

Appendix A

Notice of Preparation and Comment Letters

Notice of Preparation

Notice of Preparation

To: _____ From: _____

(Address)

(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

_____ will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☐ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to _____ at the address shown above. We will need the name for a contact person in your agency.

Project Title: _____

Project Applicant, if any: _____

Date _____

Signature



Title _____

Telephone _____

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT & SCOPING SESSION FOR NORTH FAIR OAKS REZONING AND GENERAL PLAN AMENDMENT PROJECT

Date: April 27, 2022

The County of San Mateo is preparing a Draft Environmental Impact Report (EIR) for the North Fair Oaks Rezoning and General Plan Amendment Project ("project"), as identified below, and is requesting comments on the scope and content of the Draft EIR. The Draft EIR will address the potential physical and environmental effects of the project for each of the environmental topics outlined in the California Environmental Quality Act (CEQA).

The County of San Mateo is the Lead Agency for the project. This notice is being sent to the California State Clearinghouse, San Mateo County Clerk, adjacent cities, potential responsible agencies, and other interested parties. Responsible agencies are those public agencies, in addition to the County of San Mateo, that may have a role in approving or carrying out the project. When the Draft EIR is published, a Notice of Availability of a Draft EIR will be sent to Responsible Agencies, other public agencies, and interested parties and individuals who have indicated that they would like to review the Draft EIR.

Responses to this NOP and any questions or comments should be directed in writing to:

Will Gibson, Planner III, Planning & Building Department, 455 County Center, Redwood City, CA 94063; or wgibson@smcgov.org.

Comments on the NOP must be received on or before May 25, 2022. In addition, comments may be provided at the EIR Scoping Meeting (see below). Comments should focus on possible impacts on the physical environment, ways in which potential adverse effects might be minimized, and alternatives to the proposed project.

EIR PUBLIC SCOPING MEETING: The County of San Mateo Planning Commission will conduct a public scoping session when it meets on May 11, 2022, starting at 9:00 am. This meeting will be held virtually on Zoom. For meeting agenda and updates, including the Zoom link for the meeting, visit <http://planning.smcgov.org/planning-commission>.

PROJECT TITLE:

North Fair Oaks Rezoning and General Plan Amendment Project

PROJECT LOCATION: The project area is located within North Fair Oaks, an unincorporated community in San Mateo County, California, which is situated on the San Francisco Peninsula between the cities of Redwood City, Atherton, and Menlo Park (see Project Location Map and

Project Vicinity Map, attached). The project area is comprised of two non-contiguous subareas that are separated by a railroad right-of-way owned by Peninsula Corridor Joint Powers Board and used for freight service and Caltrain passenger rail. Of the two subareas, the northern subarea is comprised of parcels along and in the vicinity of Middlefield Road and Edison Way (see Project Study Area map, attached). The southern subarea is comprised of parcels along and in the vicinity of El Camino Real (State Highway 82) and 5th Avenue.

PROJECT SPONSOR: County of San Mateo

EXISTING CONDITIONS: The project area encompasses approximately 78 acres of land. The project area contains a mix of commercial uses, including auto services, industrial, retail, restaurants, a motel, and office buildings; and residential uses, including multi-family and single-family buildings (see Existing Land Use map, attached). Public and quasi-public uses include a public parking lot, a church, and right-of-way for the Hetch Hetchy aqueduct, which supplies water to San Francisco and other communities. The project area is generally surrounded by residential neighborhoods with a mix of single-family and small multiplex buildings, except for commercial uses along a portion of El Camino Real and west of the project area.

Land use intensity and building conditions vary in the project area. Roughly two-thirds of the project area has development potential by virtue of a parcel having a relatively low floor area ratio (the ratio of total building floor area to site area) and/or relatively low building value to land value, as compared with established development trends. Three parcels in the project area are present on one of the lists of hazardous waste sites enumerated under Section 95962.5 of the Government Code.

PROJECT DESCRIPTION AND BACKGROUND: In 2011, the County of San Mateo adopted the North Fair Oaks Community Plan, which promotes infill development along the commercial and transportation corridors that comprise most of the project area, where parcels presently have relatively low intensity and can be converted to more urban uses over time, to help revitalize North Fair Oaks, produce more housing, and confer other community benefits.

To implement the Community Plan, the County subsequently adopted mixed-use designations, standards, and procedures as part of its Zoning Regulations. Since that time, users of the adopted zoning have experienced difficulties with the application and administration of the mixed-use zoning standards. Additionally, the State of California has enacted new laws that require that zoning that regulates the production of multifamily housing provide objective development standards and streamlined permitting and approval processes that can be applied ministerially to encourage housing production. Furthermore, the County of San Mateo, like jurisdictions throughout the region and the state, is experiencing increasing demand for housing, and consequent housing availability and affordability challenges, and foresees the potential inability to provide sufficient housing for unincorporated County residents within the densities allowed by current zoning regulations, particularly in areas in proximity to transit.

Goals for the project include:

1. Adopt more effective zoning by revising provisions that are difficult to administer and/or implement, replacing provisions necessitating subjective interpretation with objective standards, refining development application and review procedures, and incorporating professional practices that better promote Community Plan policies.
2. Increase capacity for housing in the project area by modifying General Plan designations and zoning standards to potentially allow taller buildings, greater density, reduced building setbacks, modified parking requirements, and/or other strategies, while simultaneously protecting and expanding equitable access to opportunities, community livability, and desirable aspects of community character.

The project would result in changes to the County's Zoning Regulations, which include physical standards, allowable activities, and development procedures, and potentially changes to the County's General Plan Land Use maps, which specify the basic uses and densities appropriate to various unincorporated areas. These changes would apply to parcels when new buildings and/or site improvements are being considered.

For more about the project, please visit www.RezoningNorthFairOaks.org.

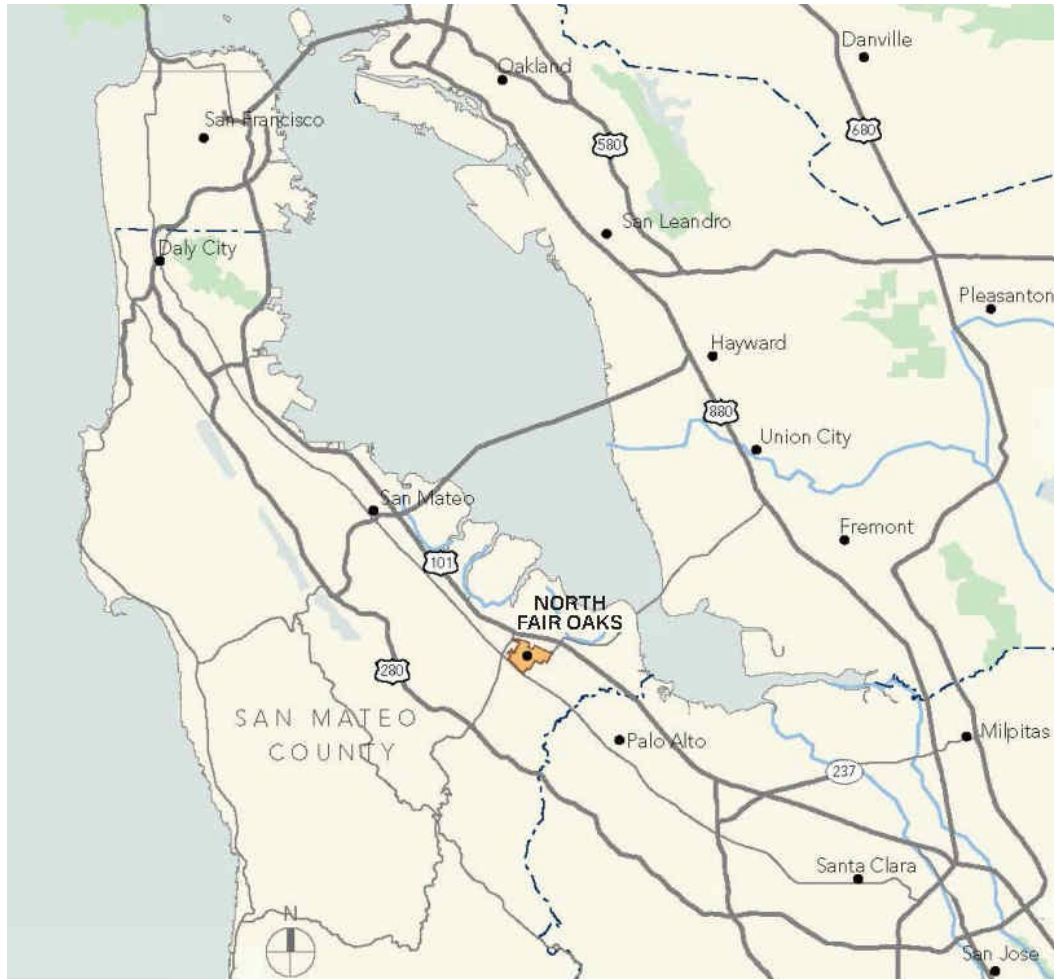
POTENTIAL ENVIRONMENTAL EFFECTS: The County determined an EIR was the appropriate level of CEQA review, following a preliminary review of the project. Pursuant to CEQA Guidelines Section 15063(a), because an EIR is needed, an initial study has not been prepared. Therefore, a programmatic EIR presumes potential impacts for many required CEQA topics and will analyze them in full. The following environmental issues are anticipated to be analyzed in detail in the EIR:

- Aesthetics;
- Air Quality;
- Biological Resources;
- Cultural and Tribal Cultural Resources;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Noise;
- Population and Housing;
- Public Services and Recreation;
- Transportation; and
- Utilities and Service Systems.

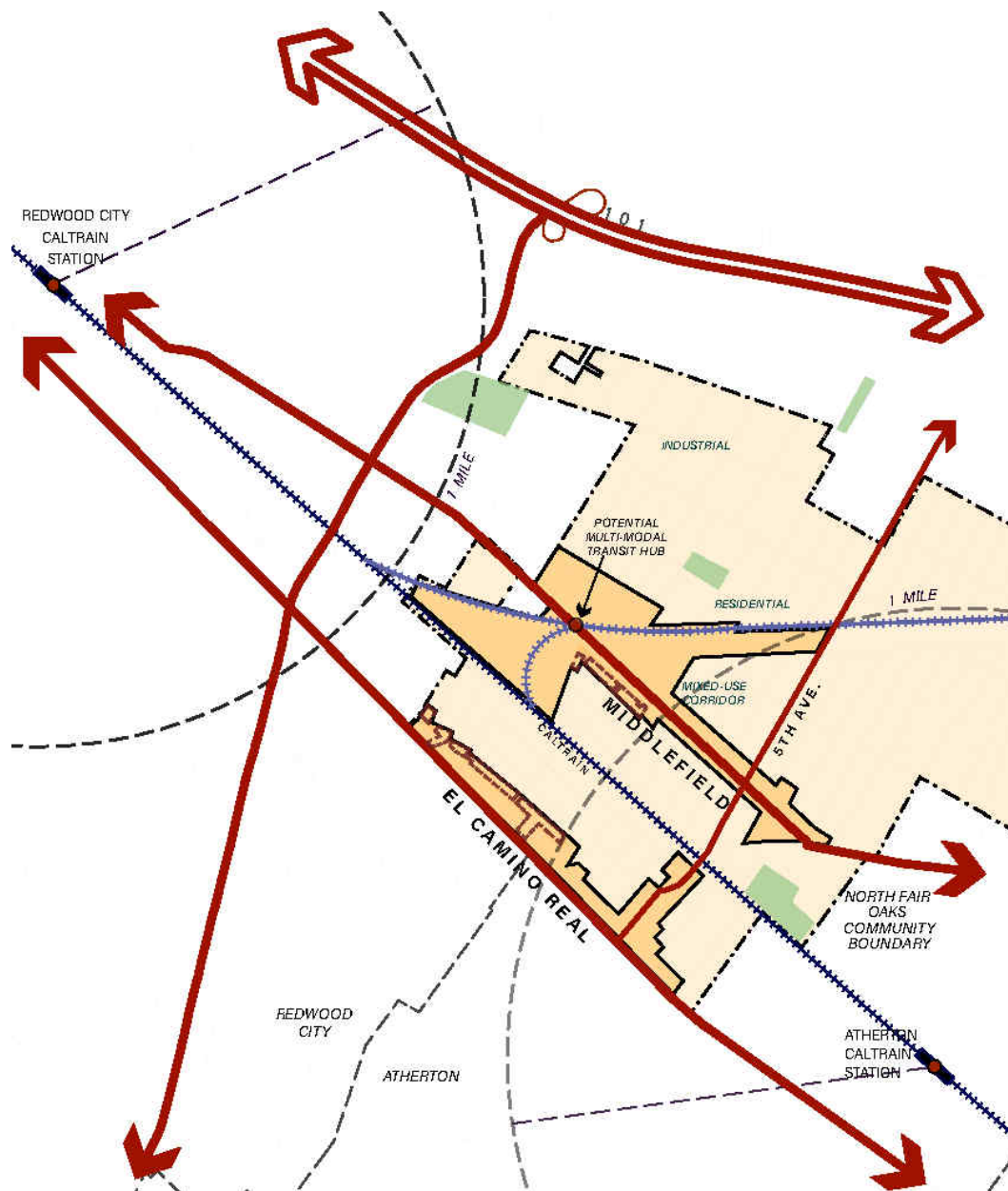
Other environmental topics, including agriculture and forestry resources, energy, mineral resources, and wildfire are anticipated to be less than significant as future projects would be subject to existing review requirements and regulatory stipulations. Thus, they will be discussed in the EIR in a limited analysis.

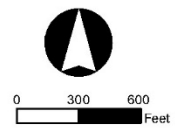
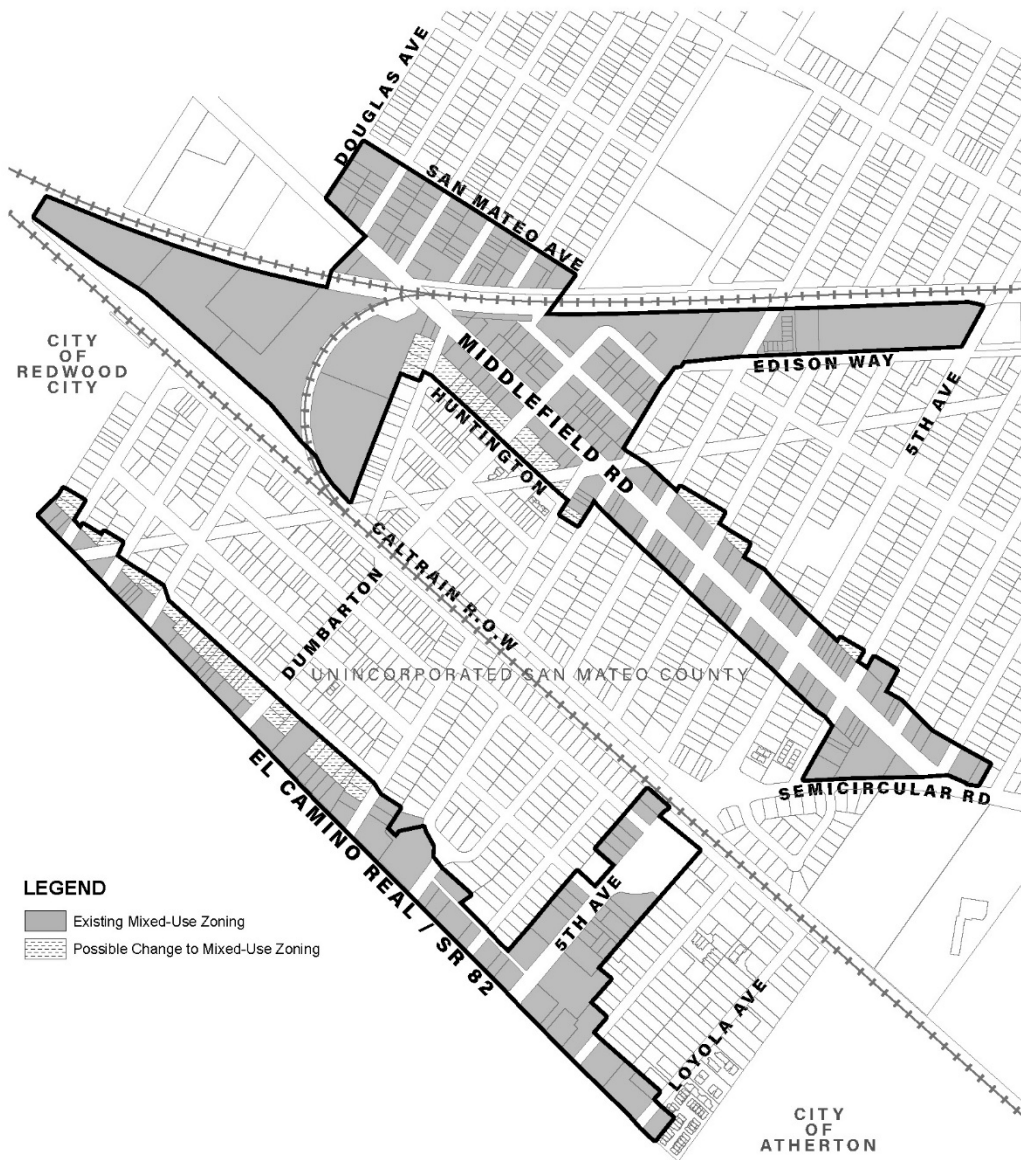
The Draft EIR will also examine a reasonable range of alternatives to the project, including the CEQA-mandated No Project Alternative and other potential alternatives that may be capable of reducing or avoiding potential environmental effects while generally meeting most of the project objectives. The Draft EIR will also analyze the cumulative impacts that could result with adoption and development under the project.

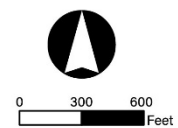
PROJECT LOCATION MAP



PROJECT VICINITY MAP







NATIVE AMERICAN HERITAGE COMMISSION

April 27, 2022

Will Gibson
 San Mateo County Planning and Building Dept
 455 County Center
 Redwood City, CA 94063

Re: 2022040548, North Fair Oaks Rezoning and General Plan Amendment Project, San Mateo County

Dear Mr. Gibson:

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.



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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, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1 (b)).

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

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

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

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

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

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

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

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

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

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

SB 18

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

Some of SB 18's provisions include:

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

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

NAHC Recommendations for Cultural Resources Assessments

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

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) 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:
Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

cc: State Clearinghouse

California Department of Transportation

DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D | OAKLAND, CA 94623-0660
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May 26, 2022

SCH #: 2022040548
GTS #: 04-SM-2022-00439
GTS ID: 26339
Co/Rt/Pm: SM/82/2.347

Will Gibson, Planner III
San Mateo County, Planning & Building Dept
455 County Center, 2nd Floor
Redwood City, CA 94063

Re: North Fair Oaks Rezoning and General Plan Amendment Project Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR)

Dear Will Gibson:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the North Fair Oaks Rezoning Project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the April 2022 NOP.

Project Understanding

In order to promote infill development along commercial and transportation corridors, this project proposes more effective zoning by revising provisions that are difficult to administer with objective standards, refining development application and review procedures. As well, this project would increase capacity for housing in the project area by modifying General Plan designations and zoning standards to potentially allow greater density.

Travel Demand Analysis

With the enactment of Senate Bill (SB) 743, Caltrans is focused on maximizing efficient development patterns, innovative travel demand reduction strategies, and multimodal improvements. For more information on how Caltrans assesses Transportation Impact Studies, please review Caltrans' Transportation Impact Study Guide ([link](#)).

If projects within this area meet the screening criteria established in the County's adopted Vehicle Miles Traveled (VMT) policy to be presumed to have a less-than-significant VMT impact and exempt from detailed VMT analysis, those projects will need to provide justification to support the exempt status in alignment with the County's VMT policy. If projects do not meet the screening criteria, they will need to include a detailed VMT analysis.

Mitigation Strategies

Location efficiency factors, including community design and regional accessibility, influence a project's impact on the environment. Using Caltrans' Smart Mobility Framework Guide 2020 ([link](#)), this area is identified as an Urban Community where community design is moderately efficient and regional accessibility is strong.

Given the place, type and size of the project, the DEIR should support robust Transportation Demand Management (TDM) Programs to reduce VMT and greenhouse gas emissions from future development in this area. The measures listed below have been quantified by California Air Pollution Control Officers Association (CAPCOA) and shown to have different efficiencies reducing regional VMT:

- Project design to encourage mode shift like walking, bicycling and transit access;
- Transit and trip planning resources such as a commute information kiosk;
- Real-time transit information systems;
- Transit access supporting infrastructure (including bus shelter improvements and sidewalk/ crosswalk safety facilities);
- New development vehicle parking reductions;
- Implementation of a neighborhood electric vehicle (EV) network, including designated parking spaces for EVs;
- Designated parking spaces for a car share program;
- Unbundled parking;
- Wayfinding and bicycle route mapping resources;
- Participation/Formation in/of a Transportation Management Association (TMA) in partnership with other developments in the area;
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement;
- VMT Banking and/or Exchange program;
- Area or cordon pricing;
- Inclusion of additional below-market-rate or affordable residential housing options in the Plan.

Using a combination of strategies appropriate to this area can reduce VMT, along with related impacts on the environment and State facilities. TDM programs should be documented with annual monitoring reports by a TDM coordinator to demonstrate effectiveness. If projects within this area do not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets.

Please reach out to Caltrans for further information about TDM measures and a toolbox for implementing these measures in land use projects. Additionally, Federal Highway Administration's Integrating Demand Management into the Transportation Planning Process: A Desk Reference (Chapter 8). The reference is available online at: <http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf>.

Transportation Impact Fees

We encourage a sufficient allocation of fair share contributions toward multimodal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT. Caltrans welcomes the opportunity to work with the County and local partners to secure the funding for needed mitigation. Traffic mitigation- or cooperative agreements are examples of such measures.

Lead Agency

As the Lead Agency, the County of San Mateo is responsible for all project mitigation, including any needed improvements to the State Transportation Network (STN). The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Equitable Access

If any Caltrans facilities are impacted by projects within this area, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, those projects must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users.

Encroachment Permit

Please be advised that any permanent work or temporary traffic control that encroaches onto Caltrans' Right of Way (ROW) requires a Caltrans-issued encroachment permit. As part of the encroachment permit submittal process, you may be asked by the Office of Encroachment Permits to submit a completed encroachment permit application package, digital set of plans clearly delineating Caltrans' ROW, digital copy of signed, dated and stamped (include stamp expiration date) traffic control plans, this comment letter, your response to the comment letter, and where applicable, the following items: new or amended Maintenance Agreement (MA), approved Design Standard Decision Document (DSDD), approved encroachment exception request, and/or airspace lease agreement. Your application package may be emailed to D4Permits@dot.ca.gov.

Please note that Caltrans is in the process of implementing an online, automated, and milestone-based Caltrans Encroachment Permit System (CEPS) to replace the current

Will Gibson, Planner III
May 26, 2022
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permit application submittal process with a fully electronic system, including online payments. The new system is expected to be available during 2022. To obtain information about the most current encroachment permit process and to download the permit application, please visit <https://dot.ca.gov/programs/traffic-operations/ep/applications>.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, or for future notifications and requests for review of new projects, please email LDR-D4@dot.ca.gov.

Sincerely,

A handwritten signature in black ink that reads "Mark Leong". The signature is fluid and cursive, with a long horizontal stroke at the end.

MARK LEONG
District Branch Chief
Local Development Review

c: State Clearinghouse

Appendix B

California Emissions Estimator Model (CalEEMod) Outputs

NFO Rezone - Existing Conditions Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	NFO Rezone - Existing Conditions
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	4.70
Precipitation (days)	18.8
Location	North Fair Oaks, CA, USA
County	San Mateo
City	Unincorporated
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1277
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	28.0	Dwelling Unit	9.09	54,600	327,960	—	81.0	—
Apartments Low Rise	45.0	Dwelling Unit	2.81	47,700	—	—	130	—

Place of Worship	22.0	1000sqft	0.50	21,966	—	—	—	—
Parking Lot	16.5	1000sqft	0.38	0.00	—	—	—	—
General Light Industry	15.3	1000sqft	0.35	15,337	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.65	8.64	5.08	43.6	0.10	0.18	3.03	3.21	0.18	0.53	0.71	120	11,382	11,501	12.6	0.37	44.5	11,971
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.88	7.89	5.65	37.7	0.09	0.18	3.03	3.21	0.17	0.53	0.70	120	10,955	11,074	12.6	0.41	5.84	11,518
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.49	6.66	3.54	26.1	0.06	0.12	1.93	2.05	0.12	0.34	0.45	120	7,199	7,319	12.4	0.27	15.7	7,726
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.64	1.22	0.65	4.77	0.01	0.02	0.35	0.37	0.02	0.06	0.08	19.8	1,192	1,212	2.06	0.04	2.60	1,279

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.77	4.40	3.50	37.1	0.09	0.06	3.03	3.08	0.05	0.53	0.58	—	8,995	8,995	0.38	0.33	39.7	9,142
Area	0.77	4.19	0.59	5.96	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	699	699	0.01	< 0.005	—	701
Energy	0.11	0.06	0.99	0.60	0.01	0.08	—	0.08	0.08	—	0.08	—	1,653	1,653	0.18	0.01	—	1,660
Water	—	—	—	—	—	—	—	—	—	—	—	13.2	34.1	47.3	1.36	0.03	—	91.0
Waste	—	—	—	—	—	—	—	—	—	—	—	106	0.00	106	10.6	0.00	—	373
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.81	4.81
Total	5.65	8.64	5.08	43.6	0.10	0.18	3.03	3.21	0.18	0.53	0.71	120	11,382	11,501	12.6	0.37	44.5	11,971
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.70	4.31	4.12	36.9	0.08	0.06	3.03	3.08	0.05	0.53	0.58	—	8,586	8,586	0.44	0.36	1.03	8,707
Area	0.06	3.52	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	682	682	0.01	< 0.005	—	682
Energy	0.11	0.06	0.99	0.60	0.01	0.08	—	0.08	0.08	—	0.08	—	1,653	1,653	0.18	0.01	—	1,660
Water	—	—	—	—	—	—	—	—	—	—	—	13.2	34.1	47.3	1.36	0.03	—	91.0
Waste	—	—	—	—	—	—	—	—	—	—	—	106	0.00	106	10.6	0.00	—	373
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.81	4.81
Total	4.88	7.89	5.65	37.7	0.09	0.18	3.03	3.21	0.17	0.53	0.70	120	10,955	11,074	12.6	0.41	5.84	11,518
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.03	2.78	2.50	22.7	0.05	0.04	1.93	1.96	0.03	0.34	0.37	—	5,487	5,487	0.27	0.23	10.9	5,571
Area	0.35	3.82	0.04	2.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	25.6	25.6	< 0.005	< 0.005	—	25.8
Energy	0.11	0.06	0.99	0.60	0.01	0.08	—	0.08	0.08	—	0.08	—	1,653	1,653	0.18	0.01	—	1,660
Water	—	—	—	—	—	—	—	—	—	—	—	13.2	34.1	47.3	1.36	0.03	—	91.0
Waste	—	—	—	—	—	—	—	—	—	—	—	106	0.00	106	10.6	0.00	—	373

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.81	4.81
Total	3.49	6.66	3.54	26.1	0.06	0.12	1.93	2.05	0.12	0.34	0.45	120	7,199	7,319	12.4	0.27	15.7	7,726
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.55	0.51	0.46	4.14	0.01	0.01	0.35	0.36	0.01	0.06	0.07	—	908	908	0.04	0.04	1.81	922
Area	0.06	0.70	0.01	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	4.23	4.23	< 0.005	< 0.005	—	4.28
Energy	0.02	0.01	0.18	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	274	274	0.03	< 0.005	—	275
Water	—	—	—	—	—	—	—	—	—	—	—	2.18	5.64	7.82	0.22	0.01	—	15.1
Waste	—	—	—	—	—	—	—	—	—	—	—	17.6	0.00	17.6	1.76	0.00	—	61.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.80	0.80
Total	0.64	1.22	0.65	4.77	0.01	0.02	0.35	0.37	0.02	0.06	0.08	19.8	1,192	1,212	2.06	0.04	2.60	1,279

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.94	0.87	0.65	6.90	0.02	0.01	0.55	0.56	0.01	0.10	0.11	—	1,635	1,635	0.07	0.06	7.19	1,662
Apartments Low Rise	1.29	1.20	0.90	9.47	0.02	0.01	0.75	0.77	0.01	0.13	0.14	—	2,242	2,242	0.10	0.08	9.86	2,279
Place of Worship	2.25	2.07	1.73	18.4	0.04	0.03	1.53	1.56	0.03	0.27	0.29	—	4,544	4,544	0.19	0.16	20.1	4,617

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	0.28	0.26	0.22	2.32	0.01	< 0.005	0.19	0.20	< 0.005	0.03	0.04	—	574	574	0.02	0.02	2.54	583
Total	4.77	4.40	3.50	37.1	0.09	0.06	3.03	3.08	0.05	0.53	0.58	—	8,995	8,995	0.38	0.33	39.7	9,142
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.93	0.85	0.77	6.95	0.02	0.01	0.55	0.56	0.01	0.10	0.11	—	1,561	1,561	0.08	0.07	0.19	1,584
Apartments Low Rise	1.27	1.17	1.06	9.53	0.02	0.01	0.75	0.77	0.01	0.13	0.14	—	2,141	2,141	0.12	0.09	0.26	2,172
Place of Worship	2.22	2.03	2.04	18.1	0.04	0.03	1.53	1.56	0.03	0.27	0.29	—	4,337	4,337	0.21	0.18	0.52	4,396
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	0.28	0.26	0.26	2.29	0.01	< 0.005	0.19	0.20	< 0.005	0.03	0.04	—	548	548	0.03	0.02	0.07	555
Total	4.70	4.31	4.12	36.9	0.08	0.06	3.03	3.08	0.05	0.53	0.58	—	8,586	8,586	0.44	0.36	1.03	8,707
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.16	0.15	0.13	1.18	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.02	—	253	253	0.01	0.01	0.50	257
Apartments Low Rise	0.20	0.19	0.16	1.48	< 0.005	< 0.005	0.12	0.13	< 0.005	0.02	0.02	—	318	318	0.02	0.01	0.63	323
Place of Worship	0.14	0.13	0.12	1.12	< 0.005	< 0.005	0.10	0.10	< 0.005	0.02	0.02	—	254	254	0.01	0.01	0.51	258
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

General Light Industry	0.05	0.04	0.04	0.36	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	82.6	82.6	< 0.005	< 0.005	0.16	83.8
Total	0.55	0.51	0.46	4.14	0.01	0.01	0.35	0.36	0.01	0.06	0.07	—	908	908	0.04	0.04	1.81	922

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	96.8	96.8	0.02	< 0.005	—	97.7
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	94.3	94.3	0.02	< 0.005	—	95.3
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	134	134	0.02	< 0.005	—	135
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	8.09	8.09	< 0.005	< 0.005	—	8.17
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	93.5	93.5	0.02	< 0.005	—	94.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	427	427	0.07	0.01	—	431
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	96.8	96.8	0.02	< 0.005	—	97.7

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	94.3	94.3	0.02	< 0.005	—	95.3
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	134	134	0.02	< 0.005	—	135
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	8.09	8.09	< 0.005	< 0.005	—	8.17
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	93.5	93.5	0.02	< 0.005	—	94.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	427	427	0.07	0.01	—	431
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	16.0	16.0	< 0.005	< 0.005	—	16.2
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	15.6	15.6	< 0.005	< 0.005	—	15.8
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	22.2	22.2	< 0.005	< 0.005	—	22.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1.34	1.34	< 0.005	< 0.005	—	1.35
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	70.6	70.6	0.01	< 0.005	—	71.3

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Single Family Housing	0.04	0.02	0.33	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	415	415	0.04	< 0.005	—	416
Apartments Low Rise	0.03	0.01	0.23	0.10	< 0.005	0.02	—	0.02	0.02	—	0.02	—	288	288	0.03	< 0.005	—	289
Place of Worship	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	308	308	0.03	< 0.005	—	309
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	215	215	0.02	< 0.005	—	216
Total	0.11	0.06	0.99	0.60	0.01	0.08	—	0.08	0.08	—	0.08	—	1,226	1,226	0.11	< 0.005	—	1,230
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.04	0.02	0.33	0.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	415	415	0.04	< 0.005	—	416
Apartments Low Rise	0.03	0.01	0.23	0.10	< 0.005	0.02	—	0.02	0.02	—	0.02	—	288	288	0.03	< 0.005	—	289
Place of Worship	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	308	308	0.03	< 0.005	—	309
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	215	215	0.02	< 0.005	—	216
Total	0.11	0.06	0.99	0.60	0.01	0.08	—	0.08	0.08	—	0.08	—	1,226	1,226	0.11	< 0.005	—	1,230
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	68.7	68.7	0.01	< 0.005	—	68.9

Apartme Low Rise	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.7	47.7	< 0.005	< 0.005	—	47.8
Place of Worship	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.0	51.0	< 0.005	< 0.005	—	51.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.6	35.6	< 0.005	< 0.005	—	35.7
Total	0.02	0.01	0.18	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	203	203	0.02	< 0.005	—	204

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	682	682	0.01	< 0.005	—	682
Consum er Products	—	2.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	0.71	0.66	0.06	5.73	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	17.7	17.7	< 0.005	< 0.005	—	18.3
Total	0.77	4.19	0.59	5.96	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	699	699	0.01	< 0.005	—	701

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.06	0.03	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	682	682	0.01	< 0.005	—	682
Consumer Products	—	2.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.06	3.52	0.54	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	682	682	0.01	< 0.005	—	682
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.78	2.78	< 0.005	< 0.005	—	2.79
Consumer Products	—	0.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscaping Equipment	0.06	0.06	0.01	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.45	1.45	< 0.005	< 0.005	—	1.49
Total	0.06	0.70	0.01	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	4.23	4.23	< 0.005	< 0.005	—	4.28

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.95	12.8	14.8	0.20	< 0.005	—	21.3
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3.13	5.91	9.03	0.32	0.01	—	19.4
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	1.32	2.49	3.80	0.14	< 0.005	—	8.16
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.80	12.8	19.6	0.70	0.02	—	42.1
Total	—	—	—	—	—	—	—	—	—	—	—	13.2	34.1	47.3	1.36	0.03	—	91.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.95	12.8	14.8	0.20	< 0.005	—	21.3
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3.13	5.91	9.03	0.32	0.01	—	19.4
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	1.32	2.49	3.80	0.14	< 0.005	—	8.16
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.80	12.8	19.6	0.70	0.02	—	42.1
Total	—	—	—	—	—	—	—	—	—	—	—	13.2	34.1	47.3	1.36	0.03	—	91.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.32	2.13	2.45	0.03	< 0.005	—	3.53
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.52	0.98	1.50	0.05	< 0.005	—	3.21
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	0.22	0.41	0.63	0.02	< 0.005	—	1.35
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.13	2.13	3.25	0.12	< 0.005	—	6.97
Total	—	—	—	—	—	—	—	—	—	—	—	2.18	5.64	7.82	0.22	0.01	—	15.1

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.7
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	67.5	0.00	67.5	6.74	0.00	—	236
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	10.2	0.00	10.2	1.02	0.00	—	35.9
Total	—	—	—	—	—	—	—	—	—	—	—	106	0.00	106	10.6	0.00	—	373
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.8	0.00	10.8	1.08	0.00	—	37.7
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	67.5	0.00	67.5	6.74	0.00	—	236
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	10.2	0.00	10.2	1.02	0.00	—	35.9
Total	—	—	—	—	—	—	—	—	—	—	—	106	0.00	106	10.6	0.00	—	373
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.78	0.00	1.78	0.18	0.00	—	6.23
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	11.2	0.00	11.2	1.12	0.00	—	39.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.70	0.00	1.70	0.17	0.00	—	5.94

Total	—	—	—	—	—	—	—	—	—	—	—	17.6	0.00	17.6	1.76	0.00	—	61.7
-------	---	---	---	---	---	---	---	---	---	---	---	------	------	------	------	------	---	------

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.34	0.34
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.99	3.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.81	4.81
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.34	0.34
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.99	3.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.81	4.81
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Place of Worship	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.66	0.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.80	0.80

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	264	267	239	95,323	1,991	2,012	1,803	717,989
Apartments Low Rise	329	366	283	119,715	2,481	2,759	2,129	901,709
Place of Worship	153	132	607	78,309	1,414	1,219	5,622	725,396
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

General Light Industry	76.1	30.5	76.7	25,423	705	283	710	235,499
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5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	6
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	22
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	23
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	22
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0
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5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
207157.5	69,053	55,955	18,652	991

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	173,176	204	0.0330	0.0040	1,294,214
Apartments Low Rise	168,772	204	0.0330	0.0040	898,169
Place of Worship	239,652	204	0.0330	0.0040	961,872
Parking Lot	14,474	204	0.0330	0.0040	0.00
General Light Industry	167,329	204	0.0330	0.0040	671,594

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
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Single Family Housing	1,015,459	3,323,038
Apartments Low Rise	1,631,988	0.00
Place of Worship	687,292	0.00
Parking Lot	0.00	0.00
General Light Industry	3,546,681	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	6.90	0.00
Apartments Low Rise	11.6	0.00
Place of Worship	125	0.00
Parking Lot	0.00	0.00
General Light Industry	19.0	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Place of Worship	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Place of Worship	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Place of Worship	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Place of Worship	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.82	annual days of extreme heat
Extreme Precipitation	6.25	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth

Wildfire	9.53	annual hectares burned
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Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

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

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	10.6
AQ-PM	12.4
AQ-DPM	48.3
Drinking Water	25.9
Lead Risk Housing	94.0
Pesticides	0.00
Toxic Releases	25.6
Traffic	22.1

Effect Indicators	—
CleanUp Sites	28.9
Groundwater	60.6
Haz Waste Facilities/Generators	74.7
Impaired Water Bodies	0.00
Solid Waste	60.5
Sensitive Population	—
Asthma	30.1
Cardio-vascular	7.94
Low Birth Weights	17.0
Socioeconomic Factor Indicators	—
Education	67.1
Housing	79.1
Linguistic	70.9
Poverty	54.2
Unemployment	0.91

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	74.09213397
Employed	44.86077249
Median HI	93.17336071
Education	—
Bachelor's or higher	86.16707301
High school enrollment	5.671756705

Preschool enrollment	9.29038881
Transportation	—
Auto Access	84.51174131
Active commuting	60.29770307
Social	—
2-parent households	73.36070833
Voting	74.96471192
Neighborhood	—
Alcohol availability	36.89208264
Park access	6.83947132
Retail density	57.62864109
Supermarket access	94.25125112
Tree canopy	86.35955345
Housing	—
Homeownership	77.86475042
Housing habitability	63.37738997
Low-inc homeowner severe housing cost burden	20.65956628
Low-inc renter severe housing cost burden	78.26254331
Uncrowded housing	28.08931092
Health Outcomes	—
Insured adults	43.44924933
Arthritis	0.0
Asthma ER Admissions	68.3
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0

Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	75.1
Cognitively Disabled	78.9
Physically Disabled	80.2
Heart Attack ER Admissions	93.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	91.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	19.0
Elderly	57.9
English Speaking	50.9
Foreign-born	76.9
Outdoor Workers	78.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	61.6
Traffic Density	21.8

Traffic Access	23.0
Other Indices	—
Hardship	51.0
Other Decision Support	—
2016 Voting	74.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	28.0
Healthy Places Index Score for Project Location (b)	68.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

NFO Rezone - Future Conditions Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	NFO Rezone - Future Conditions
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	4.70
Precipitation (days)	18.8
Location	North Fair Oaks, CA, USA
County	San Mateo
City	Unincorporated
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1277
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Low Rise	332	Dwelling Unit	20.8	351,920	—	—	918	—
Strip Mall	74.2	1000sqft	1.70	74,159	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

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

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

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.6	24.9	11.6	130	0.35	0.53	13.5	14.0	0.52	2.35	2.88	203	39,657	39,860	21.7	1.05	16.1	40,733
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.2	22.6	12.6	103	0.33	0.52	13.5	14.0	0.51	2.35	2.86	203	38,188	38,391	21.8	1.15	3.32	39,283

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.8	23.3	9.05	110	0.31	0.26	13.5	13.7	0.26	2.35	2.61	203	34,239	34,441	21.7	1.11	8.65	35,323
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.51	4.26	1.65	20.1	0.06	0.05	2.45	2.50	0.05	0.43	0.48	33.5	5,669	5,702	3.59	0.18	1.43	5,848

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.7	11.7	6.32	105	0.32	0.11	13.5	13.6	0.10	2.35	2.45	—	32,061	32,061	0.93	0.94	13.1	32,377
Area	2.68	13.0	3.48	23.6	0.02	0.28	—	0.28	0.28	—	0.28	0.00	4,223	4,223	0.08	0.01	—	4,228
Energy	0.21	0.10	1.79	0.81	0.01	0.14	—	0.14	0.14	—	0.14	—	3,309	3,309	0.37	0.02	—	3,326
Water	—	—	—	—	—	—	—	—	—	—	—	33.6	63.5	97.1	3.46	0.08	—	208
Waste	—	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	591
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.98	2.98
Total	15.6	24.9	11.6	130	0.35	0.53	13.5	14.0	0.52	2.35	2.88	203	39,657	39,860	21.7	1.05	16.1	40,733
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.6	11.6	7.54	101	0.30	0.11	13.5	13.6	0.10	2.35	2.45	—	30,656	30,656	1.01	1.04	0.34	30,991
Area	0.38	10.9	3.28	1.39	0.02	0.26	—	0.26	0.26	—	0.26	0.00	4,159	4,159	0.08	0.01	—	4,164
Energy	0.21	0.10	1.79	0.81	0.01	0.14	—	0.14	0.14	—	0.14	—	3,309	3,309	0.37	0.02	—	3,326
Water	—	—	—	—	—	—	—	—	—	—	—	33.6	63.5	97.1	3.46	0.08	—	208
Waste	—	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	591
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.98	2.98

Total	13.2	22.6	12.6	103	0.33	0.52	13.5	14.0	0.51	2.35	2.86	203	38,188	38,391	21.8	1.15	3.32	39,283
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.4	11.5	7.08	98.2	0.30	0.11	13.5	13.6	0.10	2.35	2.45	—	30,732	30,732	0.98	1.00	5.67	31,061
Area	1.14	11.8	0.18	11.0	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	134	134	< 0.005	< 0.005	—	134
Energy	0.21	0.10	1.79	0.81	0.01	0.14	—	0.14	0.14	—	0.14	—	3,309	3,309	0.37	0.02	—	3,326
Water	—	—	—	—	—	—	—	—	—	—	—	33.6	63.5	97.1	3.46	0.08	—	208
Waste	—	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	591
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.98	2.98
Total	13.8	23.3	9.05	110	0.31	0.26	13.5	13.7	0.26	2.35	2.61	203	34,239	34,441	21.7	1.11	8.65	35,323
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.27	2.09	1.29	17.9	0.06	0.02	2.45	2.47	0.02	0.43	0.45	—	5,088	5,088	0.16	0.17	0.94	5,142
Area	0.21	2.15	0.03	2.00	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	22.2	22.2	< 0.005	< 0.005	—	22.2
Energy	0.04	0.02	0.33	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	548	548	0.06	< 0.005	—	551
Water	—	—	—	—	—	—	—	—	—	—	—	5.56	10.5	16.1	0.57	0.01	—	34.5
Waste	—	—	—	—	—	—	—	—	—	—	—	28.0	0.00	28.0	2.80	0.00	—	97.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.49	0.49
Total	2.51	4.26	1.65	20.1	0.06	0.05	2.45	2.50	0.05	0.43	0.48	33.5	5,669	5,702	3.59	0.18	1.43	5,848

3. Construction Emissions Details

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	3.41	3.17	1.60	26.1	0.08	0.03	3.23	3.25	0.02	0.56	0.59	—	7,721	7,721	0.24	0.24	3.15	7,801
Strip Mall	9.29	8.56	4.71	79.2	0.24	0.08	10.2	10.3	0.07	1.79	1.86	—	24,340	24,340	0.69	0.70	9.98	24,577
Total	12.7	11.7	6.32	105	0.32	0.11	13.5	13.6	0.10	2.35	2.45	—	32,061	32,061	0.93	0.94	13.1	32,377
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	3.39	3.14	1.91	25.3	0.07	0.03	3.23	3.25	0.02	0.56	0.59	—	7,385	7,385	0.26	0.26	0.08	7,469
Strip Mall	9.20	8.47	5.62	75.6	0.23	0.08	10.2	10.3	0.08	1.79	1.86	—	23,272	23,272	0.75	0.78	0.26	23,522
Total	12.6	11.6	7.54	101	0.30	0.11	13.5	13.6	0.10	2.35	2.45	—	30,656	30,656	1.01	1.04	0.34	30,991
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.61	0.57	0.33	4.48	0.01	< 0.005	0.59	0.59	< 0.005	0.10	0.11	—	1,226	1,226	0.04	0.04	0.23	1,239
Strip Mall	1.66	1.53	0.96	13.4	0.04	0.01	1.87	1.88	0.01	0.33	0.34	—	3,862	3,862	0.12	0.12	0.71	3,903
Total	2.27	2.09	1.29	17.9	0.06	0.02	2.45	2.47	0.02	0.43	0.45	—	5,088	5,088	0.16	0.17	0.94	5,142

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	696	696	0.11	0.01	—	703
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	354	354	0.06	0.01	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,050	1,050	0.17	0.02	—	1,060
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	696	696	0.11	0.01	—	703
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	354	354	0.06	0.01	—	358
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,050	1,050	0.17	0.02	—	1,060
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	115	115	0.02	< 0.005	—	116
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	58.6	58.6	0.01	< 0.005	—	59.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	174	174	0.03	< 0.005	—	176

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.20	0.10	1.67	0.71	0.01	0.14	—	0.14	0.14	—	0.14	—	2,124	2,124	0.19	< 0.005	—	2,130

Strip Mall	0.01	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	135	135	0.01	< 0.005	—	136
Total	0.21	0.10	1.79	0.81	0.01	0.14	—	0.14	0.14	—	0.14	—	2,259	2,259	0.20	< 0.005	—	2,265
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	0.20	0.10	1.67	0.71	0.01	0.14	—	0.14	0.14	—	0.14	—	2,124	2,124	0.19	< 0.005	—	2,130
Strip Mall	0.01	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	135	135	0.01	< 0.005	—	136
Total	0.21	0.10	1.79	0.81	0.01	0.14	—	0.14	0.14	—	0.14	—	2,259	2,259	0.20	< 0.005	—	2,265
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	0.04	0.02	0.31	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	352	352	0.03	< 0.005	—	353
Strip Mall	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.4	22.4	< 0.005	< 0.005	—	22.5
Total	0.04	0.02	0.33	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	374	374	0.03	< 0.005	—	375

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.38	0.19	3.28	1.39	0.02	0.26	—	0.26	0.26	—	0.26	0.00	4,159	4,159	0.08	0.01	—	4,164
Consum er Products	—	9.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	1.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	2.30	2.16	0.20	22.2	< 0.005	0.01	—	0.01	0.01	—	0.01	—	63.6	63.6	< 0.005	< 0.005	—	63.8
Total	2.68	13.0	3.48	23.6	0.02	0.28	—	0.28	0.28	—	0.28	0.00	4,223	4,223	0.08	0.01	—	4,228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.38	0.19	3.28	1.39	0.02	0.26	—	0.26	0.26	—	0.26	0.00	4,159	4,159	0.08	0.01	—	4,164
Consumer Products	—	9.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.38	10.9	3.28	1.39	0.02	0.26	—	0.26	0.26	—	0.26	0.00	4,159	4,159	0.08	0.01	—	4,164
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	17.0	17.0	< 0.005	< 0.005	—	17.0
Consumer Products	—	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.21	0.19	0.02	1.99	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.19	5.19	< 0.005	< 0.005	—	5.21
Total	0.21	2.15	0.03	2.00	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	22.2	22.2	< 0.005	< 0.005	—	22.2

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	23.1	43.6	66.6	2.37	0.06	—	143
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	10.5	19.9	30.4	1.08	0.03	—	65.2
Total	—	—	—	—	—	—	—	—	—	—	—	33.6	63.5	97.1	3.46	0.08	—	208
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	23.1	43.6	66.6	2.37	0.06	—	143
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	10.5	19.9	30.4	1.08	0.03	—	65.2
Total	—	—	—	—	—	—	—	—	—	—	—	33.6	63.5	97.1	3.46	0.08	—	208
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	3.82	7.21	11.0	0.39	0.01	—	23.7
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.74	3.29	5.03	0.18	< 0.005	—	10.8
Total	—	—	—	—	—	—	—	—	—	—	—	5.56	10.5	16.1	0.57	0.01	—	34.5

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	127	0.00	127	12.7	0.00	—	444
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	42.0	0.00	42.0	4.19	0.00	—	147
Total	—	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	591
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	127	0.00	127	12.7	0.00	—	444
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	42.0	0.00	42.0	4.19	0.00	—	147
Total	—	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	591
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	21.0	0.00	21.0	2.10	0.00	—	73.6
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	6.95	0.00	6.95	0.69	0.00	—	24.3
Total	—	—	—	—	—	—	—	—	—	—	—	28.0	0.00	28.0	2.80	0.00	—	97.9

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.52	2.52
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.98	2.98
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.52	2.52
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.98	2.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.42	0.42
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.49	0.49

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
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5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Low Rise	—	0%
Strip Mall	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMt/Weekday	VMt/Saturday	VMt/Sunday	VMt/Year
Apartments Low Rise	1,567	1,567	1,567	571,970	11,803	11,803	11,803	4,308,156
Strip Mall	4,038	4,038	4,038	1,473,855	37,405	37,405	37,405	13,652,697

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	169
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	163
Conventional Wood Stoves	0

Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
712638	237,546	111,239	37,080	—

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Low Rise	1,245,162	204	0.0330	0.0040	6,626,490
Strip Mall	633,687	204	0.0330	0.0040	422,601

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	12,040,445	0.00

Strip Mall	5,493,144	0.00
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5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	85.2	0.00
Strip Mall	77.9	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

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

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.82	annual days of extreme heat
Extreme Precipitation	6.25	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	9.53	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	10.6
AQ-PM	12.4
AQ-DPM	48.3
Drinking Water	25.9
Lead Risk Housing	94.0
Pesticides	0.00
Toxic Releases	25.6
Traffic	22.1
Effect Indicators	—
CleanUp Sites	28.9
Groundwater	60.6
Haz Waste Facilities/Generators	74.7
Impaired Water Bodies	0.00
Solid Waste	60.5
Sensitive Population	—
Asthma	30.1
Cardio-vascular	7.94
Low Birth Weights	17.0
Socioeconomic Factor Indicators	—
Education	67.1
Housing	79.1
Linguistic	70.9
Poverty	54.2

Unemployment	0.91
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7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	74.09213397
Employed	44.86077249
Median HI	93.17336071
Education	—
Bachelor's or higher	86.16707301
High school enrollment	5.671756705
Preschool enrollment	9.29038881
Transportation	—
Auto Access	84.51174131
Active commuting	60.29770307
Social	—
2-parent households	73.36070833
Voting	74.96471192
Neighborhood	—
Alcohol availability	36.89208264
Park access	6.83947132
Retail density	57.62864109
Supermarket access	94.25125112
Tree canopy	86.35955345
Housing	—
Homeownership	77.86475042

Housing habitability	63.37738997
Low-inc homeowner severe housing cost burden	20.65956628
Low-inc renter severe housing cost burden	78.26254331
Uncrowded housing	28.08931092
Health Outcomes	—
Insured adults	43.44924933
Arthritis	0.0
Asthma ER Admissions	68.3
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	75.1
Cognitively Disabled	78.9
Physically Disabled	80.2
Heart Attack ER Admissions	93.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	91.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0

No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	19.0
Elderly	57.9
English Speaking	50.9
Foreign-born	76.9
Outdoor Workers	78.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	61.6
Traffic Density	21.8
Traffic Access	23.0
Other Indices	—
Hardship	51.0
Other Decision Support	—
2016 Voting	74.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	28.0
Healthy Places Index Score for Project Location (b)	68.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Changed population to be consistent w/PD, DOF 2022 persons per household rate; strip mall used as proxy for strip retail plaza
Construction: Construction Phases	Operational CalEEMod run, no construction needed
Operations: Vehicle Data	Modified to be consistent with trip rates provided by W-Trans

**North Fair Oaks Rezone Project EIR
Project VMT and Population Increases**

Existing (2022) VMT	
<u>Land Use Type</u>	<u>VMT/Year</u>
Single Family Housing	717,989
Apartments Low Rise	901,709
Place of Worship	725,396
Parking Lot	0
General Light Industry	235,499
Annual Total	2,580,593
Daily Total	7,070
Percent Increase	596.00%
Net Increase	42,138

Future VMT	
<u>Land Use Type</u>	<u>VMT/Year</u>
Apartments Low Rise	4,308,156
Strip Mall	13,652,697
Annual Total	17,960,853
Daily Total	49,208

Population	
<u>Year</u>	<u>Total Population</u>
2022 ¹	211
Future ²	918
Percent Increase	335.07%
Net Increase	707

¹2022 total population is from CalEEMod

²Future population from Project Description

Appendix C

Special-Status Species Evaluation Tables

Special-Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	FE/SCE G1/S1 1B.1	Annual herb. Chaparral, valley and foothill grassland. Serpentine. Elevations: 165-985 feet (ft.) (50-300 meters [m.]) Blooms Apr-Jun.	No Potential	No suitable habitat (i.e., chaparral, valley and foothill grassland) is present. There are three documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	None/None G5T2/S2 1B.2	Perennial bulbiferous herb. Cismontane woodland, valley and foothill grassland. Clay, Serpentine (often), volcanic. Elevations: 170-1000 ft. (52-305 m.) Blooms (Apr) May-Jun.	No Potential	No suitable habitat (i.e., Cismontane woodland, valley and foothill grassland) is present. There are nine documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	None/None G3/S3 1B.2	Annual herb. Cismontane woodland, coastal bluff scrub, valley and foothill grassland. Elevations: 10-1640 ft. (3-500 m.) Blooms Mar-Jun.	No Potential	No suitable habitat (i.e., Cismontane woodland, coastal bluff scrub, valley and foothill grassland) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 90 years. The species is not expected to occur in the project area.
<i>Arctostaphylos andersonii</i> Anderson's manzanita	None/None G2/S2 1B.2	Perennial evergreen shrub. Broadleaved upland forest, chaparral, north coast coniferous forest. Edges, openings. Elevations: 195-2495 ft. (60-760 m.) Blooms Nov-May.	No Potential	No suitable habitat (i.e., Broadleaved upland forest, chaparral, north coast coniferous forest) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	None/None G2/S2 1B.2	Perennial evergreen shrub. Broadleaved upland forest, chaparral, north coast coniferous forest. Granitic, sandstone. Elevations: 1000-2395 ft. (305-730 m.) Blooms Dec-Apr.	No Potential	No suitable habitat (i.e., Broadleaved upland forest, chaparral, north coast coniferous forest) is present. There are three documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.

North Fair Oaks Rezoning and General Plan Amendment Project

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk- vetch	None/None G2T2/S2 1B.2	Perennial herb. Coastal dunes, coastal scrub, marshes and swamps. Mesic sites in dunes or along streams or coastal salt marshes. Elevations: 0-100 ft. (0-30 m.) Blooms (Apr) Jun-Oct.	No Potential	No suitable habitat (i.e., Coastal dunes, coastal scrub, marshes and swamps) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	None/None G2T1/S1 1B.2	Annual herb. Playas, valley and foothill grassland, vernal pools. Alkaline. Elevations: 5-195 ft. (1-60 m.) Blooms Mar-Jun.	No Potential	No suitable habitat (i.e., Playas, valley and foothill grassland, vernal pools) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	None/None G3T2/S2 1B.1	Annual herb. Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. Elevations: 0-755 ft. (0-230 m.) Blooms May-Oct (Nov).	No Potential	No suitable habitat (i.e., alley and foothill grassland) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 20 years. The species is not expected to occur in the project area.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes salty bird's- beak	None/None G4?T2/S2 1B.2	Annual herb (hemiparasitic). Marshes and swamps. Usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> , etc. Elevations: 0-35 ft. (0-10 m.) Blooms Jun-Oct.	No Potential	No suitable habitat (i.e., Marshes and swamps) is present. There are three documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 100 years. The species is not expected to occur in the project area.
<i>Cirsium fontinale</i> var. <i>fontinale</i> fountain thistle	FE/SCE G2T1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Seeps, serpentinite. Elevations: 150-575 ft. (45-175 m.) Blooms (Apr) May-Oct.	No Potential	No suitable habitat (i.e., Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland) is present. There are four documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Cirsium praeteriens</i> lost thistle	None/None GX/SX 1A	Perennial herb. Although not seen since 1901, this <i>Cirsium</i> is thought to be quite distinct from other <i>Cirsiums</i> acc. to D. Keil. Elevations: 0-330 ft. (0-100 m.) Blooms Jun-Jul.	No Potential	There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 100 years. The species is not expected to occur in the project area.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Collinsia corymbosa</i> round-headed collinsia	None/None G1/S1 1B.2	Annual herb. Coastal dunes. Elevations: 0-65 ft. (0-20 m.) Blooms Apr-Jun.	No Potential	No suitable habitat (i.e., Coastal dunes) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 100 years. The species is not expected to occur in the project area.
<i>Collinsia multicolor</i> San Francisco collinsia	None/None G2/S2 1B.2	Annual herb. Closed-cone coniferous forest, coastal scrub. Serpentine (sometimes). Elevations: 100-900 ft. (30-275 m.) Blooms (Feb) Mar-May.	No Potential	No suitable habitat (i.e., Closed-cone coniferous forest, coastal scrub) is present. There are three documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Dirca occidentalis</i> western leatherwood	None/None G2/S2 1B.2	Perennial deciduous shrub. Broadleaved upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. Elevations: 80-1395 ft. (25-425 m.) Blooms Jan-Mar (Apr).	No Potential	No suitable habitat (i.e., Broadleaved upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland) is present. There are ten documented occurrences of the species within 5 miles (CDFW 2022), however these occurrences are in undeveloped areas.. The species is not expected to occur in the project area.
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	FE/SCE G1/S1 1B.1	Perennial herb. Cismontane woodland, coastal scrub, lower montane coniferous forest. Often on roadcuts; found on and off of serpentine. Elevations: 150-1085 ft. (45-330 m.) Blooms May-Jun.	No Potential	No suitable habitat (i.e., Cismontane woodland, coastal scrub, lower montane coniferous forest) is present. There are no documented occurrence of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	None/None G5T1/S1 1B.1	Annual/perennial herb. Vernal pools. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. Elevations: 10-150 ft. (3-45 m.) Blooms (Jun) Jul (Aug).	No Potential	No suitable habitat (i.e., Vernal pools) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 100 years. The species is not expected to occur in the project area.

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Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	None/None G2/S2 1B.2	Perennial herb. Valley and foothill grassland, vernal pools. Clay. Elevations: 10-985 ft. (3-300 m.) Blooms Apr-Aug.	No Potential	No suitable habitat (i.e., Valley and foothill grassland, vernal pools) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Extriplex joaquinana</i> San Joaquin spearscale	None/None G2/S2 1B.2	Annual herb. Chenopod scrub, meadows and seeps, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. Elevations: 5-2740 ft. (1-835 m.) Blooms Apr-Oct.	No Potential	No suitable habitat (i.e., Chenopod scrub, meadows and seeps, playas, valley and foothill grassland) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Fissidens pauperculus</i> minute pocket moss	None/None G3?/S2 1B.2	Moss. North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. Elevations: 35-3360 ft. (10-1024 m.)	No Potential	No suitable habitat (i.e., North coast coniferous forest) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	None/None G3G4T1/S1 1B.1	Perennial bulbiferous herb. Cismontane woodland, valley and foothill grassland. Probably only on serpentine; most recent site is in serpentine grassland. Elevations: 490-490 ft. (150-150 m.) Blooms Mar-Apr.	No Potential	No suitable habitat (i.e., Cismontane woodland, valley and foothill grassland) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Fritillaria liliacea</i> fragrant fritillary	None/None G2/S2 1B.2	Perennial bulbiferous herb. Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Often on serpentine; various soils reported though usually on clay, in grassland. Elevations: 10-1345 ft. (3-410 m.) Blooms Feb-Apr.	No Potential	No suitable habitat (i.e., Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland) is present. There are four documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Hesperervax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	None/None G4T3/S3 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. Elevations: 0-705 ft. (0-215 m.) Blooms Mar-Jun.	No Potential	No suitable habitat (i.e., Coastal bluff scrub, coastal dunes, coastal prairie) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Hesperolinon congestum</i> Marin western flax	FT/SCT G1/S1 1B.1	Annual herb. Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. Elevations: 15-1215 ft. (5-370 m.) Blooms Apr-Jul.	No Potential	No suitable habitat (i.e., Chaparral, valley and foothill grassland) is present. There are five documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Hoita strobilina</i> Loma Prieta hoita	None/None G2/S2? 1B.1	Perennial herb. Chaparral, cismontane woodland, riparian woodland. Serpentine; mesic sites. Elevations: 100-2820 ft. (30-860 m.) Blooms May-Jul (Aug-Oct).	No Potential	No suitable habitat (i.e., Chaparral, cismontane woodland, riparian woodland) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE/None G1/S1 1B.1	Annual herb. Cismontane woodland, playas, valley and foothill grassland, vernal pools, swales, low depressions, in open grassy areas. Elevations: 0-1540 ft. (0-470 m.) Blooms Mar-Jun.	No Potential	No suitable habitat (i.e., Cismontane woodland, playas, valley and foothill grassland, vernal pools) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Legenere limosa</i> legenere	None/None G2/S2 1B.1	Annual herb. Vernal pools. In beds of vernal pools. 1-. Elevations: 5-2885 ft. (1-880 m.) Blooms Apr-Jun.	No Potential	No suitable habitat (i.e., Vernal pools) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	None/None G2/S2 1B.2	Annual herb. Cismontane woodland, coastal scrub, valley and foothill grassland. Grassy slopes on serpentine; sometimes on roadsides. Elevations: 195-655 ft. (60-200 m.) Blooms Jul-Oct.	No Potential	No suitable habitat (i.e., Cismontane woodland, coastal scrub, valley and foothill grassland) is present. There are two documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	None/None G2Q/S2 1B.2	Perennial deciduous shrub. Chaparral, cismontane woodland. Gravelly alluvium. Elevations: 50-1165 ft. (15-355 m.) Blooms Apr-Sep.	No Potential	Marginally suitable habitat (i.e., Chaparral, cismontane woodland. Gravelly alluvium) may present. There are five documented occurrences of the species within 5 miles (CDFW 2022), three of which were recorded within the last 5 years, however, these records are from undeveloped areas. The species has a low potential to occur in the project area.

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Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Monolopia gracilens</i> woodland woollythreads	None/None G3/S3 1B.2	Annual herb. Broadleaved upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns but may have only weak affinity to serpentine. Elevations: 330-3935 ft. (100-1200 m.) Blooms (Feb) Mar-Jul.	No Potential	No suitable habitat (i.e., Chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland) is present. There are two documented occurrences of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Pedicularis dudleyi</i> Dudley's lousewort	None/SCR G2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Deep shady woods of older coast redwood forests; also in maritime chaparral. Elevations: 195-2955 ft. (60-900 m.) Blooms Apr-Jun.	No Potential	No suitable habitat (i.e., Cismontane woodland, playas, valley and foothill grassland, vernal pools) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE/SCE G1/S1 1B.1	Annual herb. Cismontane woodland, valley and foothill grassland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. Elevations: 115-2035 ft. (35-620 m.) Blooms Mar-May.	No Potential	No suitable habitat (i.e., Cismontane woodland, valley and foothill grassland) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Piperia candida</i> white-flowered rein orchid	None/None G3?/S3 1B.2	Perennial herb. Broadleaved upland forest, lower montane coniferous forest, north coast coniferous forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. Elevations: 100-4300 ft. (30-1310 m.) Blooms (Mar) May-Sep.	No Potential	No suitable habitat (i.e., Broadleaved upland forest, lower montane coniferous forest, north coast coniferous forest) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	None/None G3T1Q/S1 1B.2	Annual herb. Chaparral, coastal prairie, coastal scrub. Mesic sites. Elevations: 10-525 ft. (3-160 m.) Blooms Mar-Jun.	No Potential	No suitable habitat (i.e., Chaparral, coastal prairie, coastal scrub) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Plagiobothrys glaber</i> hairless popcornflower	None/None GX/SX 1A	Annual herb. Marshes and swamps, meadows and seeps. Coastal salt marshes and alkaline meadows. Elevations: 50-590 ft. (15-180 m.) Blooms Mar-May.	No Potential	No suitable habitat (i.e., Marshes and swamps, meadows and seeps) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	None/None G3/S3 1B.2	Perennial rhizomatous herb (emergent). Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. Elevations: 0-2135 ft. (0-650 m.) Blooms May-Oct (Nov).	No Potential	No suitable habitat (i.e., Marshes and swamps) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), which was recorded within the last 5 years. The species is not expected to occur in the project area.
<i>Senecio aphanactis</i> chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625 ft. (15-800 m.) Blooms Jan-Apr (May).	No Potential	No suitable habitat (i.e., Chaparral, cismontane woodland, coastal scrub) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Silene verecunda</i> ssp. <i>verecunda</i> San Francisco campion	None/None G5T1/S1 1B.2	Perennial herb. Chaparral, coastal bluff scrub, coastal prairie, coastal scrub, valley and foothill grassland. Often on mudstone or shale; one site on serpentine. Elevations: 100-2115 ft. (30-645 m.) Blooms (Feb) Mar-Jul (Aug).	No Potential	No suitable habitat (i.e., Chaparral, coastal bluff scrub, coastal prairie, coastal scrub, valley and foothill grassland) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 5 years. The species is not expected to occur in the project area.
<i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurrey	None/None G5T2/S2 1B.2	Perennial herb. Marshes and swamps, meadows and seeps. Alkaline. Elevations: 0-835 ft. (0-255 m.) Blooms Feb-May.	No Potential	No suitable habitat (i.e., Marshes and swamps, meadows and seeps) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Stuckenia filiformis</i> ssp. <i>alpina</i> northern slender pondweed	None/None G5T5/S2S3 2B.2	Perennial rhizomatous herb (aquatic). Marshes and swamps. Shallow, clear water of lakes and drainage channels. Elevations: 985-7055 ft. (300-2150 m.) Blooms May-Jul.	No Potential	No suitable habitat (i.e., Marshes and swamps) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 100 years. The species is not expected to occur in the project area.

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Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Suaeda californica</i> California seablite	FE/None G1/S1 1B.1	Perennial evergreen shrub. Marshes and swamps. Margins of coastal salt marshes. Elevations: 0-50 ft. (0-15 m.) Blooms Jul-Oct.	No Potential	No suitable habitat (i.e., Marshes and swamps) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Trifolium amoenum</i> two-fork clover	FE/None G1/S1 1B.1	Annual herb. Coastal bluff scrub, valley and foothill grassland. Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face. Elevations: 15-1360 ft. (5-415 m.) Blooms Apr-Jun.	No Potential	No suitable habitat (i.e., Coastal bluff scrub, valley and foothill grassland) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 50 years. The species is not expected to occur in the project area.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	None/None G2/S2 1B.1	Annual herb. Broadleafed upland forest, cismontane woodland, coastal prairie. Moist grassland. Gravelly margins. Elevations: 345-2000 ft. (105-610 m.) Blooms Apr-Oct.	No Potential	No suitable habitat (i.e., broadleafed upland forest, cismontane broadleafed upland forest, cismontane woodland, coastal prairie) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.
<i>Trifolium hydrophilum</i> saline clover	None/None G2/S2 1B.2	Annual herb. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. Elevations: 0-985 ft. (0-300 m.) Blooms Apr-Jun.	No Potential	No suitable habitat (i.e., Marshes and swamps, valley and foothill grassland, vernal pools) is present. There is one documented occurrence of the species within 5 miles (CDFW 2022), there are no records of it within the last 30 years. The species is not expected to occur in the project area.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Triphysaria floribunda</i> San Francisco owl's- clover	None/None G2?/S2? 1B.2	Annual herb. Coastal prairie, coastal scrub, valley and foothill grassland. On serpentine and non-serpentine substrate (such as at Pt. Reyes). Elevations: 35-525 ft. (10-160 m.) Blooms Apr-Jun.	No Potential	No suitable habitat (i.e., broadleafed upland forest, cismontane broadleafed upland forest, cismontane woodland, coastal prairie) is present. There are no documented occurrences of the species within 5 miles (CDFW 2022). The species is not expected to occur in the project area.

ft. =feet; m. = meter

Regional Vicinity refers to within a 9-quadrant search radius of site.

Status (Federal/State)

FE = Federal Endangered

FT = Federal Threatened

FPE = Federal Proposed Endangered

FPT = Federal Proposed Threatened

FD = Federal Delisted

FC = Federal Candidate

SE = State Endangered

ST = State Threatened

SCE = State Candidate Endangered

SCT = State Candidate Threatened

SR = State Rare

SD = State Delisted

SSC = CDFW Species of Special Concern

FP = CDFW Fully Protected

WL = CDFW Watch List

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere

1B = Rare, Threatened, or Endangered in California and elsewhere

2A = Presumed extirpated in California, but common elsewhere

2B = Rare, Threatened, or Endangered in California, but more common elsewhere

3 = Need more information (Review List)

4 = Limited Distribution (Watch List)

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)

.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)

G2 or S2 Imperiled Globally or Subnationally (state)

G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)

G4/5 or S4/5 Apparently secure, common and abundant

GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)

Q – Questionable taxonomy that may reduce conservation priority

? – Inexact numeric rank

Special-Status Wildlife Species in the Regional Vicinity of the Project Area

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Invertebrates				
<i>Bombus crotchii</i> Crotch bumble bee	None/SCE G2/S1S2	Coastal California east to the Sierra- Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	No Potential	No known occurrences have been found within 5 miles of the project area within the last 10 years.
<i>Bombus occidentalis</i> Western bumble bee	None/SCE G3/S1	Once common and widespread, species has declined precipitously from central California to southern Baja California, perhaps from disease.	No Potential	No known occurrences have been found within 5 miles of the project area within the last 10 years.
<i>Danaus plexippus plexippus pop. 1</i> monarch - California overwintering population	FC/None G4T1T2/S2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	No Potential	No suitable habitat for this species occurs in the project area.No known occurrences have been found within 5 miles of the project area within the last 10 years.
<i>Euphydryas Editha bayensis</i> Bay checkerspot butterfly	FT/None G5T1/S1	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpureus</i> are the secondary host plants.	No Potential	No suitable habitat for this species occurs in the project area. No known occurrences have been found within 5 miles of the project area within the last 10 years.
<i>Speyeria zerene myrtilae</i> Myrtle's silverspot butterfly	FE/None G5T1/S1	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be <i>Viola adunca</i> .	No Potential	No suitable habitat for this species occurs in the project area.No known occurrences have been found within 5 miles of the project area within the last 10 years.
Fish				
<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	FT/None G2T1/S1	Spawning site fidelity. Spawns in the Sacramento, Feather and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. Delta Estuary is important for rearing juveniles. Spawning occurs primarily in cool (11-15 C) sections of mainstem rivers in deep pools (8-9 meters) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	No Potential	No suitable habitat for this species occurs in the project area.

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Oncorhynchus mykiss irideus</i> pop. 8 steelhead - central California coast DPS	FT/None G5T2T3Q/S2S 3	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	No Potential	No suitable habitat for this species occurs in the project area.
<i>Spirinchus thaleichthys</i> longfin smelt	FC/ST G5/S1	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 parts per trillion but can be found in completely freshwater to almost pure seawater.	No Potential	No suitable habitat for this species occurs in the project area.
Reptiles				
<i>Emys marmorata</i> western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg-laying.	No Potential	No suitable habitat for this species occurs in the project area. No known occurrences have been found within 5 miles of the project area within the last 10 years.
<i>Thamnophis sirtalis tetrataenia</i> San Francisco gartersnake	FE/SE G5T2Q/S2 FP	Vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	No Potential	No suitable habitat for this species occurs in the project area. There are 6 known occurrences found within 5 miles of the project area, but they are all over 5 years old.
Amphibians				
<i>Ambystoma californiense</i> pop. 1 California tiger salamander - central California DPS	FT/ST G2G3T3/S3 WL	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	No Potential	This species has been observed within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
<i>Aneides niger</i> Santa Cruz black salamander	None/None G3/S3 SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	No Potential	No suitable habitat for this species occurs in the project area. Two known occurrences have been found within 5 miles of the project site, but both are from over 40 years ago.

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Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Dicamptodon ensatus</i> California giant salamander	None/None G3/S2S3 SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	No Potential	No suitable habitat for this species occurs in the project area. One known occurrence has been found within 5 miles of the project site, but it was observed over 80 years ago.
<i>Rana boylei</i> pop. 4 foothill yellow- legged frog - central coast DPS	FPT/SE G3TNRQ/S2	San Francisco Peninsula and Diablo Range south of San Francisco Bay Estuary, and south through the Santa Cruz and Gabilan Mountains east of the Salinas River in the southern inner Coast Ranges. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	No Potential	This species has been observed within 5 miles of the project area; however, it was over 100 years ago and no suitable habitat for this species is present in the project area.
<i>Rana draytonii</i> California red- legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	No Potential	There are eight CNDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
<i>Taricha rivularis</i> Red-bellied newt	None/None G2G3/S2S3 SSC	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 kilometer to breed, typically in streams with moderate flow and clean, rocky substrate.	No Potential	There are no known occurrences of this species within 5 miles of the project area. No suitable habitat for this species is present in the project area.

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Birds				
<i>Accipiter cooperii</i> Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	High Potential	Suitable habitat is present within the project vicinity and adjacent habitat. No CNDDDB occurrences for the species are present within a 5-mile range of the project area. However, Ebird shows two records on the project area within the last 5 years, and many more records within 5 miles of the project area. The species is present in the project area.
<i>Agelaius tricolor</i> tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	No Potential	There are no known occurrences of this species within 5 miles of the project area. No suitable habitat for this species is present in the project area.
<i>Asio flammeus</i> short-eared owl	None/None G5/S3 SSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	No Potential	There are no known occurrences of this species within 5 miles of the project area. No suitable habitat for this species is present in the project area.
<i>Asio otus</i> Long-eared owl	None/None G5/S3? SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	No Potential	There are no known occurrences of this species within 5 miles of the project area. No suitable habitat for this species is present in the project area.
<i>Athene cunicularia</i> burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No Potential	This species has been observed within 5 miles of the project area, however, no suitable habitat for this species is present in the project area.
<i>Brachyramphus marmoratus</i> Marbled murrelet	FT/SE G3/S2	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	No Potential	There are no known occurrences of this species within 5 miles of the project area. No suitable habitat for this species is present in the project area.
<i>Charadrius nivosus nivosus</i> western snowy plover	FT/None G3T3/S2 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	No Potential	There are 5 CNDDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.

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Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Circus hudsonius</i> Northern harrier	None/None G5/S3 SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	No Potential	There are two CNDDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
<i>Coturnicops noveboracensis</i> yellow rail	None/None G4/S1S2 SSC	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	No Potential	No suitable habitat for this species occurs in the project area.
<i>Elanus leucurus</i> white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low Potential	Low quality nesting habitat occurs in the project area, and this species is known to occasionally move through the project area while foraging or migrating.
<i>Falco peregrinus anatum</i> American peregrine falcon	FD/SD G4T4/S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Low Potential	No nesting habitat occurs in the project area; however, this species is known to occasionally move through the project area while foraging or migrating.
<i>Geothlypis trichas sinuosa</i> Saltmarsh common yellowthroat	None/None G5T3/S3 SSC	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	No Potential	There is one CNDDDB record of this species within 5 miles of the project area, however, no suitable habitat for this species is present in the project area.
<i>Haliaeetus leucocephalus</i> Bald eagle	FD/SE G5/S3 FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Low Potential	No nesting habitat occurs in the project area; however, this species is known to occasionally move through the project area while foraging or migrating.
<i>Laterallus jamaicensis coturniculus</i> California black rail	None/ST G3T1/S1 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	No Potential	There are three CNDDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
<i>Melospiza melodia pusillula</i> Alameda song sparrow	None/None G5T2T3/S2S3 SSC	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	No Potential	There are 15 CNDDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Nannopterum auritum</i> double-crested cormorant	None/None G5/S4 WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	No Potential	No suitable habitat for this species occurs in the project area.
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE/SE G3T1/S1 FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	No Potential	There are six CNDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
<i>Riparia riparia</i> bank swallow	None/ST G5/S2	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	No Potential	No suitable habitat for this species occurs in the project area.
<i>Rynchops niger</i> black skimmer	None/None G5/S2 SSC	Nests on gravel bars, low islets, and sandy beaches, in unvegetated sites. Nesting colonies usually less than 200 pairs.	No Potential	No suitable habitat for this species occurs in the project area.
<i>Sternula antillarum brownii</i> California least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	No Potential	There are two CNDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
Mammals				
<i>Antrozous pallidus</i> pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	No Potential	Some suitable roosting habitat present within the project area; however, human and traffic disturbance lower probability of species presence. No CNDDB occurrences for the species are present within a 5-mile range.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls and ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	No Potential	Some suitable roosting habitat present within the project area; however, human and traffic disturbance drastically lower probability of species presence. No CNDDB occurrences for the species are present within a 5-mile range.

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Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Lasiurus cinereus</i> hoary bat	None/None G3G4/S4	Typically roosts in trees in deciduous and coniferous forests and woodlands but occasionally roosts in rocks crevices. Forages in open areas, typically along riparian corridors or over water. Diet primarily consists of moths.	No Potential	There are four CNDDDB records of this species within 5 miles of the project area; however, they are all over 20 years old and no suitable habitat for this species is present in the project area.
<i>Myotis yumanensis</i> Yuma myotis	None/None G5/S4	Occurs in a variety of lowland and upland habitats including desert scrub, riparian, and woodlands and forests. Distribution is closely tied to bodies of water. Roosts in a variety of areas including caves, cliffs, mines, crevices in live trees, and buildings and other man-made structures.	No Potential	Some suitable roosting habitat present within the project area; however, human and traffic disturbance drastically lower probability of species presence. No CNDDDB occurrences for the species are present within a 5-mile range.
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	None/None G5T2T3/S2S3 SSC	Typically found in forest habitats with moderate to dense understory. Can occur in chaparral, riparian woodlands, and coniferous forests, particularly redwood. Builds middens out of grasses, leaves, and woody debris. This subspecies is found only in the San Francisco Bay region.	No Potential	There are two CNDDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	FE/SE G1G2/S1S2 FP	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	No Potential	There are seven CNDDDB records of this species within 5 miles of the project area; however, they are all over 20 years old and no suitable habitat for this species is present in the project area.
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	None/None G5T1/S1 SSC	Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6-8 feet above sea level where abundant driftwood is scattered among Salicornia.	No Potential	There are two CNDDDB records of this species within 5 miles of the project area; however, they are both over 40 years old and no suitable habitat for this species is present in the project area.

Scientific Name	Status		Potential	
Common Name	FESA/CESA		to Occur	Rationale
	CDFW	Habitat Requirements		
Taxidea taxus	None/None	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No	There are 4 CNDDDB records of this species within 5 miles of the project area; however, no suitable habitat for this species is present in the project area.
American badger	G5/S3		Potential	
	SSC			

DPS = distinct population segment

Regional Vicinity refers to within a 9-quad search radius of site.

Status (Federal/State)		CRPR (CNPS California Rare Plant Rank)	
FE =	Federal Endangered	1A =	Presumed extirpated in California, and rare or extinct elsewhere
FT =	Federal Threatened	1B =	Rare, Threatened, or Endangered in California and elsewhere
FPE =	Federal Proposed Endangered	2A =	Presumed extirpated in California, but common elsewhere
FPT =	Federal Proposed Threatened	2B =	Rare, Threatened, or Endangered in California, but more common elsewhere
FD =	Federal Delisted		
FC =	Federal Candidate	CRPR Threat Code Extension	
SE =	State Endangered	.1 =	Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
ST =	State Threatened	.2 =	Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
SCE =	State Candidate Endangered	.3 =	Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)
SCT =	State Candidate Threatened		
SR =	State Rare		
SD =	State Delisted		
SSC =	CDFW Species of Special Concern		
FP =	CDFW Fully Protected		
WL =	CDFW Watch List		

Other Statuses

G1 or S1	Critically Imperiled Globally or Subnationally (state)
G2 or S2	Imperiled Globally or Subnationally (state)
G3 or S3	Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5	Apparently secure, common and abundant
GH or SH	Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)

Q – Questionable taxonomy that may reduce conservation priority

? – Inexact numeric rank

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Appendix D

Sewer Analysis

MEMORANDUM

To: Matt Taecker, WRT San Francisco **File:** 2130054
From: Julia Harberson, Kristine Pillsbury
Date: February 13, 2023
Subject: **NORTH FAIR OAKS PARCEL REZONING SEWER ANALYSIS –PRELIMINARY-**

The purpose of this Preliminary Sewer Analysis is to provide the results of calculations to determine the increase in sewer flows as a result of rezoning a selection of parcels within the North Fair Oaks community area. Specifically, those which are included in the North Fair Oaks Rezoning and General Plan Amendment Project proposed by the County of San Mateo.

BASIS OF ANALYSIS

Fifty-four parcels are proposed to be rezoned as part of the North Fair Oaks Rezoning and General Plan Amendment Project. See attached Exhibit A, Exhibit B and Exhibit C for lists of the proposed parcels, their current uses and designations, proposed designations and housing unit and population buildout potential.

The increase in sewer flows is analyzed using information from the “Fair Oaks Sewer Maintenance District Sewer Master Plan Technical Memorandum by RMC Water and Environment” dated 09/28/2015 (2015 Technical Memorandum) and from the “Fair Oaks Sewer Maintenance District Sewer Master Plan Phases 3 & 4 and Phase 1 Update Technical Memorandum Addendum by Woodard & Curran” dated 03/02/2021 (2021 Technical Memorandum).

BASE WASTEWATER FLOW

The following were used as the basis for Base Wastewater Flow for the analysis:

Table 1:

Flow Source	Flow Rate	Reference
Residential	220 gallons/day/ERU	Fair Oaks Sewer Maintenance District (FOSMD) standard; provided verball by FOSMD
Commercial	0.15 gallons/day/sf	Fair Oaks Sewer Maintenance District Sewer Master Plan Phases 3 & 4 and Phase 1 Update Technical Memorandum Addendum by Woodard & Curran 03/02/2021 Footnote 2 under Table 2

BASE WASTEWATER FLOW PEAKING FACTOR

Table 2:

Flow Source	Peaking Factor	Reference
Residential	1.58	2021 Technical Memorandum 2.2.1.1 Adjustments to Existing Model Loads
Commercial	1.7	2015 Technical Memorandum Figure 2-9: Diurnal Profile for “Commercial”

GROUNDWATER INFILTRATION

The assumption for groundwater infiltration was taken from footnote c. under Table 4-1 Peak I/I by Flow Meter Area of the 2015 Technical Memorandum. Footnote c. indicates groundwater infiltration is approximately 6 percent of overall ADWF.

RAINFALL DEPENDENT INFLOW/INFILTRATION (RDI/I)

Rainfall dependent inflow and infiltration was determined by multiplying the Unit Peak RDI/I Rate in “Table 4-1: Peak I/I by Flow Meter Area” of the 2015 Technical Memorandum by the length of pipe fronting selected parcels along streets in specific Flow Meter Basin areas. See attached Figure 3 for the location of the Flow Meter Basin areas relative to the project parcels to be rezoned.

Table 3:

Street	Flow Meter Basin Area	Unit Peak RDI/I Rate (gpd/ft)
Project South		
Northumberland Ave Nottingham Ave Buckingham Ave El Camino Real Blenheim Ave (East) Blenheim Ave (West) Dumbarton Ave	52A	28
Berkshire Ave	53	2
Project North		
Pacific Ave Huntington Ave (West) 3 rd Ave	52	6
Dumbarton Ave Berkshire Ave 1 st Ave Huntington Ave (East)	53	2
6 th Ave	56	62

RESULTS

Sewer Mains Fronting the Parcels to be Rezoned:

The analysis and results of the analysis are provided in Analysis Tables 1 through 8 attached to this report. The analysis shows that the sewer mains fronting the parcels proposed to be rezoned (see Figure 1) can accommodate increases in flow due to the additional residential units and commercial space square footage allowed by the proposed zoning for the parcels, over existing zoning buildout (see Analysis Table 6, attached). For the most part, the parcels are located along streets which are at the most upstream ends of smaller diameter sewer mains which are assumed to be 6" in diameter and not included in any of the FOSMD-identified locations of predicted surcharge and capacity deficiencies.

Downstream of the Parcels, within the Fair Oaks Sewer Maintenance District:

However, there are two Capacity Projects that FOSMD has identified which are downstream of the parcels to be rezoned (see Figure 2). The existing sewer system at these Capacity Project locations is either currently experiencing throttle of sewer flows, or is anticipated to experience throttle and backup of sewer flows related to future development. The Capacity Projects are described in the FOSMD 2015 and 2021 Technical Memorandums and consist of replacing portions of the existing system with larger diameter pipe to increase system capacity. Timing for construction and implementation of the FOSMD Capacity Projects is not known.

The parcels which are grouped under "Project South" in the attached Analysis Tables 1 through 8, if rezoned, will contribute runoff to Capacity Project 5 identified in Table 5, "Locations of Model-Predicted Surcharge and Potential Capacity Deficiencies" of the 2021 Technical Memorandum. Capacity Project 5 is anticipated to experience throttle and backup conditions resulting from future development accounted for in the model. The potential future flows from this rezoning project are in addition to the future development accounted for in the District's model.

As well within the parcels which are grouped under "Project North", one parcel proposed to be rezoned, on 6th Avenue, will contribute additional flow to Capacity Project 2 identified in Table 5 of the 2021 Technical Memorandum. Capacity Project Location 2 is experiencing throttle under existing conditions.

The remainder of the parcels within the "Project North" group of parcels discharge to modeled sewer systems which do not appear to have capacity issues.

Redwood City and Silicon Valley Clean Water:

The Fair Oaks Sewer Maintenance District system discharges into the Redwood City infrastructure approximately one mile downstream of the project parcels to be rezoned. After the Redwood City sewer infrastructure intercepts flows from FOSMD, sewage is conveyed to the Silicon Valley Clean Water wastewater treatment plant in Redwood City, approximately five miles from the project parcels to be rezoned.

By conjecture, it is assumed that the Redwood City and Silicon Valley Clean Water agency sewer infrastructure are at or under capacity and not able to intercept and convey any increases in sewer flow.

The results of the analysis indicate that, unless mitigated, the proposed project will increase flows discharged to the Redwood City and Silicon Valley Clean Water infrastructure. As seen in Analysis Table 4, the change in sewer flow over Existing Zoning Buildout is an increase of 133,972 gallons per day, or 0.21 cubic feet per second.

Preliminary Mitigation Discussion:

Increases in sewer flows, due to an increase in population as a result of rezoning the parcels, if unmitigated are anticipated to exacerbate throttle and backup conditions within the existing pipe system at the FOSMD-planned Capacity Project 2 and Capacity Project 5 locations. Additionally, increases in sewer flows, if unmitigated, are anticipated to impact the capacity of the Redwood City sewer infrastructure and Silicon Valley Clean Water treatment capacity.

Alternatives to mitigate potential increases in sewer flow which will impact the Capacity Project 2 and Capacity Project 5 areas, as well as the Redwood City and Silicon Valley Clean Water system capacities, include, but are not limited to:

- A. Rezone to accommodate an increase in commercial square footage, but only to a level that the maximum number of dwelling units and commercial buildings creates a zero-net wastewater generation.

As seen in Analysis Table 8, the maximum number of dwelling units and commercial building which could be allowed so that resulting sewer flows will not exceed conditions commensurate with existing zoning buildout, is approximately 9 dwelling units combined with approximately 21,319 sf of commercial square footage.

- B. Replace sewer main infrastructure to reduce predicted RDI/I by the potential amount of sewer flow increase by the rezoned parcels, over existing zoning buildout.

This mitigation measure includes replacing sewer main infrastructure within the North Fair Oaks Sewer Maintenance District system in order to reduce predicted RDI/I by an amount equivalent to the change in flow promulgated by the proposed zoning, above the buildout scenario for existing zoning. As discussed with FOSMD, the County already requires developers to mitigate increases in sewer flow by replacing pipe in an amount so that RDI/I is reduced by the amount of flow added by the development. The pipe replacement project will typically be in the same Flow Meter Basin as the development.

Analysis Table 7, attached, provides replacement lengths of pipe by Flow Meter Basin Areas to mitigate increases in flow as a result of rezoning of the project parcels. The Table provides three replacement scenarios:

1. Pipe replacement length if sewer replacement is performed in the same flow meter area as the parcel being developed.
2. Pipe replacement length if sewer replacement is performed in Flow Meter Basin 52A, regardless of the basin of the parcel being developed.
3. Pipe replacement length if sewer replacement is performed in Flow Meter Basin 56, regardless of the basin of the parcel being developed.

For those parcels in a flow meter basin which has a lower RDI/I rate, such as Basins 52 and 53, where the RDI/I rates are 2 to 6 gallons per day per foot of pipe, the length of replacement may result in a mitigation scenario that is prohibitively expensive to the development. An alternative for rezoned parcels in areas with low RDI/I rates could be for the future development projects of the parcels to replace pipe or pay in-lieu fees to support the rehabilitation of infrastructure in basins of Fair Oaks Sewer Maintenance District, other than their own, with higher RDI/I rates. In this manner, the proposed projects will still assist with mitigating potential increases in sewer flows to FOSMD Capacity Project areas and to Redwood City and Silicon Valley Clean Water.

To note, rezoned parcels will have maximum allowable dwelling unit and commercial floor space areas, but development may not actually occur to the maximum designation. The length of pipe proposed to be replaced should be consistent with current requirement for proposed projects to mitigate flows only to the amount that they are increasing them.

DISCUSSIONS WITH DISTRICTS AND AGENCIES

Attempts were made to reach out to Redwood City and Silicon Valley Clean Water. However, contact could not be made.

A meeting was held with Fair Oaks Sewer Maintenance District, Woodward & Curran, the FOSMD Sewer Master Plan consultant, the County of San Mateo Planning, WRT, Rincon and CSWST2 on February 6, 2023 to discuss the basis of analysis, preliminary results and potential mitigations for the North Fair Oaks Parcel Rezoning project. FOSMD provided information related to standard assumption for flow rate per ERU and mitigation requirement for projects to replace pipe in the existing sewer system to reduce RDI/I to a level equivalent to increases in sewer flow as a result of the project.

Coordination with FOSMD is ongoing as of February 13, 2023 to confirm sewer main sizes fronting the parcels to be rezoned.

ATTACHMENTS

Analysis Table 1 – Existing Conditions

Analysis Table 2 – Flows Based on Existing Development

Analysis Table 3 – Flows Based on Buildout under Existing Zoning

Analysis Table 4 – Change in Flows based on Buildout under Proposed Zoning

Analysis Table 5 – Potential Total Flow – Proposed Zoning Buildout vs. Existing Zoning Buildout and Existing Development

Analysis Table 6 – Potential Total Flow Proposed Zoning and Estimated Capacity of Main Fronting Parcels

Analysis Table 7 – Length of Pipe Replacement to Mitigate Increases in Flow above Existing Zoning Buildout

Analysis Table 8 – Number of Dwelling Units and Commercial Square Footage for Net Zero Increase in Sewer Flows

Exhibit A – Proposed Rezoning Parcels - Current Uses and Designations

Exhibit B – Proposed Rezoning Parcels – Proposed Designations

Exhibit C – Housing Unit and Population Buildout Potential

Figure 1 – Diagram of Sanitary Sewer in Vicinity of Parcels Proposed to be Rezoned

Figure 2 – Fair Oaks Sewer Maintenance District Capacity Projects 2 and 5

Figure 3 – Fair Oaks Sewer Maintenance District Flow Meter Areas Relative to Parcels Proposed to be Rezoned

ATTACHMENTS

	ANALYSIS TABLE 1: EXISTING CONDITIONS						
	Existing DU	Addtl DU under Existing Zoning	Commercial under Existing Zoning	Flow Meter Area ^b	Unit Peak RDI/I Rate ^e	Length of Sewer Pipe Fronting Parcels ^c	Pipe Diameter ^d
	Number of Units	Number of Units	No Commercial under Existing Zoning	Basin Designation	Gallons/Day/Foot (gpd/ft)	feet (ft)	inches (in)
Project South							
Northumberland Avenue	2	0	0	52A	28	215	6
Nottingham Avenue	2	0	0	52A	28	185	6
Buckingham Avenue ^a	0	0	0	52A	28	0	El Camino Real
El Camino Real	1	1	0	52A	28	104	6
Blenheim Avenue (East)	9	1	0	52A	28	603	6
Blenheim Avenue (West)	26	16	0	52A	28	680	6
Dumbarton Avenue	2	1	0	52A	28	149	6
Berkshire Avenue	2	0	0	53	2	147	modeled pipe
Project North							
Pacific Avenue	12	0	0	52	6	258	6
Dumbarton Avenue	2	1	0	53	2	137	6
Berkshire Avenue ^a	1	1	0	53	2	0	modeled pipe
1st Avenue	2	0	0	53	2	65	6
Huntington Avenue (East)	6	2	0	53	2	411	6
Huntington Avenue (West)	8	1	0	52	6	460	6
3rd Avenue	1	0	0	52	6	216	6
6th Avenue	0	0	0	56	62	87	6
Total	76	24	0	-	-	-	-

a. Street is listed, but no numbers for change in DU or Commercial square footage.

b. Fair Oaks Sewer Maintenance District Sewer Master Plan, Flow Meter Basin for each Parcel determined using Figure 4-1: Wet Weather Peaking Factors for Flow Meter Areas

c. Length of sewer main fronting parcels measured in San Mateo GIS Parcel View at

d. Diameter Assumed

e. Fair Oaks Sewer Maintenance District Sewer Master Plan, Table 4-1: Peak I/I by Flow Meter Area

	ANALYSIS TABLE 2: FLOWS BASED ON EXISTING DEVELOPMENT					
	BWF Existing ^c	BWF*Peaking Factor ^b	Groundwater Infiltration	RDI/I ^d	Total Flow Based on Existing Development ^e	Total Flow Based on Existing Development
	Gallons/Day (gpd)	Gallons/Day (gpd)	6% of Overall ADWF ^a Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)	Cubic Feet per Second (cfs)
Project South						
Northumberland Avenue	440	695.2	26.4	6020	6741.60	0.010
Nottingham Avenue	440	695.2	26.4	5180	5901.60	0.009
Buckingham Avenue ^a	0	0	0	0	0.00	0.000
El Camino Real	220	347.6	13.2	2912	3272.80	0.005
Blenheim Avenue (East)	1980	3128.4	118.8	16884	20131.20	0.031
Blenheim Avenue (West)	5720	9037.6	343.2	19040	28420.80	0.044
Dumbarton Avenue	440	695.2	26.4	4172	4893.60	0.008
Berkshire Avenue	440	695.2	26.4	294	1015.60	0.002
Project North						
Pacific Avenue	2640	4171.2	158.4	1548	5877.60	0.009
Dumbarton Avenue	440	695.2	26.4	274	995.60	0.002
Berkshire Avenue ^a	220	347.6	13.2	0	360.80	0.001
1st Avenue	440	695.2	26.4	130	851.60	0.001
Huntington Avenue (East)	1320	2085.6	79.2	822	2986.80	0.005
Huntington Avenue (West)	1760	2780.8	105.6	2760	5646.40	0.009
3rd Avenue	220	347.6	13.2	1296	1656.80	0.003
6th Avenue	0	0	0	5394	5394.00	0.008
Total	-	-	-	-	94146.80	0.146

a. Fair Oaks Sewer Maintenance District Sewer Master Plan, Table 4-1, footnote c.

b. Fair Oaks Sewer Maintenance District Sewer Master Plan, Figure 2-9, Diurnal Profiles for "Residential Weekend" (Peaking Factor 1.58) and "Commercial" (Peaking Factor 1.7). Residential Weekend peaking factor update provided in 2021 Technical Memorandum for Sewer Master Plan.

c. Residential: Fair Oaks Sewer Maintenance District Standards, 220 gal/day/ERU;
Commercial: 2021 Technical Memorandum for Sewer Master Plan, medium-use flow factor 0.15gpd/sf

d. Unit Peak RDI/I Rate * Length of Pipe (Analysis Table 1)

e. (Base Flow * Peaking Factor) + Groundwater Infiltration + RDI/I

	ANALYSIS TABLE 3: FLOWS BASED ON BUILDOUT UNDER EXISTING ZONING					
	BWF Potential under Existing Zoning	(BWF Potential)* (Peaking Factor)	Groundwater Infiltration ^b	RDI/I ^c	Potential Total Flow under Existing Zoning ^a	Potential Total Flow under Existing Zoning
	Gallons/Day (gpd)	Gallons/Day (gpd)	6% of Overall ADWF Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)	Cubic Feet per Second (cfs)
Project South						
Northumberland Avenue	440	695.2	26.4	6020	6741.60	0.010
Nottingham Avenue	440	695.2	26.4	5180	5901.60	0.009
Buckingham Avenue ^a	0	0	0	0	0.00	0.000
El Camino Real	440	695.2	26.4	2912	3633.60	0.006
Blenheim Avenue (East)	2200	3476	132	16884	20492.00	0.032
Blenheim Avenue (West)	9240	14599.2	554.4	19040	34193.60	0.053
Dumbarton Avenue	660	1042.8	39.6	4172	5254.40	0.008
Berkshire Avenue	440	695.2	26.4	294	1015.60	0.002
Project North						
Pacific Avenue	2640	4171.2	158.4	1548	5877.60	0.009
Dumbarton Avenue	660	1042.8	39.6	274	1356.40	0.002
Berkshire Avenue ^a	440	695.2	26.4	0	721.60	0.001
1st Avenue	440	695.2	26.4	130	851.60	0.001
Huntington Avenue (East)	1760	2780.8	105.6	822	3708.40	0.006
Huntington Avenue (West)	1980	3128.4	118.8	2760	6007.20	0.009
3rd Avenue	220	347.6	13.2	1296	1656.80	0.003
6th Avenue	0	0	0	5394	5394.00	0.008
Total	-	-	-	-	102806.00	0.159

a. (Base Flow * Peaking Factor) + Groundwater Infiltration + RDI/I

b. [BWF Potential under Existing Zoning] * 0.06

c. Unit Peak RDI/I Rate * Length of Pipe (Analysis Table 1)

	ANALYSIS TABLE 4: CHANGE IN FLOWS BASED ON BUILDOUT UNDER PROPOSED ZONING							
	Change in DU	Change in Commercial	Change in BWF (DU)	Change in BWF (Comm)	Change*Peaking Factor (DU)	Change*Peaking Factor (Comm)	Change over Existing Zoning Buildout (Increase in Flow) ^a	Change over Existing Zoning Buildout (Increase in Flow)
	Number of Units	Square Feet (sq ft)	Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)	Gallons/Day (gpd)	cubic feet per second (cfs)
Project South								
Northumberland Avenue	25	5867	5500.00	880.05	8690.00	1496.09	10186.09	0.016
Nottingham Avenue	7	1933	1540.00	289.95	2433.20	492.92	2926.12	0.005
Buckingham Avenue ^a	0	0	0.00	0.00	0.00	0.00	0.00	0.000
El Camino Real	3	672	660.00	100.80	1042.80	171.36	1214.16	0.002
Blenheim Avenue (East)	31	8389	6820.00	1258.35	10775.60	2139.20	12914.80	0.020
Blenheim Avenue (West)	52	13606	11440.00	2040.90	18075.20	3469.53	21544.73	0.033
Dumbarton Avenue	8	2000	1760.00	300.00	2780.80	510.00	3290.80	0.005
Berkshire Avenue	13	3329	2860.00	499.35	4518.80	848.90	5367.70	0.008
Project North								
Pacific Avenue	55	9812	12100.00	1471.80	19118.00	2502.06	21620.06	0.033
Dumbarton Avenue	47	7000	10340.00	1050.00	16337.20	1785.00	18122.20	0.028
Berkshire Avenue ^a	0	0	0.00	0.00	0.00	0.00	0.00	0.000
1st Avenue	12	2000	2640.00	300.00	4171.20	510.00	4681.20	0.007
Huntington Avenue (East)	3	1000	660.00	150.00	1042.80	255.00	1297.80	0.002
Huntington Avenue (West)	31	5500	6820.00	825.00	10775.60	1402.50	12178.10	0.019
3rd Avenue	37	10983	8140.00	1647.45	12861.20	2800.67	15661.87	0.024
6th Avenue	7	2090	1540.00	313.50	2433.20	532.95	2966.15	0.005
Total	331	74181					133971.76	0.21

a. ["Change*Peaking Factor" for DU] + ["Change*Peaking Factor" for Comm]

	ANALYSIS TABLE 5: POTENTIAL TOTAL FLOW - PROPOSED ZONING BUILDOUT VS EXISTING ZONING BUILDOUT AND EXISTING DEVELOPMENT					
	Total Flow Existing Development ^a	Total Flow Existing Development ^a	Total Flow Existing Zoning Buildout ^b	Total Flow Existing Zoning Buildout ^b	Potential Total Flow under Proposed Zoning ^c	Potential Total Flow under Proposed Zoning ^c
	Gallons/Day (gpd)	Cubic Feet per Second (cfs)	Gallons/Day (gpd)	Cubic Feet per Second (cfs)	Gallons/Day (gpd)	Cubic Feet per Second (cfs)
Project South						
Northumberland Avenue	6741.60	0.010	6741.60	0.010	16927.69	0.026
Nottingham Avenue	5901.60	0.009	5901.60	0.009	8827.72	0.014
Buckingham Avenue ^a	0.00	0.000	0.00	0.000	0.00	0.000
El Camino Real	3272.80	0.005	3633.60	0.006	4847.76	0.008
Blenheim Avenue (East)	20131.20	0.031	20492.00	0.032	33406.80	0.052
Blenheim Avenue (West)	28420.80	0.044	34193.60	0.053	55738.33	0.086
Dumbarton Avenue	4893.60	0.008	5254.40	0.008	8545.20	0.013
Berkshire Avenue	1015.60	0.002	1015.60	0.002	6383.30	0.010
Project North						
Pacific Avenue	5877.60	0.009	5877.60	0.009	27497.66	0.043
Dumbarton Avenue	995.60	0.002	1356.40	0.002	19478.60	0.030
Berkshire Avenue ^a	360.80	0.001	721.60	0.001	721.60	0.001
1st Avenue	851.60	0.001	851.60	0.001	5532.80	0.009
Huntington Avenue (East)	2986.80	0.005	3708.40	0.006	5006.20	0.008
Huntington Avenue (West)	5646.40	0.009	6007.20	0.009	18185.30	0.028
3rd Avenue	1656.80	0.003	1656.80	0.003	17318.67	0.027
6th Avenue	5394.00	0.008	5394.00	0.008	8360.15	0.013
Total	94146.80	0.146	102806.00	0.159	236777.76	0.366

a. From Analysis Table 2

b. From Analysis Table 3

c. Sum of "Potential Total Flow under Existing Zoning" from Analysis Table 3 and "Change over Existing Zoning Buildout (Increase in Flow)" from Analysis Table 4.

ANALYSIS TABLE 6: POTENTIAL TOTAL FLOW PROPOSED ZONING AND ESTIMATED CAPACITY OF MAIN FRONTING PARCELS							
	Potential Total Flow under Proposed Zoning ^a	Approximate Number of Additional Parcels Contributing Flow in Same Pipe	Approximate Additional Flow Contributed by Additional Parcels ^d	Approximate Flow in Pipe ^e	Pipe Diameter ^b	Pipe Capacity Flowing Full ^c	Notes
	Cubic Feet per Second (cfs)		Cubic Feet per Second (cfs)	Cubic Feet per Second (cfs)	inches	Cubic Feet per Second (cfs)	
Project South							
Northumberland Avenue	0.026	16	0.05	0.07	6	0.521	0.07cfs < 0.521 cfs; Pipe has capacity
Nottingham Avenue	0.014	at end of line	0.00	0.01	6	0.521	0.01cfs < 0.521 cfs; Pipe has capacity
Buckingham Avenue ^a	0.000	2	0.01	0.01	El Camino Real	-	Not evaluated because no additional flow.
El Camino Real	0.008	2	0.01	0.01	6	0.521	0.01cfs < 0.521 cfs; Pipe has capacity
Blenheim Avenue (East)	0.052	12	0.04	0.09	6	0.521	0.09cfs < 0.521 cfs; Pipe has capacity
Blenheim Avenue (West)	0.086	11	0.03	0.12	6	0.521	0.12cfs < 0.521 cfs; Pipe has capacity
Dumbarton Avenue	0.013	9	0.03	0.04	6	0.521	0.04cfs < 0.521 cfs; Pipe has capacity
Berkshire Avenue	0.010	modeled pipe	n/a	n/a	modeled pipe		Sewer main size is unknown. It is assumed that the sewer main can accommodate the additional flow of .008cfs.
Project North							
Pacific Avenue	0.043	80	0.24	0.28	6	0.521	0.28cfs < 0.521 cfs; Pipe has capacity
Dumbarton Avenue	0.030	at end of line	0.00	0.03	6	0.521	0.03cfs < 0.521 cfs; Pipe has capacity
Berkshire Avenue ^a	0.001	modeled pipe	n/a	n/a	modeled pipe		Assumed that the sewer main can accommodate the additional flow of 0.001 cfs
1st Avenue	0.009	22	0.06	0.07	6	0.521	0.07cfs < 0.521 cfs; Pipe has capacity
Huntington Avenue (East)	0.008	3	0.01	0.02	6	0.521	0.02cfs < 0.521 cfs; Pipe has capacity
Huntington Avenue (West)	0.028	21	0.06	0.09	6	0.521	0.09cfs < 0.521 cfs; Pipe has capacity
3rd Avenue	0.027	at end of line	0.00	0.03	6	0.521	0.03cfs < 0.521 cfs; Pipe has capacity
6th Avenue	0.013	1	0.00	0.02	6	0.521	0.02cfs < 0.521 cfs; Pipe has capacity
Total	0.366						

a. From Analysis Table 5, "Potential Total Flow under Proposed Zoning"

b. From Analysis Table 1, "Pipe Diameter"

c. Assumes a pipe slope of 1% and a Manning's n value of 0.014; assumed for well maintained, aging, vitrified clay pipe. Pipe capacity (flowing full) calculated using Hydraflow Express computer program distributed by Autodesk.

d. [Analysis Table 5 Total Flow Existing Zoning Buildout (cfs)] / 54 Parcels

e. [Potential Total Flow under Proposed Zoning] + [Approximate Additional Flow Contributed by Additional Parcels]

	ANALYSIS TABLE 7: LENGTH OF PIPE REPLACEMENT TO MITIGATE INCREASES IN FLOW ABOVE EXISTING ZONING BUILDOUT					
	Change over Existing Zoning Buildout (Increase in Flow) ^a	Flow Meter Area ^b	Unit Peak RDI/I Rate ^b	Pipe Replacement Length if Replacement performed in same Flow Meter Area	Pipe Replacement Length if Replacement performed in Basin 52A ^c	Pipe Replacement Length if Replacement performed in Basin 56
	Gallons/Day (gpd)	Basin Designation	Gallons/Day/Foot (gpd/ft)	feet	feet	feet
Project South						
Northumberland Avenue	10186.09	52A	28	364	364	164
Nottingham Avenue	2926.12	52A	28	105	105	47
Buckingham Avenue ^a	0.00	52A	28	0	0	0
El Camino Real	1214.16	52A	28	43	43	20
Blenheim Avenue (East)	12914.80	52A	28	461	461	208
Blenheim Avenue (West)	21544.73	52A	28	769	769	347
Dumbarton Avenue	3290.80	52A	28	118	118	53
Berkshire Avenue	5367.70	53	2	2684	192	87
Project North						
Pacific Avenue	21620.06	52	6	3603	772	349
Dumbarton Avenue	18122.20	53	2	9061	647	292
Berkshire Avenue ^a	0.00	53	2	0	0	0
1st Avenue	4681.20	53	2	2341	167	76
Huntington Avenue (East)	1297.80	53	2	649	46	21
Huntington Avenue (West)	12178.10	52	6	2030	435	196
3rd Avenue	15661.87	52	6	2610	559	253
6th Avenue	2966.15	56	62	48	106	48
Total	133971.76					

a. From Analysis Table 4

b. From Analysis Table 1

c. [Change over Existing Zoning Buildout (Increase in Flow)]/[28 gpd/ft]

d. [Change over Existing Zoning Buildout (Increase in Flow)]/[62 gpd/ft]

	ANALYSIS TABLE 8: NUMBER OF DWELLING UNITS AND COMMERCIAL SQUARE FOOTAGE FOR NET ZERO INCREASE IN SEWER FLOWS		
	Column 1 Difference between Existing Zoning Buildout and Existing Conditions		Number of DU and Area of Commercial Square Footage for No Net Increase in Sewer Flow
	Gallons/Day (gpd)	DU Number ^{a,c}	Commercial Area Square Footage ^{b,c} Square Feet (sf)
Project South			
Northumberland Avenue	0.00	0	0
Nottingham Avenue	0.00	0	0
Buckingham Avenue ^a	0.00	0	0
El Camino Real	360.80	0	1415
Blenheim Avenue (East)	360.80	0	1415
Blenheim Avenue (West)	5772.80	9	10000
Dumbarton Avenue	360.80	0	1415
Berkshire Avenue	0.00	0	0
Project North			
Pacific Avenue	0.00	0	0
Dumbarton Avenue	360.80	0	1415
Berkshire Avenue ^a	360.80	0	1415
1st Avenue	0.00	0	0
Huntington Avenue (East)	721.60	0	2830
Huntington Avenue (West)	360.80	0	1415
3rd Avenue	0.00	0	0
6th Avenue	0.00	0	0
Total	8659.20	9	21319

a. [Column 1 Gallons/Day] / [220 gpd/unit * Peaking Factor]

b. [Column 1 Gallons/Day] / [0.15gpd/sf * Peaking Factor]

c. Where 10,000sf of commercial square footage can be accommodated, the number of DU is determined from the remainder of Column 1 not applied toward 10,000sf of Commercial Space.

Cite Reference

Exhibit A Proposed Rezoning Parcels – Current Uses and Designations

Assessor's Parcel Number	Site Address	Current Land Use	Current Land Use Designation	Current Zoning District
054205010	341 Berkshire Ave	Single Family	Medium High Density Residential	R3 (Multi-Family Residential)
054206150	341 1st Ave	Single Family	Commercial Mixed Use	R3
054206160	345 1st Ave	Single Family	Commercial Mixed Use	R3
054211160	335 Pacific Ave	Single Family	Medium High Density Residential	R3
054211180	355 Pacific Ave	Multi-family	Medium High Density Residential	R3
054211280	347 Pacific Ave	Multi-family	Medium High Density Residential	R3
054211310	339 Pacific Ave	Multi-family	Medium High Density Residential	R3
054215120	341 Dumbarton Ave	Single Family	Medium High Density Residential	R3
054215140	2835 Huntington Ave	Single Family	Medium High Density Residential	R3
054215150	2823 Huntington Ave	Multi-family	Medium High Density Residential	R3
054215160	2819 Huntington Ave	Single Family	Medium High Density Residential	R3
054215170	2813 Huntington Ave	Single Family	Medium High Density Residential	R3
054215180	338 Pacific Ave	Single Family	Medium High Density Residential	R3
054215300	2843 Huntington Ave	Multi-family	Medium High Density Residential	R3
054215310	337 Dumbarton Ave	Single Family	Medium High Density Residential	R3
054217100	2929 Huntington Ave	Multi-family	Medium High Density Residential	R3
054217180	2909 Huntington Ave	Multi-family	Medium High Density Residential	R3
054217200	332 Dumbarton Ave	Multi-family	Medium High Density Residential	R3
054217030	332 Dumbarton adjacent	Auto	Medium High Density Residential	R3
054261210	11 Northumberland Ave	Parking & Open Storage	Medium High Density Residential	R3
054261270	31 Northumberland	Single Family	Medium High Density Residential	R3
054263070	77 Nottingham Ave	Single Family	Medium High Density Residential	R3
054263100	10 Northumberland Ave	Single Family	Medium High Density Residential	R3
054267050	21 Buckingham Ave	Single Family	Medium High Density Residential	R3
054267110	10 Nottingham Ave	Single Family	Medium High Density Residential	R3
C			Medium High Density Residential	R3
C			Medium High Density Residential	R3
C			Medium High Density Residential	R3
054276030	2726 Blenheim Ave	Single Family	Medium High Density Residential	R3
054276060	2740 Blenheim Ave	Single Family	Medium High Density Residential	R3
054276070	None	Multi-family	Medium High Density Residential	R3
054276080	2760 Blenheim Ave	Single Family	Medium High Density Residential	R3
054276090	None	Parking & Open Storage	Medium High Density Residential	R3

Assessor's Parcel Number	Site Address	Current Land Use	Current Land Use Designation	Current Zoning District
054276100	None	Parking & Open Storage	Medium High Density Residential	R3
054276110	2776 Blenheim Ave	Multi-family	Medium High Density Residential	R3
054276120	Blenheim Ave	Auto	Medium High Density Residential	R3
054276130	Blenheim Ave	Auto	Medium High Density Residential	R3
054276140	Blenheim Ave	Auto	Medium High Density Residential	R3
054276330	2796 Blenheim Ave	Multi-family	Medium High Density Residential	R3
054284010	24 Dumbarton Ave	Single Family	Medium High Density Residential	R3
054284020	2810 Blenheim Ave	Single Family	Medium High Density Residential	R3
054284100	2870 Blenheim Ave	Single Family	Medium High Density Residential	R3
054284110	2872 Blenheim Ave	Single Family	Medium High Density Residential	R3
054284120	35 Berkshire Ave	Single Family	Medium High Density Residential	R3
054284130	31 Berkshire Ave	Single Family	Medium High Density Residential	R3
054284300	14 Dumbarton Ave	Single Family	Medium High Density Residential	R3
054284310	2846 Blenheim Ave	Multi-family	Medium High Density Residential	R3
054284320	2852 Blenheim Ave	Multi-family	Medium High Density Residential	R3
054284340	2868 Blenheim Ave	Single Family	Medium High Density Residential	R3
054276040	Blenheim	Parking & Open Storage	Medium High Density Residential	P (Parking)
054276050	Blenheim	Parking & Open Storage	Medium High Density Residential	P
060056250	409 3rd Ave	Public/Quasi- public	Neighborhood Mixed Use / Single Family Residential	R1 (One-Family Residential)
060059180	408 3rd Ave	Single Family	Single Family Residential	R1
060072180	409 6th Ave	Single Family	Single Family Residential	R1

Exhibit B Proposed Rezoning Parcels – Proposed Designations

Assessor's Parcel Number	Proposed New Zoning District	Maximum Allowable Density (Dwelling Units Per Acre)	Proposed New Land Use Designation	Anticipated Square Footage of Commercial Area Based on Site Area ¹
054205010	CMU3	120	Commercial Mixed Use	0
054206150	CMU3	120	Commercial Mixed Use (no change)	1,000
054206160	CMU3	120	Commercial Mixed Use (no change)	1,000
054211160	CMU3	120	Commercial Mixed Use	2,000
054211180	CMU3	120	Commercial Mixed Use	1,000
054211280	CMU3	120	Commercial Mixed Use	1,000
054211310	CMU3	120	Commercial Mixed Use	1,000
054215120	CMU3	120	Commercial Mixed Use	0
054215140	CMU3	120	Commercial Mixed Use	2,000
054215150	CMU3	120	Commercial Mixed Use	1,000
054215160	CMU3	120	Commercial Mixed Use	1,500
054215170	CMU3	120	Commercial Mixed Use	0
054215180	CMU3	120	Commercial Mixed Use	4,812
054215300	CMU3	120	Commercial Mixed Use	1,000
054215310	CMU3	120	Commercial Mixed Use	2,000
054217100	CMU3	120	Commercial Mixed Use	0
054217180	CMU3	120	Commercial Mixed Use	1,000
054217200	CMU3	120	Commercial Mixed Use	2,000
054217030	CMU3	120	Commercial Mixed Use	3,000
054261210	CMU1	80	Commercial Mixed Use	2,076
054261270	CMU1	80	Commercial Mixed Use	2,229
054263070	CMU1	80	Commercial Mixed Use	793
054263100	CMU1	80	Commercial Mixed Use	1,562
054267050	CMU1	80	Commercial Mixed Use	0
054267110	CMU1	80	Commercial Mixed Use	1,140
054267190	CMU1	80	Commercial Mixed Use	672
054276010	CMU1	80	Commercial Mixed Use	974
054276020	CMU1	80	Commercial Mixed Use	587
054276030	CMU1	80	Commercial Mixed Use	1,132
054276060	CMU1	80	Commercial Mixed Use	516
054276070	CMU1	80	Commercial Mixed Use	526
054276080	CMU1	80	Commercial Mixed Use	1,069
054276090	CMU1	80	Commercial Mixed Use	1,088
054276100	CMU1	80	Commercial Mixed Use	1,106
054276110	CMU1	80	Commercial Mixed Use	1,133
054276120	CMU1	80	Commercial Mixed Use	1,161

Assessor's Parcel Number	Proposed New Zoning District	Maximum Allowable Density (Dwelling Units Per Acre)	Proposed New Land Use Designation	Anticipated Square Footage of Commercial Area Based on Site Area ¹
054276130	CMU1	80	Commercial Mixed Use	981
054276140	CMU1	80	Commercial Mixed Use	994
054276330	CMU1	80	Commercial Mixed Use	0
054284010	CMU1	80	Commercial Mixed Use	2,000
054284020	CMU1	80	Commercial Mixed Use	0
054284100	CMU1	80	Commercial Mixed Use	2,100
054284110	CMU1	80	Commercial Mixed Use	1,039
054284120	CMU1	80	Commercial Mixed Use	2,329
054284130	CMU1	80	Commercial Mixed Use	1,000
054284300	CMU1	80	Commercial Mixed Use	0
054284310	CMU1	80	Commercial Mixed Use	1,050
054284320	CMU1	80	Commercial Mixed Use	1,050
054284340	CMU1	80	Commercial Mixed Use	3,150
054276040	CMU1	80	Commercial Mixed Use	1,157
054276050	CMU1	80	Commercial Mixed Use	1,182
060056250	NMU-DR	60	Neighborhood Mixed Use	8,786
060059180	NMU-DR	60	Neighborhood Mixed Use	2,196
060072180	NMU-DR	60	Neighborhood Mixed Use	2,090

Notes: CMU3 = Commercial Mixed Use-3; CMU1 = Commercial Mixed Use-1; NMU-DR = Neighborhood Mixed Use-Design Review

¹ Commercial square footage was calculated using an assumption of 40% ground floor commercial for sites that are likely to be developed, which was determined based on the size of existing commercial uses in the North Fair Oaks area.

Exhibit C Housing Unit and Population Buildout Potential

Assessor's Parcel Number	Existing Dwelling Units	Total Allowable Dwelling Units Under Current Designation	Anticipated Total Dwelling Units Under Proposed Designation	Increase in Total Dwelling Units (Buildout Potential)	Increase in Buildout Population Potential¹
054205010	1	1	1	0	0
054206150	1	4	7	6	16
054206160	1	4	7	6	16
054211160	1	4	14	13	35
054211180	3	3	7	4	10
054211280	3	3	7	4	10
054211310	3	3	7	4	10
054215120	1	1	1	0	0
054215140	1	4	14	13	35
054215150	2	2	7	4	12
054215160	1	4	10	9	26
054215170	1	1	1	0	0
054215180	1	4	33	32	89
054215300	2	2	7	5	13
054215310	1	4	14	13	35
054217100	2	2	2	0	0
054217180	4	4	7	3	9
054217200	0	4	14	14	38
054217030	0	4	21	20	56
054261210	0	4	10	10	26
054261270	1	4	10	9	26
054263070	1	2	4	3	7
054263100	1	4	7	6	17
054267050	1	2	1	0	0
054267110	1	2	5	4	12
054267190	0	2	3	3	9
054276010	2	2	4	2	6
054276020	1	2	3	2	5
054276030	1	4	5	4	12
054276060	1	2	2	1	4
054276070	0	2	2	2	7
054276080	1	4	5	4	11
054276090	0	4	5	5	14
054276100	0	4	5	5	14
054276110	4	2	5	1	3
054276120	0	4	5	5	15
054276130	0	4	5	5	12

Assessor's Parcel Number	Existing Dwelling Units	Total Allowable Dwelling Units Under Current Designation	Anticipated Total Dwelling Units Under Proposed Designation	Increase in Total Dwelling Units (Buildout Potential)	Increase in Buildout Population Potential ¹
054276140	0	4	5	5	13
054276330	16	16	16	0	0
054284010	1	4	9	8	23
054284020	1	1	1	0	0
054284100	1	4	10	9	24
054284110	1	4	5	4	10
054284120	1	4	11	10	27
054284130	1	2	5	4	10
054284300	1	1	1	0	0
054284310	2	2	5	2	7
054284320	2	2	5	2	7
054284340	1	4	14	13	37
054276040	0	0	5	5	15
054276050	0	0	5	5	15
060056250	0	4	30	30	84
060059180	1	4	8	7	18
060072180	0	4	7	7	20
Total	76	172	407	332	918

Note: Numbers may not add due to rounding.

¹ Population based on 2.77 persons per household in unincorporated San Mateo County (California Department of Finance 2022).

Cite Reference

FIGURE 1 - DIAGRAM OF SANITARY SEWER IN VICINITY OF PARCELS PROPOSED TO BE REZONED

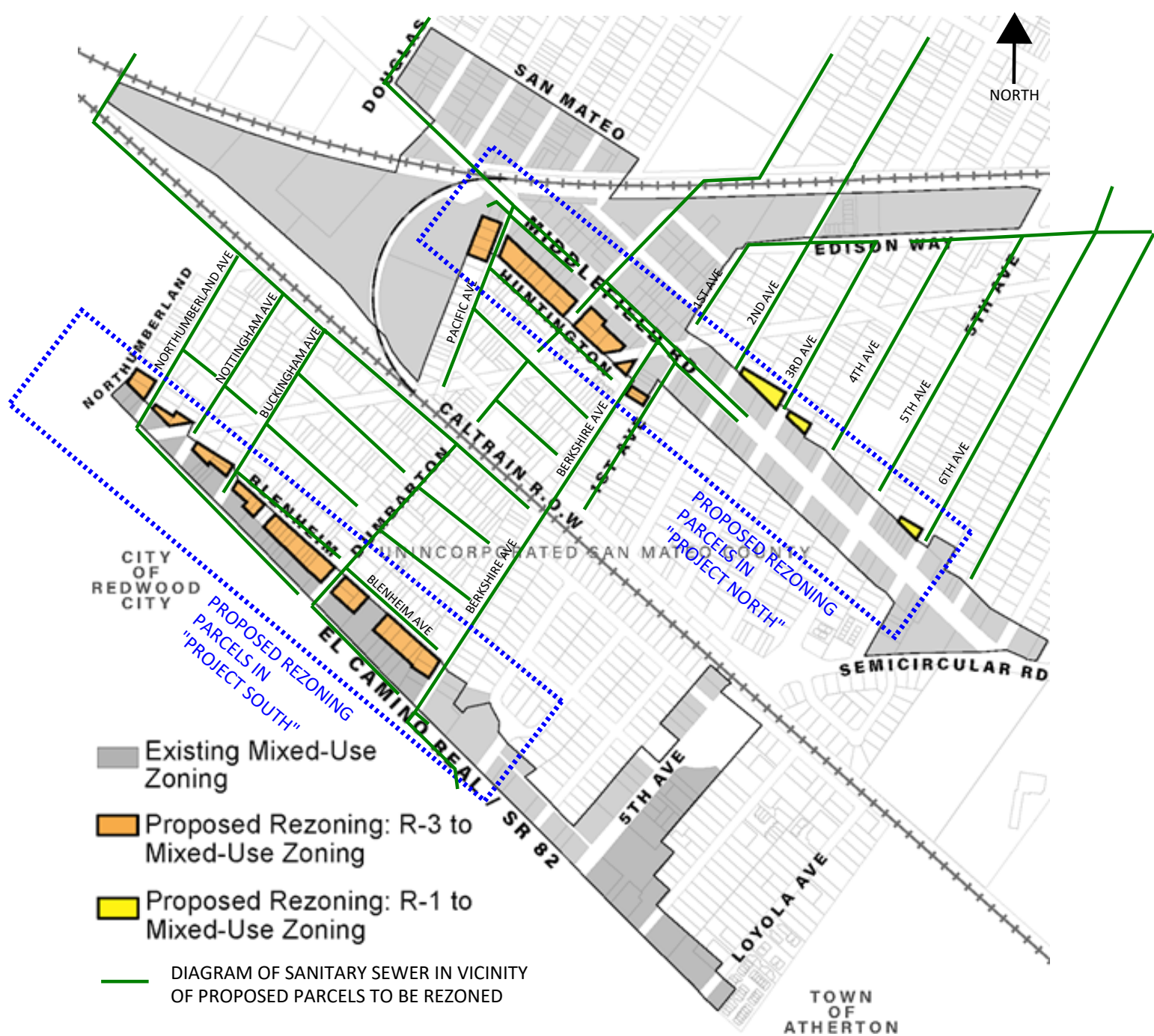


FIGURE 2 - FAIR OAKS SEWER MAINTENANCE DISTRICT CAPACITY PROJECTS



FIGURE 3 - FAIR OAKS SEWER MAINTENANCE DISTRICT FLOW METER AREAS RELATIVE TO PARCELS PROPOSED TO BE REZONED

