michael Brandman Associates	
RI-10530		2009	Laura S. White and Robert S. White	Phase I Cultural Resources Assessment of the Elsinore Valley Municipal Water District Wildomar Recycled Water System Phase 1 - Off-Site Facilities Project, Riverside County	Arcaheological Associates	
RI-10555		2010	Robert J. Wlodarski	Record Seach Results for the proposed AT&T Wireless Telecommunications Site RS0006 (Outhuijse) 33805 Cherry Street, Wildomar, California 92595	Cellular, Archaeological, Resource, Evaluations (C.A.R.E.)	
RI-10566	Other - STR1202	2015	David Brunzell	Cultural Resources Assessment Clinton Keith Property (Grove Park Project) Wildomar, Riverside County, California	BCRConsulting LLC	
RI-10602		2005	Marnie Aislin-Kay	Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate SB--174-01 (RS-047-01) Busch Land, 24240 Bundy Canyon Road, Wildomar, Riverside County, California	Michael Brandman Associates	
RI-10610		2005	Wayne H. Bonner and Marnie Aislin-Kay	Cultural Resource Records Search and Site Visit Results for T-Mobile Telecommunications Facility Candidate IE04709 (SC236 Booster Station), 21422 Palomar Street, Wildomar, Riverside County, California	Michael Brandman Associates	
RI-10768		2019	Brian F. Smith	Cultural Resources Monitoring Report for the Monte Vista Ranch Project (Tentative Tract Map 32024), city of Wildomar, Riverside County, California (APNs 367-140-007 and -011)	Brian F. Smith and Associate, Inc.	
RI-10773		2019	Brian F. Smith	Cultural Resource Monitoring Report for the Monte Vista Ranch Project	Brian F. Smith and Associates	
RI-10793		2016	Kristina Davison and Mary Robbins-Wade	Wildomar Crossings Retail Development Project Cultural Resources Survery Report	HELIX Environmental Planning, Inc.	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-001256	CA-RIV-001256	Other - UCRARU #76-2	Site	Prehistoric	AP04	1973 (S. Hammond, ARU)	RI-00108, RI-09060
P-33-001257	CA-RIV-001257	Other - UCRARU #76-3	Site	Prehistoric	AP04; AP15	1973 (J. R. Smith, UCR ARU)	RI-00108, RI-04390
P-33-001643	CA-RIV-001643		Site	Prehistoric		1979 (M.C. Hall and J.P. Barker)	
P-33-001999	CA-RIV-001999			Prehistoric		1980 (S. Bouscaren)	RI-00985
P-33-002001	CA-RIV-002001			Prehistoric		1980 (S. Bouscaren)	RI-00985
P-33-002042	CA-RIV-002042		Site	Prehistoric		1980 (Jean A. Salpas)	RI-01089
P-33-002767	CA-RIV-002767			Prehistoric, Historic		1984 (Daniel F. McCarthy, Archaeological Research Unit, UC Riverside, Riverside, CA.); 1994 (Bruce Love and Steve Moffit, CRM TECH, Riverside, CA.); 2003 (Josh Smallwood); 2004 (John J. Eddy)	RI-01769, RI-03757, RI-04658, RI-06248, RI-06345
P-33-002768	CA-RIV-002768			Prehistoric		1984 (Daniel F. McCarthy)	RI-01769
P-33-002769	CA-RIV-002769			Prehistoric		1984 (Daniel F. McCarthy)	RI-01767, RI-01768, RI-01769
P-33-003413	CA-RIV-003413	Other - Project: The Farm- Secondary Highway Access	Site	Prehistoric	AP02; AP04	1988 (C.E. Drover and E.A. Jackson, Jr., n/a)	RI-02283, RI-04298
P-33-003956	CA-RIV-003956	Other - UCRARU #76-1; Other - Sunset Ridge Project Area	Site	Prehistoric, Historic	AH04; AP02; AP04	1973 (J. R. Smith, UCR); 1987 (Joan Brown and Ronald M. Bissell, RMW Paleo Associates); 2002 (McKenna, McKenna et al.)	RI-00109, RI-04298, RI-04390, RI-04938, RI-05058
P-33-004154	CA-RIV-004154	Other - N-1		Prehistoric		1990 (Arch. Associates, Archaeological Associates, P.O. Box 180, Sun City, California 92381)	RI-03052
P-33-004722	CA-RIV-004722	Other - ARU # 1175-1		Historic		1992 (B. Love, Archaeological Research Unit)	RI-03458
P-33-004725	CA-RIV-004725	Other - Tunstall East		Prehistoric		1989 (Robert S. White, Archaeological Associates)	RI-02888
P-33-004726	CA-RIV-004726	Other - Tunstall West		Prehistoric		1989 (Robert S. White, Archaeological Associates)	RI-02888
P-33-007157		Other - Ser. No. 33-2330-17	Building	Historic	HP02; HP06; HP34	1982 (Theresa Borchard, RIV. Co. Historical Comm.)	
P-33-007182		Other - Ser. No. 33-23300-42	Building	Historic	HP02	1982 (Pat Meredith, Riverside County Historical Commission)	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-007231		Other - Ser. No. 33-2330-91	Building	Historic	HP02	1982 (Theresa Borchard, Riverside County Historical Commission)	
P-33-007420		Other - Billy Frank Home	Building	Historic	HP02	1982 (L.M. O'Brien, Riverside County Historical Comm.)	
P-33-007783				Historic		1982 (M. O'Brien, Riverside County Historical Comm.)	
P-33-007784				Historic		1982 (M. O'Brien, Riverside County Historical Comm.)	
P-33-007785				Historic		1982 (M. O'Brien, Riverside County Historical Comm.)	
P-33-007804		Other - Schwartz House; Other - Ser. No. 33-2395-6; Other - CRM TECH 893-1H	Building	Historic	HP02	1982 (Marna O'Brien, Riverside County Historical Comm.); 2002 (Teresa Woodard, CRM TECH)	RI-05921, RI-06245, RI-08859
P-33-007805		Other - Robinson House; Other - Heald Ranch; Other - Ser. No. 33-2395-7	Building	Historic	HP02	1982 (Marna O'Brien, Riverside County Historical Comm.)	
P-33-007806			Building	Historic	HP02	1982 (M. O'Brien, Riverside County Historical Comm.)	
P-33-007807				Historic		1982 (M. O'Brien, Riverside County Historical Comm.)	
P-33-007808				Historic		1982 (O'Brien, Marna, Riverside County Historical Commission); 2004 (Ostashay, Jan and Peter Moruzzi, PCR Services Corp., Irvine); 2006 (Smallwood, Josh and Thomas J. Melzer, CRM TECH)	RI-07886, RI-08170
P-33-007809				Historic		1982 (M. O'Brien, Riverside County Historical Comm.)	
P-33-007810		Other - Iodine Springs; Other - Ser. No. 33-2395-12	Building	Historic	HP02; HP06	1982 (Theresa Borchard, Riverside County Historical Comm.)	
P-33-007811				Historic		1982 (M. O'Brien, Riverside County Historical Comm.)	
P-33-007812		Other - Ser. No. 33-2395-1	Building	Historic	HP06	1982 (Marna O'Brien, Riverside County Historical Comm.)	RI-05921, RI-06245, RI-08859
P-33-007881		Other - Warm Springs 1	Site	Prehistoric	AP04	0101 (Joan Brown & Ronald Bissell, RMW Paleo Associates)	RI-00109

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-008173	CA-RIV-006070H	Other - CRM TECH 311-1H; Other - CRM TECH 2717	Other	Historic	AH03	1998 (Bruce Love, CRM TECH, Riverside, CA); 2013 (Daniel Ballester, CRM TECH)	RI-03341, RI-04390, RI-08859, RI-08934
P-33-008652	CA-RIV-006168	Other - CK-1/CK-2	Site	Prehistoric	AP02	1999 (Sue Wade, Heritage Resources, Ramona, CA)	RI-04297, RI-04390, RI-08859
P-33-008653	CA-RIV-006169	Other - CK-A	Site	Prehistoric	AP02	1999 (Sue Wade, Heritage Resources, Ramona, CA)	RI-08859
P-33-008654		Other - CK-3	Site	Historic	AH04	1999 (Sue Wade, Heritage Resources, Ramona, CA)	RI-04297, RI-08859
P-33-008948		Other - Mac-11	Other	Prehistoric	AP02	1999 (Joan Brown, Dave Stevens, and David Ferraro, RMW Paleo Associates)	RI-05181, RI-08859
P-33-008949	CA-RIV-006350	Other - Mac-1	Site	Prehistoric	AP02; AP08	1999 (Joan Brown, Dave Stevens, and David Ferraro, RMW Paleo Associates Incorporated)	RI-04350, RI-04390, RI-05181, RI-08859
P-33-009641	CA-RIV-006440		Site	Prehistoric			RI-04382
P-33-010986		Other - BW-I-1	Other	Prehistoric	AP02	2000 (N. Harris, HDR)	RI-04877
P-33-011434	CA-RIV-006821	Other - GLR 02-1-1	Site	Prehistoric	AP02; AP11	2002 (Mark C. Robinson, Great Lakes Research)	RI-04470, RI-05216, RI-08172, RI-08859
P-33-011435		Other - GLR-ISO-2002-1	Other	Prehistoric	AP16	2002 (Mark C. Robinson, Great Lakes Research)	RI-04470, RI-08172, RI-08859
P-33-011436		Other - GLR-ISO-2002-2	Other	Prehistoric	AP16	2002 (Mark C. Robinson, Great Lakes Research)	RI-04470, RI-08172, RI-08859
P-33-011624		Other - Warm Springs II	Structure	Historic	AH05	1966 (Joan Brown and Ronald M. Bissell, RMW Paleo Associates)	RI-00109
P-33-012289		Other - RBF-156-01	Building	Historic	HP02	2002 (Richard S. Shepard, Bon Terra Consulting)	RI-04608
P-33-012770		Other - Site No. SA	Site	Prehistoric	AP04	1982 (L.L. Bowles, none)	RI-01620
P-33-012815			Other	Historic			
P-33-013170		Other - J&R-1	Building	Historic	HP02	2003 (David M. Van Horn, Archaeological Associates)	RI-07920
P-33-013503		Other - Site No. SA MF 1715	Site	Prehistoric	AP16	1982 (L. L. Bowles, n/a)	RI-01620
P-33-013515			Other	Prehistoric			RI-02438

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-014778	CA-RIV-007866			Prehistoric, Historic		2005 (Smallwood, Josh, CRM Tech); 2006 (Smallwood, Josh, CRM Tech)	RI-06594, RI-06595
P-33-014779	CA-RIV-007867			Prehistoric		2005 (Smallwood, Josh and Daniel Ballester, CRM Tech); 2006 (Smallwood, Josh, CRM Tech)	RI-06594, RI-06595
P-33-014780	CA-RIV-007868			Prehistoric		2005 (Smallwood, Josh and Daniel Ballester, CRM Tech); 2006 (Smallwood, Josh, CRM Tech)	RI-06592, RI-06593
P-33-014781	CA-RIV-007869			Historic		2005 (Smallwood, Josh and Daniel Ballester, CRM Tech)	RI-06592
P-33-014782	CA-RIV-007870			Historic		2005 (Smallwood, Josh, CRM Tech)	RI-06592
P-33-014783				Prehistoric		2005 (Smallwood, Josh, CRM Tech); 2006 (Smallwood, Josh, CRM Tech)	RI-06592, RI-06593
P-33-014891		Other - W-1 Ranch Complex; Other - Former property of Howard Wilson	Building, Structure	Historic	HP02; HP30; HP32; HP33	2005 (Hunt, Kevin, Steve O'Neil, and Jim Clifford, SWCA Environmental Consultants); 2009 (Ecorp Consulting, Ecorp Consulting)	RI-05355
P-33-015304		Other - Isolate-1	Other	Prehistoric	AP02	2006 (Lapin, Philippe and Adam Sriro, Southern California Edison)	RI-06827, RI-08859
P-33-015305		Other - Isolate-2	Other	Prehistoric	AP02	2006 (Lapin, Philippe and Adam Sriro, Southern California Edison)	RI-06827, RI-08859
P-33-015306	CA-RIV-008081	Other - LSA-OKE-0601-H-1	Site	Historic	AH04	2006 (Goodwin, Riordan and Gini Austerman, LSA Associates, Inc.)	RI-06737, RI-10113
P-33-015665	CA-RIV-008163	Other - AE-BCN-1H	Site	Historic	AH04	2006 (M. Linder, T. Kennedy, and K. Jernigan, Applied EarthWorks, Inc.)	
P-33-015666	CA-RIV-008164	Other - AE-BCN-2H	Site	Historic	AH04	2006 (M. Linder, T. Kennedy, and K. Jernigan, Applied EarthWorks, Inc.)	
P-33-015669		Other - AE-BCN-ISO-2	Other	Prehistoric	AP16	2006 (T. Kennedy, K. Jernigan, and M. Linder, Applied EarthWorks, Inc.)	
P-33-015670		Other - AE-BCN-ISO-3	Other	Prehistoric	AP16	2006 (T. Kennedy, K. Jernigan, and M. Linder, Applied EarthWorks, Inc.)	
P-33-015958	CA-RIV-008282	Other - AE-BCN-4	Site	Prehistoric	AP02	2007 (C. Bouscaren, C. Cisneros, Applied EarthWorks, Hemet, CA)	RI-09060

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-33-015994		Other - Sedco Tract 1, Lot 12; Other - Heathner Residential Complex	Building	Historic	AH02; AH04; HP02; HP06	2005 (MBA, MBA); 2013 (Jeanette A McKenna, Dept of Parks and Rec/McKenna et al)	
P-33-015995			Other	Prehistoric	AP02	2005 (Aislin-Kay, Marnie, MBA)	
P-33-015996			Other	Prehistoric	AP02	2005 (Aislin-Kay, Marnie, MBA)	
P-33-016988	CA-RIV-008848	Other - 2007CWA93-01		Historic		2008 (Tsunoda, Koji, Jones & Stokes)	RI-07677, RI-08859
P-33-017106		Other - 33890 Cherry Street (No. 1)	Building	Historic	HP02	2007 (Caprice D. (Kip) Harper and Smith, Francesca, Parsons)	RI-07852
P-33-017107		Other - 23690 Bundy Canyon Road (No. 48)		Historic		2007 (Caprice D. (Kip) Harper, Parsons); 2007 (Smith, Francesca, Parsons)	RI-07852
P-33-017309		Other - 22220 Bundy Canyon Road	Building	Historic	HP06	2006 (Bai "Tom" Tang and Terri Jacquemain, CRM TECH)	RI-06596
P-33-017366	CA-RIV-009024	Other - APN's 380-250-011; Other - Temp 1 20370013	Site	Prehistoric	AP02	2008 (Dice, Michael, Michael Brandman Associates)	RI-08859
P-33-019926		Other - CWA 60-2	Object	Historic	AH06; AH10	2009 (C. Cotterman and D. Ballester, ECORP Consulting)	
P-33-020991		Other - Oak Springs Ranch	Building, Structure	Historic	HP33	2012 (Casey Tibbet, Riordan Goodwin, LSA Associates, Inc)	
P-33-023939	CA-RIV-011760	Other - CRM Tech 2818-1	Site	Historic	AH06	2014 (Michael Hogan, CRM TECH)	RI-09229
P-33-024798		Other - STR1202-I-1	Other	Prehistoric	AP16	2012 (David Brunzell and Jon Spenard, BCR Consulting)	
P-33-024819	CA-RIV-012308	Other - Temp-1	Site	Prehistoric	AP02	2015 (David Grabski, Jennifer Kraft, Brian F. Smith and Associates, Inc.)	
P-33-024864		Other - Wong parcel, 22940 Palomar Street	Building, Structure	Historic	HP02; HP33	2016 (Josh Smallwood, Applied EarthWorks, Inc.)	RI-09499
P-33-028131		Other - LSA-JTM1801-S-1	Other	Prehistoric	AP16	2018 (Riordan Goodwin, LSA Associates, Inc.)	
P-33-028202		Other - Oak Circle Road BRM	Site	Prehistoric	AP04	2011 (REBECCA S ORFILA, RSO CONSULTING)	
P-33-028890		Other - Reburied Artifacts	Other	Prehistoric	AP02	2019 (Patrick Maxon, VCS Enviornmental)	

Appendix 5.13-1 Noise Monitoring and Modeling

Appendices

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NOISE MODELING SPREADSHEETS

ID	Output						Inputs													
	dBA at 50 feet			Distance to CNEL Contour			Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Receiver
	L _{eq,24hr}	L _{dn}	CNEL	70 dBA	65 dBA	60 dBA														
1	78.4	81.3	81.9	771	2437	7705	I-15 (Back)	City Limit to Bundy Canyon Road	113000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
2	78.2	81.1	81.7	736	2329	7364	I-15 (Ahead)	Baxter Road to Bundy Canyon Road	108000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
3	78.5	81.4	82.1	805	2544	8046	I-15 (Back)	Bundy Canyon Road to Baxter Road	118000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
4	78.4	81.3	81.9	771	2437	7705	I-15 (Ahead)	Clinton Keith Road to Baxter Road	113000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
5	78.6	81.5	82.1	811	2566	8115	I-15 (Back)	Baxter Road to Clinton Keith Road	119000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
6	78.5	81.4	82.1	805	2544	8046	I-15 (Ahead)	Clinton Keith Road to City Limit	118000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
7	64.8	67.7	68.3	34	108	341	Bundy Canyon Road	Mission Trail to Orange Street	10,685	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
8	67.8	70.7	71.4	68	216	684	Bundy Canyon Road	Orange Street to I-15 SB Ramps	21,443	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
9	67.8	70.7	71.3	68	215	681	Bundy Canyon Road	I-15 SB Ramps to I-15 NB Ramps	21,367	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
10	67.3	70.2	70.9	61	193	609	Bundy Canyon Road	I-15 NB Ramps to Monte Vista Road	19,099	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
11	67.1	70.0	70.6	58	183	579	Bundy Canyon Road	Monte Vista Road to The Farm Road	18,152	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
12	66.3	69.1	69.8	47	150	474	Bundy Canyon Road	The Farm Road to City Limit	14,869	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
13	64.2	67.1	67.7	29	93	293	Clinton Keith Road	Grand Avenue to Palomar Street	17,051	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
14	66.3	69.2	69.9	48	153	484	Clinton Keith Road	Palomar Street to Hidden Springs Road	28,119	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
15	67.6	70.5	71.1	64	203	643	Clinton Keith Road	Hidden Springs Road to I-15 SB Ramps	37,356	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
16	67.4	70.3	71.0	62	197	624	Clinton Keith Road	I-15 SB Ramps to I-15 NB Ramps	36,262	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
17	66.9	69.7	70.4	54	172	545	Clinton Keith Road	I-15 NB Ramps to Wildomar Trail	31,650	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
18	66.6	69.5	70.1	51	162	513	Clinton Keith Road	Wildomar Trail to Inland Valley Drive	29,793	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
19	65.6	68.4	69.1	40	128	403	Clinton Keith Road	Inland Valley Drive to City Limit	23,439	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
20	63.2	66.1	66.7	24	75	236	Corydon Road	Grand Avenue to Palomar Street	13,791	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
21	63.8	66.6	67.3	27	84	267	Corydon Road	Palomar Street to Mission Trail	15,565	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
22	50.2	53.1	53.7	4	9	19	Cottonwood Canyon Road	City Limit to Bundy Canyon Road	694	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Soft	50
23	64.7	67.6	68.2	33	105	331	Grand Avenue	Corydon Road to Sheila Lane	10,378	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
24	64.8	67.7	68.3	34	107	339	Grand Avenue	Sheila Lane to Gruwell Street	10,635	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
25	64.8	67.7	68.3	34	107	337	Grand Avenue	Gruwell Street to Wildomar Trail	10,572	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
26	62.4	65.3	65.9	20	62	195	Grand Avenue	Wildomar Trail to McVicar Street	6,123	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
27	61.6	64.4	65.1	16	51	161	Grand Avenue	McVicar Street to Clinton Keith Rd	5,047	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
28	52.6	55.5	56.1	2	6	20	Gruwell Street	Grand Avenue to Palomar Street	2,584	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
29	62.1	65.0	65.6	18	58	183	Hidden Springs Road	Clinton Keith Rd to South of Clinton Keith Rd	10,574	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
30	65.2	68.1	68.7	37	119	375	Inland Valley Drive	Clinton Keith Road to Prielipp Road	11,756	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
31	55.4	58.3	59.0	4	12	39	La Estrella Street	Wildomar Trail to Salida Del Sol	1,227	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
32	57.0	59.9	60.5	6	18	56	Lemon Street	Mission Trail to I-15	3,276	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
33	57.4	60.3	60.9	6	20	62	Lemon Street	I-15 to Lost Road	3,613	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
34	58.4	61.3	62.0	8	25	78	McVicar Street	Grand Avenue to Palomar Street	2,458	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
35	68.8	71.7	72.3	85	270	854	Mission Trail	City Limit to Lemon Street	20,363	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
36	69.0	71.9	72.6	90	285	902	Mission Trail	Lemon Street to Corydon Road	21,501	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
37	67.4	70.3	71.0	62	197	623	Mission Trail	Corydon Road to Bundy Canyon Road	14,848	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
38	64.9	67.8	68.4	35	110	349	Mission Trail	Bundy Canyon Road to Palomar Street	8,322	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
39	58.6	61.5	62.1	8	26	81	Monte Vista Drive	Bundy Canyon Road to Wildomar Trail	2,533	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
40	54.3	57.2	57.8	3	10	30	Palomar Street	Corydon Road to Mission Trail	3,796	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
41	57.9	60.8	61.4	7	22	70	Palomar Street	Mission Trail to Orange Street/Gruwell Street	8,808	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
42	59.3	62.2	62.8	10	30	95	Palomar Street	Orange Street/Gruwell Street to Wildomar Trail	12,020	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
43	57.6	60.5	61.2	7	21	65	Palomar Street	Wildomar Trail to McVicar Street	8,254	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
44	58.3	61.2	61.8	8	24	76	Palomar Street	McVicar Street to Clinton Keith Rd	9,625	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
45	59.1	62.0	62.6	9	29	92	Palomar Street	Clinton Keith Rd to Washington Ave	11,571	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
46	61.6	64.5	65.1	16	51	163	Prielipp Road	Inland Valley Drive to City Limit	6,859	40	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
47	52.5	55.4	56.0	2	6	20	Salida Del Sol	La Estrella Street to Clinton Keith Road	845	40	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
48	58.3	61.2	61.9	8	24	77	Wildomar Trail	Grand Avenue to Palomar Street	9,627	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
49	60.0	62.9	63.6	11	36	113	Wildomar Trail	Palomar Street to I-15 SB Ramps	14,229	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
50	59.0	61.8	62.5	9	28	88	Wildomar Trail	I-15 SB Ramps to I-15 NB Ramps	11,099	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
51	54.0	56.9	57.5	3	9	28	Wildomar Trail	I-15 NB Ramps to Monte Vista Drive	3,559	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
52	53.4	56.3	56.9	2	8	24	Wildomar Trail	Wildomar Trail to La Estrella Street	3,065	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
53	54.5	57.4	58.0	3	10	32	Wildomar Trail	La Estrella Street to Clinton Keith Road	4,001	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50

ID	Output						Inputs													
	dBA at 50 feet			Distance to CNEL Contour			Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Receiver
	L _{eq-24hr}	L _{dn}	CNEL	70 dBA	65 dBA	60 dBA														
1	78.4	81.3	81.9	771	2437	7705	I-15 (Back)	City Limit to Bundy Canyon Road	113000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
2	78.2	81.1	81.7	736	2329	7364	I-15 (Ahead)	Baxter Road to Bundy Canyon Road	108000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
3	78.5	81.4	82.1	805	2544	8046	I-15 (Back)	Bundy Canyon Road to Baxter Road	118000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
4	78.4	81.3	81.9	771	2437	7705	I-15 (Ahead)	Clinton Keith Road to Baxter Road	113000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
5	78.6	81.5	82.1	811	2566	8115	I-15 (Back)	Baxter Road to Clinton Keith Road	119000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
6	78.5	81.4	82.1	805	2544	8046	I-15 (Ahead)	Clinton Keith Road to City Limit	118000	60	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
7	65.4	68.2	68.9	39	122	386	Bundy Canyon Road	Mission Trail to Orange Street	12,100	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
8	69.2	72.1	72.7	93	293	928	Bundy Canyon Road	Orange Street to I-15 SB Ramps	29,100	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
9	69.6	72.5	73.1	103	325	1027	Bundy Canyon Road	I-15 SB Ramps to I-15 NB Ramps	32,200	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
10	69.7	72.6	73.2	105	331	1046	Bundy Canyon Road	I-15 NB Ramps to Monte Vista Road	32,800	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
11	70.0	72.9	73.5	112	354	1119	Bundy Canyon Road	Monte Vista Road to The Farm Road	35,100	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
12	69.4	72.2	72.9	97	307	970	Bundy Canyon Road	The Farm Road to City Limit	30,400	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
13	65.9	68.8	69.4	44	138	437	Clinton Keith Road	Grand Avenue to Palomar Street	25,400	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
14	67.4	70.3	71.0	62	197	623	Clinton Keith Road	Palomar Street to Hidden Springs Road	36,200	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
15	68.8	71.7	72.3	85	267	845	Clinton Keith Road	Hidden Springs Road to I-15 SB Ramps	49,100	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
16	68.7	71.6	72.2	83	263	833	Clinton Keith Road	I-15 SB Ramps to I-15 NB Ramps	48,400	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
17	68.8	71.7	72.3	85	268	849	Clinton Keith Road	I-15 NB Ramps to Wildomar Trail	49,300	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
18	68.3	71.2	71.8	76	241	761	Clinton Keith Road	Wildomar Trail to Inland Valley Drive	44,200	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
19	67.4	70.3	70.9	61	194	613	Clinton Keith Road	Inland Valley Drive to City Limit	35,600	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
20	64.2	67.1	67.7	29	93	295	Corydon Road	Grand Avenue to Palomar Street	17,200	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
21	65.5	68.4	69.0	40	127	401	Corydon Road	Palomar Street to Mission Trail	23,400	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
22	51.8	54.7	55.3	5	11	24	Cottonwood Canyon Road	City Limit to Bundy Canyon Road	1,000	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Soft	50
23	65.8	68.7	69.3	43	135	427	Grand Avenue	Corydon Road to Sheila Lane	13,400	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
24	65.5	68.4	69.0	40	125	395	Grand Avenue	Sheila Lane to Gruwell Street	12,400	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
25	65.8	68.7	69.3	43	135	427	Grand Avenue	Gruwell Street to Wildomar Trail	13,400	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
26	65.1	67.9	68.6	36	114	360	Grand Avenue	Wildomar Trail to McVicar Street	11,300	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
27	61.7	64.6	65.2	17	52	166	Grand Avenue	McVicar Street to Clinton Keith Rd	5,200	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
28	53.4	56.3	56.9	2	8	25	Gruwell Street	Grand Avenue to Palomar Street	3,100	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
29	60.0	62.9	63.5	11	36	113	Hidden Springs Road	Clinton Keith Rd to South of Clinton Keith Rd	6,500	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	3	Hard	50
30	66.3	69.2	69.8	48	151	478	Inland Valley Drive	Clinton Keith Road to Prielipp Road	15,000	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
31	61.2	64.1	64.7	15	47	147	La Estrella Street	Wildomar Trail to Salida Del Sol	4,600	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
32	58.8	61.6	62.3	8	27	84	Lemon Street	Mission Trail to I-15	4,900	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
33	60.6	63.5	64.1	13	41	129	Lemon Street	I-15 to Lost Road	7,500	35	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
34	62.7	65.5	66.2	21	66	207	McVicar Street	Grand Avenue to Palomar Street	6,500	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
35	69.8	72.7	73.3	107	337	1066	Mission Trail	City Limit to Lemon Street	25,400	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
36	69.4	72.3	72.9	99	312	986	Mission Trail	Lemon Street to Corydon Road	23,500	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
37	69.1	72.0	72.6	92	291	919	Mission Trail	Corydon Road to Bundy Canyon Road	21,900	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
38	67.1	70.0	70.6	58	183	579	Mission Trail	Bundy Canyon Road to Palomar Street	13,800	50	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
39	60.9	63.8	64.4	14	43	137	Monte Vista Drive	Bundy Canyon Road to Wildomar Trail	4,300	45	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
40	58.5	61.4	62.0	8	25	80	Palomar Street	Corydon Road to Mission Trail	10,100	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
41	59.8	62.6	63.3	11	34	106	Palomar Street	Mission Trail to Orange Street/Gruwell Street	13,400	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
42	60.6	63.5	64.1	13	41	128	Palomar Street	Orange Street/Gruwell Street to Wildomar Trail	16,200	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
43	60.1	63.0	63.6	12	37	116	Palomar Street	Wildomar Trail to McVicar Street	14,600	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
44	61.2	64.1	64.7	15	47	147	Palomar Street	McVicar Street to Clinton Keith Rd	18,600	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
45	61.2	64.1	64.8	15	47	150	Palomar Street	Clinton Keith Rd to Washington Ave	18,900	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
46	62.5	65.4	66.1	20	64	202	Prielipp Road	Inland Valley Drive to City Limit	8,500	40	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
47	60.3	63.2	63.8	12	38	121	Salida Del Sol	La Estrella Street to Clinton Keith Road	5,100	40	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	1	Hard	50
48	58.5	61.3	62.0	8	25	79	Wildomar Trail	Grand Avenue to Palomar Street	9,900	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
49	62.6	65.4	66.1	20	64	202	Wildomar Trail	Palomar Street to I-15 SB Ramps	25,400	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
50	61.0	63.9	64.5	14	45	143	Wildomar Trail	I-15 SB Ramps to I-15 NB Ramps	17,900	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
51	57.7	60.6	61.3	7	21	67	Wildomar Trail	I-15 NB Ramps to Monte Vista Drive	8,400	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
52	57.8	60.7	61.4	7	22	68	Wildomar Trail	Wildomar Trail to La Estrella Street	8,600	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50
53	59.0	61.9	62.6	9	28	90	Wildomar Trail	La Estrella Street to Clinton Keith Road	11,300	25	0.0%	97.4%	1.8%	0.7%	75.5%	14.0%	10.5%	2	Hard	50

Appendix 5.15-1 Service Provider Questionnaires

Appendices

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CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Fire Department Questionnaire

1. Please list any joint/mutual aid agreements Wildomar Fire Department (WFD) has for the City.

- **CAL FIRE / Riverside County Cooperative Fire Protection Agreement**
- **City of Murrieta auto aid agreement**
- **California Fire and Rescue Mutual aid agreement**
- **CAL FIRE Wildland Fire Protection Agreement**

2. In addition to automatic/mutual aid agreements, does WFD have any contracts with other agencies to provide suppression services for the City?

- **CAL FIRE / Riverside County Cooperative Fire Protection Contact**
- **CAL FIRE Wildland Fire Protection Agreement**

3. Per the WFD website, the City of Wildomar is served by one fire station, as shown below. Please provide current information (equipment and staffing) for the existing fire station. Please add any additional fire stations that would serve the City.

Station	Location/Address	Equipment	Daily Staffing
Wildomar Fire Station	32637 Gruwell Street	Fire Engine 61, Medic Squad 61	5
Menifee #68	26020 Wickard Rd. Menifee	Engine 68	3
Bear Creek #75	38900 Clinton Keith Rd. Murrieta	Engine 75	3
Canyon Hills #94	22770 Railroad Cyn. Rd. Lake Elsinore	Engine 94	3
Rancho California #73	27415 Enterprise Cir. Temecula	Engine 73/ Truck 73	7
City of Murrieta fire stations #2 & #5			

4. Please provide the total number of employees at WFD (staff and firefighters).

13 Firefighters and 1 Fire marshal = 14

Contract includes daily chief officer coverage of a Battalion Chief , Division Chief, and Duty Chief.

5. Does the department have a metric for guiding increases in staff? (i.e., XX personnel per 1,000 population) What is WFD's staffing ratio goal?

Increases in services are determined using NFPA 1710 and Fire Department standards:

- 1. Station response time for areas of population: 1000 per Sq. mile = 4 minutes, 500-1000 per Sq. mile = 6 minutes, 100-500 per Sq. Mile = 8 minutes, less than 100 persons per Sq. mile = 15 minutes.**
- 2. Over 3066 calls for service on a single apparatus additional apparatus and staffing is required**
- 3. In first due response zones with tactical hazards, high-hazard occupancies, or dense urban areas additional staffing may be required..**

CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Fire Department Questionnaire

6. What is WFD's performance goal for responding to emergency and nonemergency calls within the service area (i.e., minutes to reach the call location)?
1. **The Department will use the Fractile Analysis Methodology to report performance outcomes based on Response Time. The Riverside County Fire Department will establish a goal of arriving within the established Response Time objective 90% of the time.**
7. What is the current average response time (in minutes) for emergency and nonemergency calls?
- **2023 Year to date January to September:**
 - **5.4 Minutes to all calls for service.**
 - **5.1 minutes to emergency calls for service**
8. What is the standard estimate for determining the number of fire emergency calls generated by new residential and nonresidential development (e.g., calls per residential unit/square foot or nonresidential development)?
- **Station response time objectives for areas of population:**
 - **Urban:1000 per Sq. mile = 4 minutes,**
 - **Suburban =500-1000 per Sq. mile = 6 minutes,**
 - **Rural 100-500 per Sq. Mile = 8 minutes,**
 - **Outlying less than 100 persons per Sq. mile = 15 minutes.**
 - **Over 3066 calls for service on a single apparatus.**
 - **In first due response zones with tactical hazards, high-hazard occupancies, or dense urban areas additional staffing maybe required.**
9. Are the existing resources (personnel, equipment) adequate to serve the City under current conditions?
- **A comprehensive study of service area coverage and current population density is needed to determine service gaps.**
 - **Current response time metric shows the city is at the cusp of its response time standard and will require additional improvements with future growth.**
 - **Current covered apparatus meet calls for service standard.**
 - **The 3-5 year goal of Fire department is to acquire land for two future fire stations. This will require an increase in apparatus and staffing levels.**
 - **Northeast area of the city will require cost mitigation agreement at Menifee fire station #68 to offset impacts of future development.**
 - **The Fire Department is in process of transition a 56 hour work week. This will require an increase in staffing of one Fire Apparatus Engineer and one Firefighter II.**

CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Fire Department Questionnaire

10. The 2021 Development Impact Fee Report noted that RCFD has identified a need for another fire station north of the Interstate 15 freeway in Wildomar. Does WFD have any current plans to construct additional facilities in this area or any other location in Wildomar? If so, when is construction expected to start?

The city requires two fire stations to provide appropriate service levels. The locations of future fire stations has not been determined. Additional development in the northeast may require additional apparatus and staffing at existing City of Menifee fire station #68.

11. Please confirm or edit the development impact fees to fund new fire protection facilities.

- Single-Family Residential: \$496 per dwelling unit
- Multi-Family Residential: \$344 per dwelling unit
- Commercial/Retail: \$339 per 1,000 square feet of building space
- Office: \$300 per 1,000 square feet of building space
- Light Industrial/Business Park: \$120 per 1,000 square feet of building space

Listed prices are rounded up to the full dollar amount

12. In addition to development impact fees, where else does WFD receive funds for its fire protection and emergency services?

- **General Fund**
- **Local Tax Measure AA**

CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Fire Department Questionnaire

13. Please summarize any additional resources (facilities, equipment, personnel) needed to serve future development under the Proposed General Plan buildout scenario of an additional 8,992 dwelling units, 27,999 residents, 2,965,538 non-residential square feet, and 6,724 jobs as shown in Table 1, Proposed General Plan Buildout, of the NOP.

- **Two fire stations to provide appropriate response time service levels.**
- **Two fire engines and two medic squads.**
- **A study is needed to determine fire ladder truck coverage needs.**

14. Please provide any additional comments you may have regarding the proposed project.

- **Include updated high fire area hazard maps as a part of general plan update.**

Response Prepared By:

Name **Title**

Agency **Date**

CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Police Department Questionnaire

1. Please list any joint/mutual aid agreements Wildomar Police Department (WPD) has for the City.

The city of Wildomar contracts with the Riverside County Sheriff's Department for police services.

The Riverside County Sheriff's Office has active mutual aid agreements with neighboring agencies

2. In addition to automatic/mutual aid agreements, does WPD have any contracts with other agencies to provide services for the City?

Riverside Sheriff's Office

3. Per the WPD's website, local policing is directed from one station, as shown below. Please provide current information (equipment and staffing) for the existing station. Please add any additional stations that would serve the City.

Station	Location/Address	Equipment	Daily Staffing
Lake Elsinore Sherriff's station	333 Limited Avenue, Lake Elsinore	1- BMW motorcycle	5 Patrol- 1 motor officer that works 40 hrs/week 2 Special Enforcment Team officers work/40hrs/week

4. How many non-sworn staff does WPD have?

1 Community service officer

5. Does the department have a metric that guides increases in staff? (i.e., XX officers per 1,000 population)? No. The city of Wildomar adjusts staffing based on recommendations from the Riverside Sheriff's Office.

CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Police Department Questionnaire

6. What is WPD's performance standard for responding to emergency and nonemergency calls within the service area (i.e., minutes to reach the call location)?
There are not set department goals; however, administration monitors average response times and ensures deputies are responding as efficiently as possible.
7. What is the current average response time (in minutes) for emergency and nonemergency calls?
7.9 min priority 1 calls (highest priority)
24.48 min priority 2 calls
45.07 min priority 3 calls
43.93 min priority 4 calls (lowest priority)
8. What is the standard estimate for determining the number of emergency calls generated by new residential and nonresidential development (e.g., calls per residential unit/square foot or nonresidential development)? NA
9. Are the existing resources (personnel, equipment) adequate to serve the City under current conditions? Yes

CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Police Department Questionnaire

10. The 2021 Development Impact Fee Report noted that although the City expects that the existing Lake Elsinore station to continue serving Wildomar, the City will need additional space for law enforcement as the City continues to grow. Does WPD have any current plans to construct additional facilities? If so, where would this new facility be located and when is construction expected to start?

The sheriff's department does not have any plans to construct new facilities.

11. Please confirm or edit the development impact fees to fund new police protection facilities.

- Single-Family Residential: \$272 per dwelling unit
- Multi-Family Residential: \$189 per dwelling unit
- Commercial/Retail: \$183 per 1,000 square feet of building space
- Office: \$162 per 1,000 square feet of building space
- Industrial/Business Park: \$65 per 1,000 square feet of building space

The sheriff's office does not have this information.

12. In addition to development impact fees, where else does WFD receive funds for its police protection facilities? NA

CITY OF WILDOMAR PROPOSED GENERAL PLAN
Wildomar Police Department Questionnaire

13. Please summarize any additional resources (facilities, equipment, personnel) needed to serve future development under the Proposed General Plan Update buildout scenario of an additional 8,992 dwelling units, 27,999 residents, 2,965,538 non-residential square feet, and 6,724 jobs by 2040 as shown in Table 1, Proposed General Plan Buildout, of the NOP.

This increase would nearly double current needs.

14. Please provide any additional comments you may have regarding the proposed project.

Response Prepared By:

David Clark	Lieutenant
Name	Title
Riverside Sheriff's Office	10/10/2023
Agency	Date

**CITY OF WILDOMAR PROPOSED GENERAL PLAN
Lake Elsinore Unified School District Questionnaire**

1. Please **confirm or update** the following information obtained from the California Department of Education and District's websites:

LEUSD schools serving the City of Wildomar:

LEUSD Schools Serving Residents from the City of Wildomar		
School Name/Location	2022-2023 Enrollment	School Capacity
Elementary Schools		
Donald Graham Elementary <i>35450 Frederick Street</i>	442	819
Ronald Reagan Elementary <i>35445 Porras Road</i>	532	857
Wildomar Elementary <i>21575 Palomar Road</i>	577	1200
William Collier Elementary <i>20150 Mayhall Drive</i>	707	737
Middle Schools		
David A. Brown Middle <i>21861 Grand Avenue</i>	990	1400
High Schools		
Elsinore High <i>21800 Canyon Drive</i>	2,122	3425
Alternative Education		
Valley Adult School <i>21330 Lemon St</i>		400

2. Does the District plan to build any new schools that would serve residents of the City of Wildomar? If so, please provide grade levels, location, and capacity for each planned school.

Grades	Location/Address	Capacity	Anticipated Opening Year

The District has no current plans for a new school within the City of Wildomar.

**CITY OF WILDOMAR PROPOSED GENERAL PLAN
Lake Elsinore Unified School District Questionnaire**

3. Are there any existing shortages in the amount of classroom, athletic, recreational or other facilities available to serve the current number of students? If shortages exist, what is the basis for determining those shortages?

If home development continues at it's current pace, the District will have the need for more classrooms at William Collier Elementary School and in other Wildomar area schools, including the possibility of new schools, in the next five to ten years.

4. Please **confirm or update** the following developer impact fees for residential, commercial, and industrial development, as listed on the District's website.
- a. Residential: \$4.79 per square foot
 - b. Retail and Services: \$0.78 per square foot
 - c. Office: \$0.78 per square foot
 - d. Research and Development: \$0.78 per square foot
 - e. Industrial/Warehouse/Manufacturing: \$0.78 per square foot
 - f. Hospital: \$0.78 per square foot
 - g. Hotel/Motel \$0.399 per square foot
 - h. Self-Storage \$0.023 per square foot
 - i. Other development fees per square foot?

Categories a. to i. are confirmed as accurate.

5. Please **confirm or update** the following generation rates specific to housing type, as listed on the Districts website.

School Levels	Single Family Detached Units		Multi-Family Attached Units	
Elementary School	0.2476	0.198	0.2222	0.113
Middle School	0.1298	0.093	0.0977	0.119
High School	0.1827	0.134	0.1228	0.115
Total	0.5601	0.425	0.4427	0.387

**CITY OF WILDOMAR PROPOSED GENERAL PLAN
Lake Elsinore Unified School District Questionnaire**

6. How would the proposed project, which includes land use designation changes that would accommodate a buildout of an additional 8,992 dwelling units, 27,999 residents, 2,965,538 non-residential square feet, and 6,724 jobs, as shown in Table 1, Proposed General Plan Buildout, of the NOP, affect the existing LEUSD school services and facilities?

An increase of 8,992 dwelling units would produce more than 3,800 additional students for the Lake Elsinore Unified School District. The impact would be significant, approximately a 18% increase in students. The need for new schools and/or classrooms would exceed the current mitigation fee structure currently in place.

7. Please provide any additional comments you may have regarding the proposed project.

The identified increase in population, traffic, and infrastructure needs identified in this document would have a significant impact on the Lake Elsinore Unified School District. The District requests the City of Wildomar stay in close communication with the District and consider the possibility of partnering with the District to secure property and funding to construct facilities appropriate to the expected growth.

Response Prepared By:

James Judziewicz

Assistant Superintendent, Facilities & Operations

Name

Title

Lake Elsinore Unified School District

November 9, 2023

Agency

Date

1. Please confirm or update:

The Wildomar Branch Library at 34303 Mission Trail would serve the City.

The Wildomar Library serves and will continue to serve the community of Wildomar as a community center and service area for educational, recreational, and social services.

2. What resources and special services are provided at this location (collection size, computers, etc.)?

Collection of approximately 20,000 in house (circulation of 58,802 last 12 months), with cooperating association with other libraries for free material access plus the ability to acquire for loan additional materials nation wide with an interlibrary loan program. Reference services and public information referral to local resources, early learning pre literacy programs in English and Spanish and specialized computers (2); school age literacy, science technology engineering, art and math (STEAM); teen after school programs; adult learning programs; computer services inhouse (7) and Chromebooks (2) and hotspots (2) for checkout; digital services such as online tutoring, veteran resources, learning programs, eaudio/ebook/downloadable movies, black history resources, in-home schooling, writing and publication, education designed for older adults, career finding and job assistance live help provided digitally; classical arts performances, newspapers magazines and encyclopedias in English and Spanish in most cases available free from standard internet capable devices; printing services from inhouse computers and customer mobile devices; recreation services in programing and CA state park day passes, reading program for all ages, outreach to schools and communities, learning and recreational print, audio and audio/visual (DVD/Blu-Ray); personal assistance with a wide range of digital resources; Mental health resources kits for dementia sufferers; community room (cap. 67) available for free use to non-profits and minimal fee for others.

a. Are the existing library space and number of books/resources considered adequate for the existing population within the library's service area?

The short answer is current facilities are workable but strained, therefore not adequate. The American Library Association no longer provides guidelines in this area. Comparison to the Temecula facility results in an approximate 1 item per capita. In that regard, the Wildomar collection would be compared at 36,880 items, an additional 17,000 items, or almost twice the current collection. These numbers do not consider digital offerings accessible through use of the Wildomar Library account.

b. If not, what are the estimated deficits of:

i. Building area in square feet? Additional 5,000 sf.(currently 5578 sf)

ii. Volumes or collection size? 17,000 items.

iii. Other resources (computers, etc.)? Internet capable computers additional 4, AWE stations children's computers (non-internet) additional 2, printing station additional 1. Study rooms (none currently), parent/children social area, teen social area, larger program room,

Friends Bookstore/work area, staff workroom (currently shared with friends); storage space for seasonal items and programming supplies.

3. What is the source of the library's funding?

City and County funds from property taxes; grants; additional city funding; community fundraising.

4. What demand factors or standards are used to determine the amount of library space and number of volumes, or collection size, needed to serve a given population?

The American Library Association no longer sets standards for these concerns. The primary factor is funding. This is matched with community need for service functions. Comparisons with other facilities in similar communities can provide guidance on equipment and future projections for technology needs.

5. What demands would you estimate the proposed project would create based on the Proposed General Plan buildout scenario of an additional 8,992 dwelling units, 27,999 residents, 2,965,538 non-residential square feet, and 6,724 jobs as shown in Table 1, Proposed General Plan Buildout, of the NOP.

a. For library facilities in square feet?

Building size of 20k sf (additional 14,432 sf over our current 5578 sf)

b. For collection items?

Additional 45,000 items (from current 19,845)

c. For additional library staff?

Additional 16 people (total of 374 hours weekly) of which 3 are full time (40 hrs/week).

d. Other?

Additional 23 internet capable computers; 2 additional AWE stations (children's computers non-internet); 1 additional printing station; study rooms (none currently); parent/children social area; teen social area; larger program room; Friends Bookstore/work area; staff workroom (currently shared with friends); storage space for seasonal items and programming supplies; makerspace.

6. Are there any plans for future library expansion or new libraries that would serve the proposed project? If so, when would construction begin and how would these facilities be funded?

Not at this moment.

7. What measures, if any, would you recommend to reduce project impacts to library facilities and/or collections?

The largest project impact to the library facility will be the increase in the population by an additional 76%. We have already expanded our digital solutions to accommodate the current

population. What remains is the space for those who prefer personal contact, book browsing, and a need for live support (such as assistance with technology). Recommendations include:

- A. Temporarily: add a second location in an existing facility such as a storefront or office space.
- B. Permanently: build a centralized, technologically updated building with sufficient room for activities and programs that can accommodate the increased population.

8. Please add any other comments you may wish to make regarding this project. We are pleased to be a part of your expansion and are flattered that you are asking us for comments on the impact of your deserved growth. Working directly with our patrons, we find this community to be both technologically comfortable and desiring social contacts consistent with your goals of keeping a small town atmosphere.

Response Prepared By:

Sandra Brautigam and Kim Pike
Name

Librarian and Branch Manager
Title

Riverside County Library System
Agency

October 16, 2023
Date

Appendix 5.17-1 Transportation Impact Study

Appendices

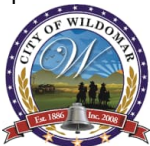
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WILDOMAR GPU

Transportation Impact Study

January 2024

Prepared For



23873 Clinton Keith Road
Suite 201
Wildomar, CA 92595

Prepared By



CR Associates
3900 Fifth Avenue, Suite 310
San Diego, CA 92103

Table of Contents

1.0	Introduction	1
1.1	Purpose of the Report	1
1.2	Study Scenarios.....	1
1.3	Report Organization.....	3
2.0	Alternatives Description	4
3.0	Analysis and Methodology Thresholds	9
3.1	Determination of VMT Significant Impacts	9
4.0	Impact Analysis – Proposed Project	10
4.1	VMT Impact Analysis.....	10
4.2	Mitigation Recommendations	10
4.3	Additional Transportation-related CEQA Considerations	11
5.0	Alternatives Analysis	12
5.1	No Project Alternative (Adopted General Plan)	12
6.0	Summary	13

List of Tables

Table 4.1 - Wildomar Base Year VMT Efficiency Metrics for Transportation Impact Analysis	10
Table 4.2 - Wildomar Proposed Project VMT Efficiency Metrics for Transportation Impact Analysis	10
Table 5.1 - Wildomar No Project VMT Efficiency Metrics for Transportation Impact Analysis	12
Table 6.1 - Summary of Wildomar VMT Efficiency Metrics for Transportation Impact Analysis for All Alternatives.....	13

List of Figures

Figure 1.1 – Project Regional Location.....	2
Figure 2.1 – Existing Conditions Network.....	5
Figure 2.2 – Adopted Roadway Network	6
Figure 2.3 – Preferred Roadway Network.....	7
Figure 2.4 – Preferred Bicycle Network.....	8

Appendices

Appendix A Base Year and Proposed Project VMT Results

Appendix B VMT Reduction Measures

Appendix C Project Alternatives VMT Results

1.0 Introduction

1.1 Purpose of the Report

This Transportation Impact Study (TIS) serves to identify and document potential transportation impacts related to the City of Wildomar General Plan Update proposed land uses and mobility networks (Proposed Project), its alternatives, and recommend improvements/mitigation measures, as appropriate.

The City of Wildomar is nestled in the southwestern Riverside County, part of the growing Inland Empire region in Southern California. Geographically, it lies roughly between the bustling cities of Los Angeles and San Diego, approximately 60 miles north of San Diego and 75 miles southeast of Los Angeles. The city is bordered by the city of Murrieta to the south and the city of Lake Elsinore to the north. Its landscape features a mix of flat lands and mildly hilly terrains, characteristic of the broader region. Wildomar's location benefits from a close proximity to the Interstate 15 corridor, making it an accessible spot for those traveling between the major Southern California metropolitan areas.

Additionally, its position provides a blend of suburban and semi-rural atmospheres, with the Cleveland National Forest and the Santa Ana Mountains in close proximity, offering scenic views and outdoor recreational opportunities.

Figure 1.1 displays the City of Wildomar location in the Riverside County Region.

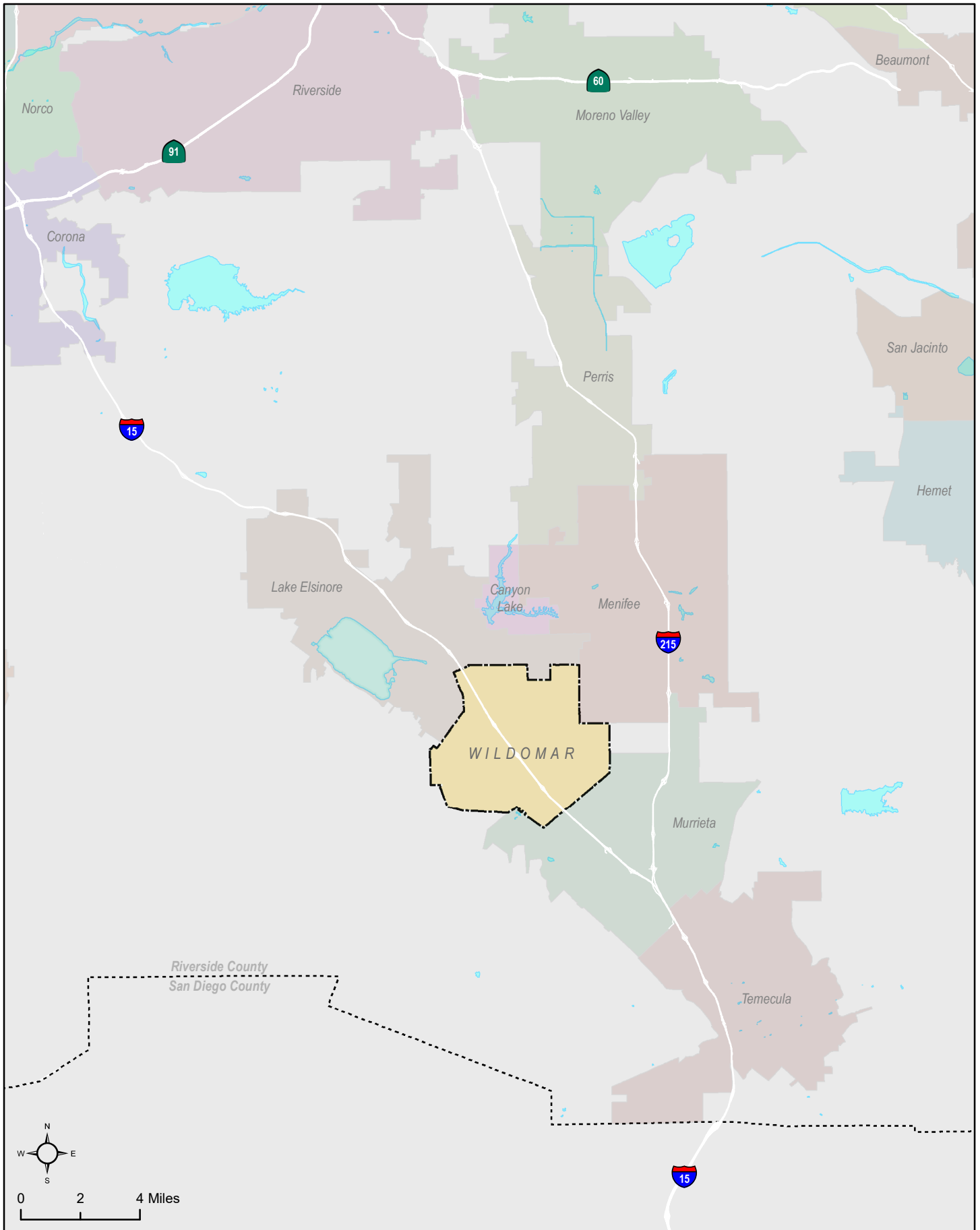
The analysis herein is based on the revised (January 2023) State of California Environmental Quality Act (CEQA) Guidelines and the City of Wildomar's adopted Resolution No. 2020-40, VMT CEQA Threshold Policy Guidelines (Wildomar VMT Guidelines) adopted on June 10, 2020.

1.2 Study Scenarios

Three (3) study scenarios were evaluated, including base year (2018) and two (2) future year alternatives, as follows:

- **Base Year (2018/2019)** – establishes the baseline VMT within the project study area. The Riverside County Transportation Model (RIVCOM) Base Year (2018) was utilized as a starting-point and validated for the City of Wildomar.
- **No Project (Adopted General Plan)** – represents buildout of the City of Wildomar's currently Adopted General Plan Land Use and Mobility Elements.
- **Preferred Plan (Proposed Project)** – represents buildout of the Proposed Project's land uses and mobility network, which were developed in collaboration with community members, City staff, and the project consultant team.

All study scenarios were modeled using the validated RIVCOM model. This model was developed by Caltrans District 8 in coordination with Western Riverside Council of Governments (WRCOG) in 2010. As part of this General Plan Update effort, the project team developed a Wildomar-focused subarea model by updating the RIVCOM with relevant Wildomar information, including roadway network and socioeconomic data for the various alternatives listed above.



**Wildomar General Plan Update
Transportation Impact Study**



*Figure 1.1
City of Wildomar within the Region*

1.3 Report Organization

The remainder of this report is organized into the following chapters:

- 2.0 *Alternative Description* – This chapter summarizes land use assumptions for Base Year (2018/2019) and future year alternatives including the Adopted General Plan (No Project), and the Preferred Plan (Proposed Project).
- 3.0 *Analysis Methodology* – This chapter describes the methodologies and thresholds utilized to evaluate potential VMT impacts for each of the future alternatives. Note that as of July 1, 2020, VMT is the metric (rather than Level of Service) for CEQA transportation-related impact evaluation.
- 4.0 *Project Impacts* – This chapter discusses the VMT analysis and identifies potential transportation impacts of the Proposed Project. Mitigation measures to reduce the identified VMT impacts, as necessary, are also discussed.
- 5.0 *Preferred Plan Analysis* – This chapter discusses the VMT analysis and potential transportation impacts of the Preferred Plan.
- 6.0 *Summary* – This chapter provides a summary of the VMT analysis for the two analyzed alternatives.

2.0 Alternatives Description

This section provides a summary of each of the modeled alternatives, land use information was obtained and developed in coordination with Placeworks and is consistent with the approach documented in the *General Plan Land Use Buildout Methodology* memorandum (Placeworks, July 26, 2023) also referred to as the “Buildout Methodology” memorandum. As mentioned earlier, a total of three (3) alternatives were evaluated, the Existing or baseline scenario, No Project or Currently Adopted Scenario, and Proposed Project or Preferred Plan scenario. Detailed descriptions of each of the alternatives are provided below.

Existing Conditions (Baseline)

The Riverside County Transportation Model (RIVCOM) Base Year (2018) was utilized as a starting-point and updated to reflect the baseline assumptions documented in the Buildout Methodology memorandum. Per the Buildout Methodology memorandum, the SCAG's 2019 Annual Land Use (ALU v.2019.2) Dataset, updated in February 2021, was used to establish on-the-ground uses. Non-residential building square footage was derived from GIS measurements of Riverside County building footprint data and spot-checked for accuracy. Roadway networks were updated to reflect the existing conditions. **Figure 2.1** displays the base year roadway network.

No Project (Adopted General Plan)

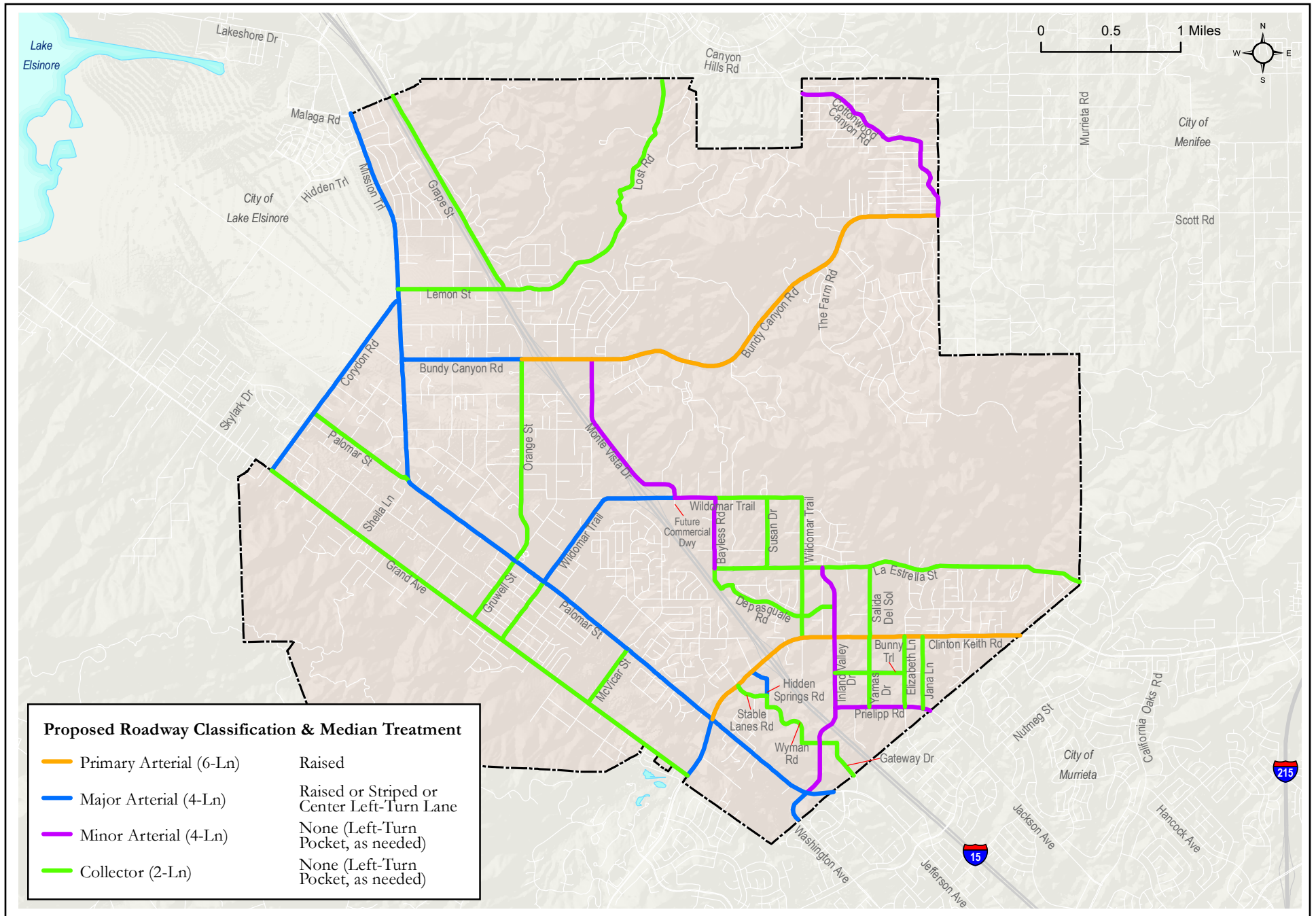
The No Project scenario began with the RIVCOM Year 2045 model, which incorporated land use data from SCAG's Regional Transportation Plan Sustainable Community Strategies (SCAG RTP/SCS). For the year 2045, the SCAG RTP/SCS land uses were revised according to the Buildout Methodology memorandum. This involved replacing certain SCAG RTP/SCS land use assumptions with specific project land uses, including those from the unbuilt Pipeline list and the Housing Element Sites inventory, wherever relevant. To maintain consistency with the RTP/SCS, land uses in areas not impacted by the project were kept unchanged (as assumed by the RTP/SCS). The roadway network was updated to reflect the currently adopted Mobility Element and is shown in **Figure 2.2**.

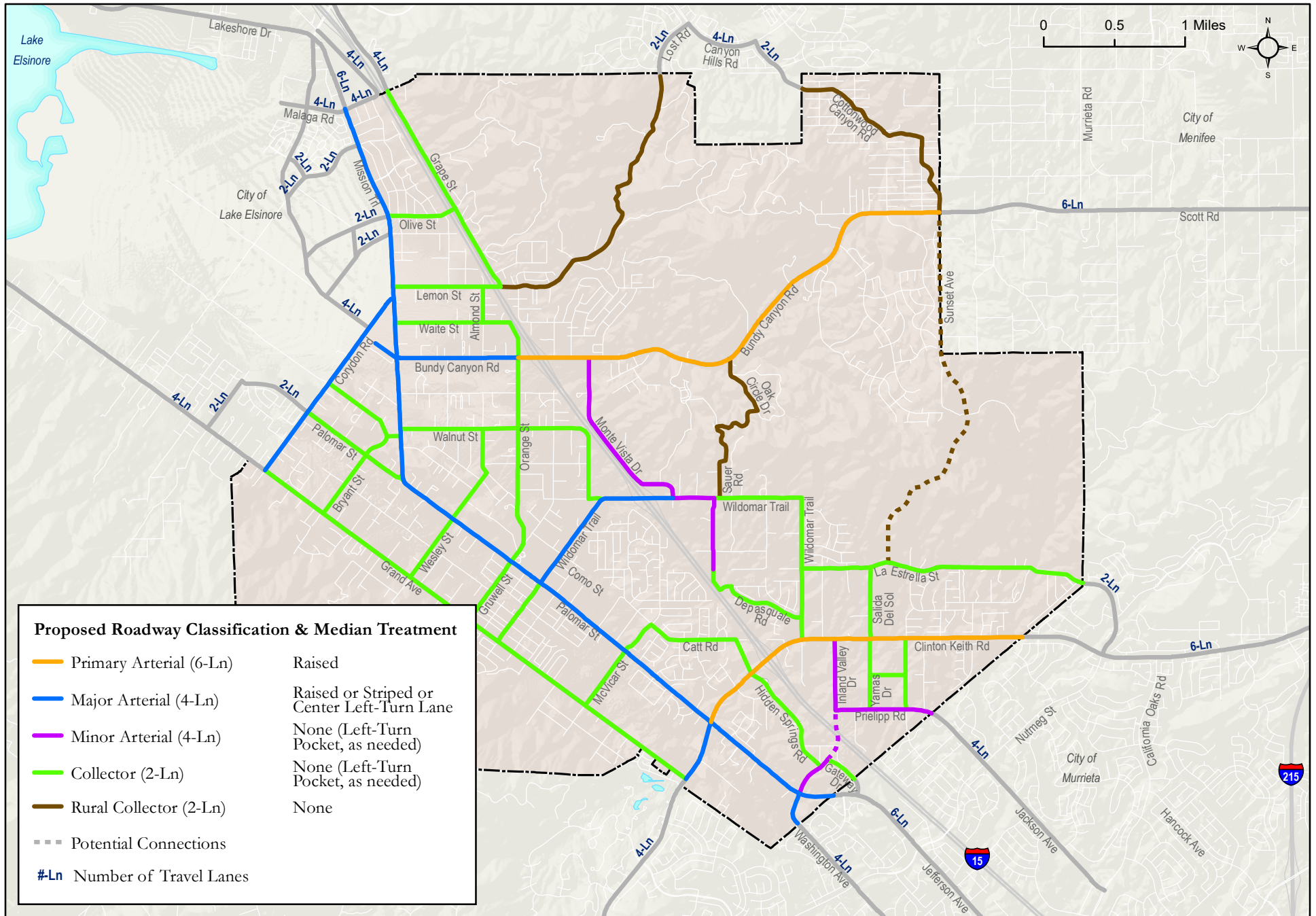
Preferred Plan (Proposed Project)

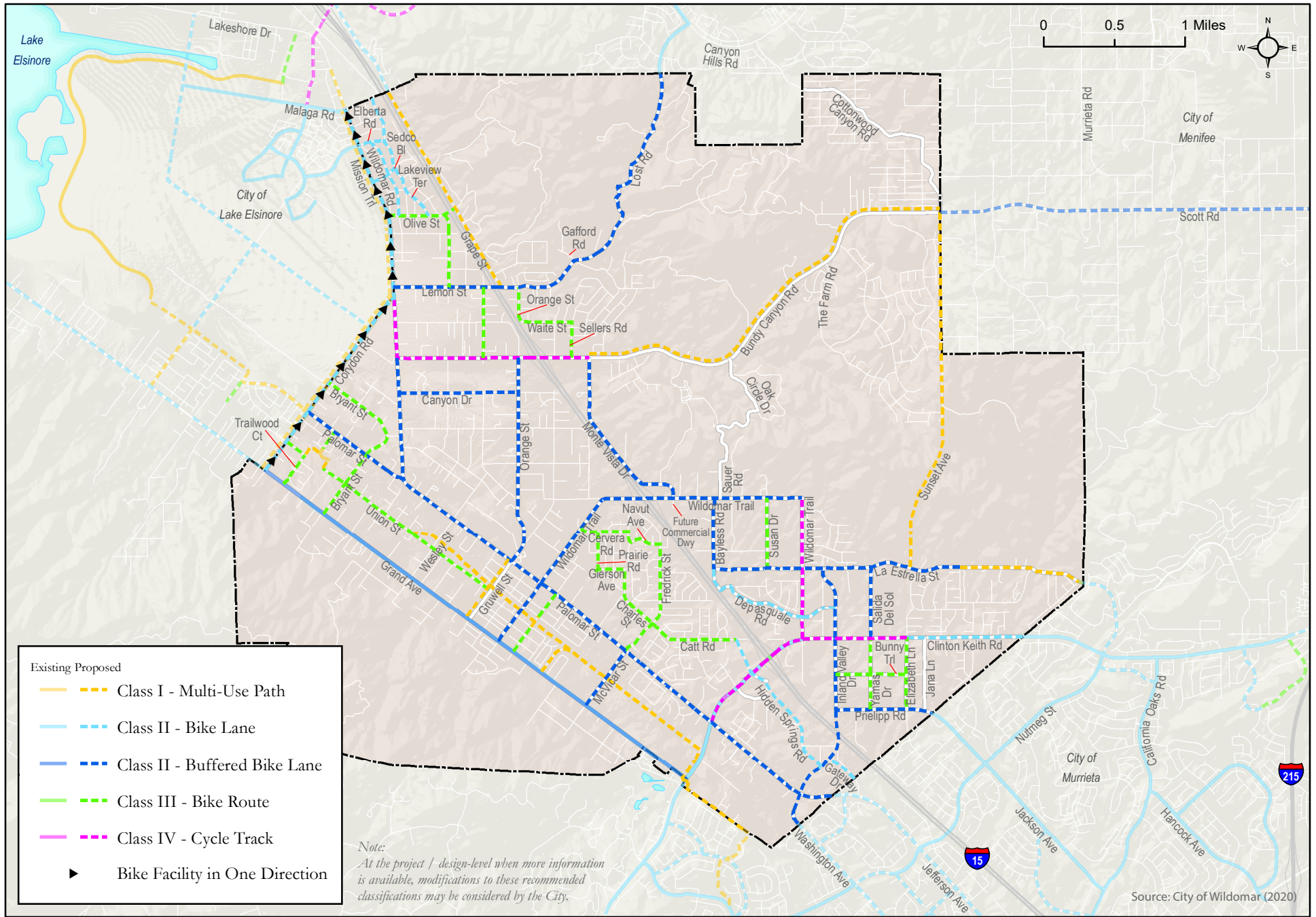
Consistent with the approach documented in the Buildout Methodology memorandum, the Preferred Plan or Proposed Project scenario starts with the No Project scenario as the baseline and was updated to reflect realistic growth. This growth was focused in nine (9) specific areas that were developed based on a community engagement process and in consultation with City staff. These nine Focus Areas were identified as locations where growth is likely to occur during the planning period, based on factors such as vacancy, development suitability and economic development potential. Proposed land uses in these areas informed by economic analysis of projected market demand during the planning period, result in a “realistic” growth scenario. Similar to the No Project scenario, land uses outside of the nine focused areas were kept unchanged.

The Preferred Plan (Proposed Project) also proposed selective improvements to the Mobility Element network. The improvements build upon the Mobility Element network that was adopted in 2021, with additional connections/modifications to support the land use changes in the nine focused areas. Wildomar's transition from low density to higher density land use patterns under the Proposed Project would require equally supportive mobility infrastructure, public improvements, and policies focused on better serving pedestrians, bicyclists, and transit users, in addition to motorists.

Therefore, to supplement these land use changes, the Proposed Project also includes transportation network and policy improvements to address existing and forecasted mobility needs and deficiencies. The proposed roadway and bicycle networks are included in **Figures 2.3** and **2.4**, and more detailed infrastructure, policy, and program recommendations can be found in the Mobility Element section of the General Plan Update.







3.0 Analysis and Methodology Thresholds

This chapter describes the methodologies and thresholds utilized to evaluate potential VMT impacts for each of the future alternatives.

3.1 Determination of VMT Significant Impacts

VMT is positively correlated with growth and as the region is expected to grow, VMT is also expected to increase. However, where the growth occurs plays a significant role in determining how much VMT will increase. Growth in areas with access to high-quality transit, a complete active transportation network, and/or complementary land use mixes are projected to be more VMT efficient.

The following definitions describe how VMT is referred to, calculated, and accounted for in this programmatic CEQA impact analysis in accordance with the Wildomar VMT Guidelines:

- **VMT per Service Population** includes all daily vehicle-based trips associated with all land uses (residential, employment, retail, education, etc.) which are then summed for the study area (City of Wildomar) and divided by the population of the same analysis area to arrive at VMT per Service Population.

The Wildomar VMT Guidelines state that Projects that are at or below the city's current average VMT per Service Population or below the subregion's average VMT per Service Population be considered less than significant. Additionally, it states that the city shall endeavor to ensure that new projects are able to demonstrate a **3% reduction** in VMT that currently exists.

Existing VMT was determined using RIVTAM Base Year (2018), which yielded a VMT per Service Population of 34.6 miles. Excerpts from the regional transportation model are provided in **Appendix A**.

For the purpose of this transportation impact study, a Plan-to-Ground analysis was conducted by comparing the Proposed Project to Base Year (2018), which is representative of the baseline conditions.

4.0 Impact Analysis – Proposed Project

This chapter focuses on whether the Proposed Project would have a significant impact if the proposed land uses would in aggregate exceed the VMT per Service Population threshold shown in Table 3.1.

4.1 VMT Impact Analysis

To establish a baseline understanding, **Table 4.1** displays both Riverside County and Wildomar’s VMT per Service Population for the Base Year (2018) conditions. As shown, Wildomar is 1% more efficient in VMT per Service Population compared to Riverside County.

Table 4.1 - Wildomar Base Year VMT Efficiency Metrics for Transportation Impact Analysis

VMT Metric	Base Year (2018)		% of Riverside County Base Year
	Riverside County	Wildomar	Wildomar
VMT per Service Population	34.8	34.6	99%

Source: RIVCOM, CR Associates (2023)

By 2040 with the implementation of the Proposed Project, the VMT efficiency of Wildomar substantially improves. **Table 4.2** presents the Wildomar VMT per Service Population with the Proposed Project. As shown in the table below, Wildomar is projected to have a VMT per Service Population at 30.6, which is 87.9% of the Riverside County’s Base Year VMT per Service Population and 88.4% of Wildomar’s Base Year VMT per Service Population. The land uses associated with the Proposed Project would reduce the VMT per Service Population within Wildomar by more than 3%. However, due to uncertainty regarding the actual development pattern, population growth, and other factors that are outside of the purview and control of this Project, the impact is considered to be significant, and the City would need to mitigate the Project’s VMT to the extend feasible.

Table 4.2 - Wildomar Proposed Project VMT Efficiency Metrics for Transportation Impact Analysis

VMT Metric	Riverside County - Base Year	Wildomar – Base Year	Wildomar - Proposed Project	% of Riverside County Base Year	% of Wildomar Base Year	Significant Impact?
VMT Per Service Population	34.8	34.6	30.6	87.9%	88.4%	Y

Source: RIVCOM, CR Associates (2023)

4.2 Mitigation Recommendations

The City would provide the following mitigation measures to reduce the potential significant impacts:

- Mitigation Strategy 1: The City will implement the active transportation network as detailed in Section **XXX** of the Mobility Element. This implementation is expected to achieve a reduction of up to 6.4% (with implementation of built out sidewalk facilities) and 0.015% (with implementation of all proposed bicycle facilities) in Vehicle Miles Traveled (VMT) per service population.
- Mitigation Strategy 2: The City will establish a Transportation Demand Management Program. This program will engage with current and future key employers to decrease commute and work-related VMT. This will be achieved through various initiatives like employee shuttle bus services, vanpool programs, parking cash-out options, mobility hubs, and other related transportation demand management strategies. Depending on

the various strategies, a maximum of 30 percent reduction in VMT per service population could be achieved.

- Mitigation Strategy 3: The City will continue its collaboration with the Western Riverside Council of Governments and Riverside Transit Agency to boost transit usage. This will involve enhancing transit facilities and introducing more high-frequency transit services connecting areas of high employment with residential zones.

As shown, mitigation strategies 1 and 2 would potentially reduce the Project’s VMT between 0.015% and 30%. It is not feasible to quantify the VMT reduction associated with Mitigation Strategy 3. If the City implements all of the mitigation strategies, the potential reduction would be 30% of the VMT per service population. However, due to the uncertainty regarding the timeframe of when these mitigation measures would be fully implemented, this study assumes that the Project would continue to have a significant transportation related impact under CEQA. See **Appendix B** for a list of VMT reduction strategies.

4.3 Additional Transportation-related CEQA Considerations

In addition to VMT, the following section focuses on the transportation impact analysis carried out utilizing the 2023 CEQA standards, with the objective of addressing the three additional (other than VMT) main inquiries detailed in Section XVII, Transportation, of Appendix G in the 2023 CEQA Statute & Guidelines.

Would the project

- a) *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

The project proposes additional enhancements to the multimodal transportation network. Consequently, it does not conflict with any existing program, plan, ordinance, or policy related to the circulation system, including transit, roadways, and bicycle and pedestrian facilities.

- b) *Conflict or be inconsistent with CEQA Guidelines 15064.3, subdivision (b)?***

Yes - See analysis in Section 4.1.

- c) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) & d) Result in inadequate emergency access?***

The Project includes the construction of new roadways and multi-modal facilities (bike and pedestrian). However, roadway and multi-modal recommendations are provided at the programmatic level, with no actual designs proposed. All recommended improvements will be evaluated during the design phase and will adhere to prevailing applicable standards, such as those in the California Manual of Uniform Traffic Control Devices (CA-MUTCD), highway capacity manual (HCM), etc., as well as any applicable environmental review. As such, 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). For the same reasons as above, the Project would not result in inadequate emergency access.

5.0 Alternatives Analysis

The California Environmental Quality Act (CEQA) mandates consideration and analysis of alternatives to the Proposed Project. According to CEQA Guidelines, the range of alternatives “shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant impacts” (CEQA Guidelines Section 15126.6 (d) (2)).

This chapter discusses potential VMT impacts under the No Project alternative. The No Project alternative is identical to the currently adopted General Plan. The VMT Reports for this alternative are included in **Appendix C**.

5.1 No Project Alternative (Adopted General Plan)

The purpose of evaluating the No Project Alternative is to allow decision makers to compare the outcomes by approving the Proposed Project vs. maintaining the currently adopted Plan. The No Project Alternative represents what would reasonably be expected to occur in the foreseeable future if the Proposed Project were not adopted.

Table 5.1 presents the Wildomar average resident and employee VMT under the No Project conditions.

**Table 5.1 - Wildomar No Project
VMT Efficiency Metrics for Transportation Impact Analysis**

VMT Metric	Riverside County Region - Base Year	Wildomar – Base Year	Wildomar – No Project	% of Regional Base Year	% of Wildomar Base Year
VMT Per Service Population	34.8	34.6	29.5	84.7%	85.2%

Source: RIVCOM, CR Associates (2023)

Proposed Project VMT per Service Population Impact?

As shown in the table above, Wildomar is projected to have a VMT per Service Population at 29.5, which is 84.7% of the region’s Base Year VMT per Service Population and 85.2% of Wildomar’s Base Year VMT per Service Population. The land uses associated with the No Project alternative would reduce the VMT per Service Population within Wildomar by more than 3%. However, due to uncertainty regarding the actual development pattern, population growth, and other factors that are outside of the purview and control of this Project, the impact is considered to be significant, and the City would need to mitigate the Project’s VMT to the extent feasible.

6.0 Summary

Table 6.1 presents a summary of Wildomar average resident, employee VMT, and retail total VMT under all alternatives.

**Table 6.1 - Summary of Wildomar
VMT Efficiency Metrics for Transportation Impact Analysis for All Alternatives**

VMT Metric	Riverside County Region - Base Year	Wildomar – Base Year	Wildomar - Proposed Project	Wildomar – No Project	Below Riverside County Base Year	Below Wildomar Base Year	Significant Impact?
VMT Per Service Population	34.8	34.6	30.6	29.5	Yes (both alternatives)	Yes (both alternatives)	Yes

Source: RIVCOM, CR Associates (2023)

This report previously mentioned that a Plan-to-Ground analysis was carried out, comparing the Proposed Project with the baseline conditions represented by the Base Year (2018). This analysis revealed that the Proposed Project's impacts on Vehicle Miles Traveled (VMT) per Service Population are less than the applicable threshold. However, due to uncertainty regarding the actual development pattern, population growth, and other factors that are outside of the purview and control of this Project, the impact is considered to be significant, and the City would need to mitigate the Project's VMT to the extent feasible.

The Project would mitigation strategies 1, 2, and 3 and would potentially reduce the Project's VMT between 0.015% and 30%. If the City implements all of the mitigation strategies, the potential reduction would be 30% of the VMT per service population. However, due to the uncertainty regarding the timeframe of when these mitigation measures would be fully implemented, this study assumes that the Project would continue to have a significant transportation related impact under CEQA.



Appendix A Base Year and Proposed Project VMT Results

	Households	SFDU	MFDU	TotPop	TotEmp	Service Pop	TotalEnroll	HHS	Wildomar Total OD VMT	VMT per SP	Constant Adopted HHS Pop	Adjusted Service Pop ¹	Adjusted VMT per SP
2018Cal3	11,989	8,022	3,967	37,150	5,839	42,989	6,624	3.096	1,448,089	33.7	36,022	41,861	34.6
2045Prop3	20,956	10,291	10,665	59,185	12,114	71,299	7,706	2.822	2,296,469	32.2	62,965	75,079	30.6

	Households	SFDU	MFDU	TotPop	TotEmp	Service Pop	TotalEnroll	HHS					
2018Cal3													
2045AdoptB	62.2%	82.8%	20.6%	57.4%	92.0%	62.1%	16.3%	-2.9%	42.2%	-12.3%	62.4%	66.5%	-14.6%
2045Prop3	74.8%	28.3%	168.8%	59.3%	107.5%	65.9%	16.3%	-8.8%	58.6%	-4.4%	74.8%	79.4%	-11.6%

	Households	SFDU	MFDU	TotPop	TotEmp	Service Pop	TotalEnroll	HHS					
2045AdoptB													
2045Prop3	7.7%	-29.8%	122.8%	1.2%	8.0%	2.3%	0.0%	-6.1%	11.5%	9.0%	7.7%	7.7%	3.5%

¹ Adjusted Service Population refers to the service population calculated utilizing the Household Size from the RIVCOM model.



Appendix B
VMT Reduction Measures

Transportation Demand Management Strategy		Applicable Land Use Type		Maximum Reduction
		Residential	Non-Residential	
<i>Land Use</i>				
T-1	Increase Residential Density	✓	✓	0.0% - 30.0%
T-2	Increase Job Density	✓	✓	0.0% - 30.0%
T-3	Provide Transit Oriented Development	✓	✓	6.9%
T-4	Integrate Affordable and Below Market Rate Housing	✓		0.0% - 28.6%
T-17	Improve Street Connectivity (Dependent on Project Site intersection density)	✓	✓	0.0% - 30.0%
<i>Trip Reduction Strategies</i>				
T-5	Implement Commute Trip Reduction Program (Voluntary) (Dependent on participation)		✓	0.0% - 4.0%
T-6	Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring) (Dependent on participation)		✓	0.0% - 26.0%
T-7	Implement Commute Trip Reduction Marketing (On-site TDM coordinator, Information center for transportation alternatives) (Dependent on participation)		✓	0.0% - 4.0%
T-8	Provide Ridesharing Program (Reserved parking for ridesharing and an app/website for coordinating rides) (Differs between urban and suburban environment)		✓	4.0% - 8.0% ¹
T-9	Implement Subsidized or Discount Transit Program (10% to 100% subsidy)	✓	✓	0.029% - 0.295% ¹
T-10	Provide End-of-Trip Bicycle Facilities (bike parking, bike lockers, showers, and personal lockers) (expanded mitigation options include bicycle repair station) (lower end associated with parking only compared to biking with additional supporting facilities)		✓	0.062% - 0.305% ¹
T-11	Provide Employer Sponsored Vanpool		✓	3.55% ¹
T-12	Price Workplace Parking		✓	0.0% - 20.0%
T-13	Implement Employee Parking Cash-Out (Dependent on number of eligible employees)		✓	0.0% - 12.0%
T-23	Provide Community-Based Travel Planning (Dependent on percentage of residences targeted with plan)	✓	✓	0.0% - 2.3%
<i>Parking or Road Pricing/Management</i>				
T-14	Provide Electric Vehicle Charging Infrastructure (Site Dependent)	✓	✓	0.0% - 11.9%
T-15	Limit Residential Parking Supply (Site Dependent)	✓		0.0% - 13.7%
T-16	Unbundled Residential Parking Costs from Property Cost (Parking Cost Dependent)	✓		0.0% - 15.7%
T-24	Implement Mark Price Public Parking (On-Street)	✓	✓	0.0% - 30.0%
<i>Neighborhood Design</i>				
T-18	Provide Pedestrian Network Improvement	✓	✓	0.0% - 6.4%
T-19-A	Construct or Improve Bike Facility	✓	✓	0.0% - 0.8%
T-19-B	Construct or Improve Bike Boulevard	✓	✓	0.0% - 0.2%

Transportation Demand Management Strategy		Applicable Land Use Type		Maximum Reduction
		Residential	Non-Residential	
T-20	Expand Bikeway Network	✓	✓	0.0% - 0.5%
T-21-A	Implement Conventional Carshare Program	✓	✓	0.0% - 0.15%
T-21-B	Implement Electric Carshare Program	✓	✓	0.0% - 0.18%
T-22-A	Implement Pedal (Non-Electric) Bikeshare Program	✓	✓	0.0% - 0.02%
T-22-B	Implement Electric Bikeshare Program	✓	✓	0.0% - 0.06%
T-22-C	Implement Scootershare Program	✓	✓	0.0% - 0.07%
Transit				
T-25	Extend Transit Network Coverage or Hours (Service miles and hours dependent)	✓	✓	0.0% - 4.6%
T-26	Increase Transit Service Frequency	✓	✓	0.0% - 11.3%
T-27	Implement Transit-Supportive Roadway Treatments	✓	✓	0.0% - 0.6%
T-28	Provide Bus Rapid Transit	✓	✓	0.0% - 13.8%
T-29	Reduce Transit Fares	✓	✓	0.0% - 1.2%
Non-Quantifiable Measures				
	Wayfinding signage	✓	✓	
	Off-site pedestrian supportive strategies	✓	✓	
	Pedestrian access with internal and external connections and sidewalk connections	✓	✓	
	Pre-tax transportation benefits		✓	
	Telecommute work center for residents	✓		
	Telecommute and/or compressed work week		✓	
	Delivery supportive amenities	✓	✓	
	On-site childcare	✓	✓	
	High-cost off-site transit stop amenities and upgrades	✓	✓	
	Low-cost off-site transit stop amenities and upgrades	✓	✓	

¹ VMT reduction specific to Wildomar.



Appendix C
Project Alternatives VMT Results

	Households	SFDU	MFDU	TotPop	TotEmp	Service Pop	TotalEnroll	HHS	Wildomar Total OD VMT	VMT per SP	Constant HHS Pop	Adopted HHS Pop	Adjusted Service Pop ¹	Adjusted VMT per SP
2018Cal3	11,989	8,022	3,967	37,150	5,839	42,989	6,624	3.096	1,448,089	33.7	36,022	36,022	41,861	34.6
2045AdoptB	19,452	14,666	4,786	58,483	11,213	69,696	7,706	3.005	2,058,757	29.5	58,483	58,483	69,696	29.5

	Households	SFDU	MFDU	TotPop	TotEmp	Service Pop	TotalEnroll	HHS	Wildomar Total OD VMT	VMT per SP	Constant HHS Pop	Adopted HHS Pop	Adjusted Service Pop ¹	Adjusted VMT per SP
2018Cal3														
2045AdoptB	62.2%	82.8%	20.6%	57.4%	92.0%	62.1%	16.3%	-2.9%	42.2%	-12.3%	62.4%	66.5%	66.5%	-14.6%
2045Prop3	74.8%	28.3%	168.8%	59.3%	107.5%	65.9%	16.3%	-8.8%	58.6%	-4.4%	74.8%	79.4%	79.4%	-11.6%

	Households	SFDU	MFDU	TotPop	TotEmp	Service Pop	TotalEnroll	HHS	Wildomar Total OD VMT	VMT per SP	Constant HHS Pop	Adopted HHS Pop	Adjusted Service Pop ¹	Adjusted VMT per SP
2045AdoptB														
2045Prop3	7.7%	-29.8%	122.8%	1.2%	8.0%	2.3%	0.0%	-6.1%	11.5%	9.0%	7.7%	7.7%	7.7%	3.5%

¹ Adjusted Service Population refers to the service population calculated utilizing the Household Size from the RIVCOM model.

Appendix 5.18-1 Native American Consultation Pursuant to SB 18

Appendices

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NATIVE AMERICAN HERITAGE COMMISSION

November 3, 2023

Matthew Bassi
City of Wildomar

Via Email to: mbassi@cityofwildomar.org

Re: Native American Consultation, Pursuant to Senate Bill 18, Government Code §65352.3 and §65352.4, City of Wildomar Proposed General Plan Project, Riverside County

Dear Mr. Bassi:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties.

Government Code § 65352.3 and § 65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

The law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

The NAHC also believes that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
 - A listing of any and all known cultural resources that have already been recorded or are adjacent to the APE, such as known archaeological sites;
 - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
 - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
 - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
 - Any report that may contain site forms, site significance, and suggested mitigation measures.



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NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code §6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was positive. Please contact the Pechanga Band of Indians on the attached list for more information.
4. Any ethnographic studies conducted for any area including all or part of the APE; and
5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we are able to assure that our consultation list remains current.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,



Andrew Green
Cultural Resources Analyst

Attachment

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Cultural Affiliation	Counties
Agua Caliente Band of Cahuilla Indians	F	Patricia Garcia, Director of Historic Preservation	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Augustine Band of Cahuilla Mission Indians	F	Amanda Vance, Chairperson	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Cabazon Band of Mission Indians	F	Doug Welmas, Chairperson	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Cahuilla Band of Indians	F	BobbyRay Esaprza, Cultural Director	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Cahuilla Band of Indians	F	Daniel Salgado, Chairperson	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Cahuilla Band of Indians	F	Anthony Madrigal, Tribal Historic Preservation Officer	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Juaneno Band of Mission Indians Acjachemen Nation - Belardes	N	Joyce Perry, Cultural Resource Director	Juaneno	Los Angeles, Orange, Riverside, San Bernardino, San Diego

Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Heidi Lucero, Chairperson, THPO	Juaneno	Los Angeles, Orange, Riverside, San Bernardino, San Diego
La Jolla Band of Luiseno Indians	F	Norma Contreras, Chairperson	Luiseno	Orange, Riverside, San Diego
Los Coyotes Band of Cahuilla and Cupeño Indians	F	Ray Chapparosa, Chairperson	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Morongó Band of Mission Indians	F	Ann Brierty, THPO	Cahuilla Serrano	Imperial, Los Angeles, Riverside, San Bernardino, San Diego
Morongó Band of Mission Indians	F	Robert Martin, Chairperson	Cahuilla Serrano	Imperial, Los Angeles, Riverside, San Bernardino, San Diego
Pala Band of Mission Indians	F	Shasta Gaughen, Tribal Historic Preservation Officer	Cupeno Luiseno	Orange, Riverside, San Bernardino, San Diego
Pala Band of Mission Indians	F	Alexis Wallick, Assistant THPO	Cupeno Luiseno	Orange, Riverside, San Bernardino, San Diego
Pauma Band of Luiseno Indians	F	Temet Aguilar, Chairperson	Luiseno	Orange, Riverside, San Diego

Pechanga Band of Indians	F	Steve Bodmer, General Counsel for Pechanga Band of Indians	Luiseno	Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura
Pechanga Band of Indians	F	Tuba Ebru Ozdil, Pechanga Cultural Analyst	Luiseno	Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura
Quechan Tribe of the Fort Yuma Reservation	F	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	Quechan	Imperial, Kern, Los Angeles, Riverside, San Bernardino, San Diego
Quechan Tribe of the Fort Yuma Reservation	F	Jordan Joaquin, President, Quechan Tribal Council	Quechan	Imperial, Kern, Los Angeles, Riverside, San Bernardino, San Diego
Quechan Tribe of the Fort Yuma Reservation	F	Jill McCormick, Historic Preservation Officer	Quechan	Imperial, Kern, Los Angeles, Riverside, San Bernardino, San Diego
Ramona Band of Cahuilla	F	Joseph Hamilton, Chairperson	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Rincon Band of Luiseno Indians	F	Denise Turner Walsh, Attorney General	Luiseno	Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura

Rincon Band of Luiseno Indians	F	, Cultural Resources Manager/Tribal Historic Preservation Officer	Luiseno	Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura
Rincon Band of Luiseno Indians	F	Joseph Linton, Tribal Council/Culture Committee Member	Luiseno	Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura
Rincon Band of Luiseno Indians	F	Laurie Gonzalez, Tribal Council/Culture Committee Member	Luiseno	Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Ventura
Santa Rosa Band of Cahuilla Indians	F	Lovina Redner, Tribal Chair	Cahuilla	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	Cahuilla Luiseno	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	Cahuilla Luiseno	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Torres-Martinez Desert Cahuilla Indians	F	Alesia Reed, Cultural Committee Chairwoman	Cahuilla	Imperial, Riverside, San Bernardino, San Diego

Torres-Martinez Desert Cahuilla Indians	F	Gary Resvaloso, TM MLD	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Torres-Martinez Desert Cahuilla Indians	F	Abraham Becerra, Cultural Coordinator	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Torres-Martinez Desert Cahuilla Indians	F	Thomas Tortez, Chairperson	Cahuilla	Imperial, Riverside, San Bernardino, San Diego
Torres-Martinez Desert Cahuilla Indians	F	Mary Belardo, Cultural Committee Vice Chair	Cahuilla	Imperial, Riverside, San Bernardino, San Diego