



ADMINISTRATIVE REPORT

File #: 23-289

Meeting Date: 4/5/2023

Planning Commission Staff Report

Report Prepared by: Francisco Mendoza-Gonzalez, Associate Planner, Development Services Department

SUBJECT: General Plan Amendment #22-05, Fahrens Creek Specific Plan Amendment #5, Zone Change #432, Establishment of Residential Planned Development (RP-D) #78, and Vesting Tentative Subdivision Map #1326 initiated by ISEA International, property owner, for an approximately 10.76 acre parcel generally located on the south side of Cardella Road, between El Redondo Drive and Horizons Avenue (1250 Cardella Road). The General Plan Amendment would change the General Plan land use designation from Office Commercial (CO)/Neighborhood Commercial (CN) to Low Density Residential (LD). The Fahrens Creek Specific Plan Amendment would change the land use designation for the Specific Plan from Office Commercial/Neighborhood Commercial to Low Density Residential. The Zone Change would change the Zoning designation from Planned Development (P-D) #50 to Residential Planned Development (RP-D) #78. The Vesting Tentative Subdivision Map would subdivide the parcel into 53 single-family lots, ranging in size from 5,000 square feet to 6,718 square feet.

PUBLIC HEARING

ACTION

PLANNING COMMISSION:

Recommendation to City Council

- 1) Environmental Review #22-50 (*Negative Declaration*)
- 2) General Plan Amendment #22-05
- 3) Fahrens Creek Specific Plan Amendment #5
- 4) Zone Change #432
- 5) Residential Planed Development (RP-D) #78

Approve/Disapprove/Modify:

- 1) Environmental Review #22-50 (*Negative Declaration*)
- 2) Tentative Subdivision Map #1326
(subject to City Council approval of General Plan Amendment #22-05, Fahrens Creek Specific Plan Amendment #5, Zone Change #432, and Establishment of Residential Planned Development (RP-D) #78)

CITY COUNCIL:

Approve/Disapprove/Modify:

- 1) Environmental Review #22-50 (*Negative Declaration*)
- 2) General Plan Amendment #22-05

- 3) Fahrens Creek Specific Plan Amendment #5
- 4) Zone Change #432
- 5) Establishment of Residential Planned Development (RP-D) #78

SUMMARY

The subject site is an undeveloped 10.76-acre lot located in Northwest Merced at 1250 Cardella Road. The subject site is generally located on the south side of Cardella Road, between El Redondo Drive and Horizons Avenue (Location Map at Attachment C). The General Plan Amendment would change the General Plan land use designation from Office Commercial (CO)/Neighborhood Commercial (CN) to Low Density Residential (LD). The Fahrens Creek Specific Plan Amendment would change the Specific Plan land use designation from Office Commercial/Neighborhood Commercial to Low Density Residential. The Zone Change would change the Zoning designation from Planned Development (P-D) #50 to Residential Planned Development (RP-D) #78. The Tentative Subdivision Map would subdivide the parcel into 53 single-family lots, ranging in size from 5,000 square feet to 6,718 square feet. The proposed density of the subdivision would be approximately 4.93 dwelling units per acre. This density would comply with the proposed General Plan designation of Low Density (LD) Residential, which allows between 2 to 6 dwelling units per acre.

RECOMMENDATION

Planning staff is neutral with this proposal and is not recommending approval or denial. The Planning Commission may recommend approval or denial of Environmental Review #22-50 [Negative Declaration], General Plan Amendment #22-05, Fahrens Creek Specific Plan Amendment #5, Zone Change #432, and Establishment of Residential Planned Development #78; and approve or deny Tentative Subdivision Map #1326 (subject to City Council adopting the General Plan Amendment, Fahrens Creek Specific Plan Amendment, Zone Change, and Establishment of Residential Planned Development #78) including the adoption of the Draft Resolutions at Attachments A and B of Staff Report #23-289, subject to the conditions in Exhibit A and the findings/considerations in Exhibit B of each attachment.

DISCUSSION

Project Description

The proposed project is located in Northwest Merced on the south side of Cardella Road, between El Redondo Drive and Horizons Avenue (1250 Cardella Road) (Location Map at Attachment C). The project consists of a General Plan Amendment, Specific Plan Amendment, Zone Change, and the Establishment of Residential Planned Development (RP-D) #78. The General Plan Amendment would change the General Plan land use designation from Neighborhood Commercial (CN)/Commercial Office (CO) to Low Density Residential. The Specific Plan Amendment would change the land use designation of the Fahrens Creek Specific Plan from Neighborhood Commercial/Commercial Office to Low Density Residential. The Zone Change would change the Zoning designation from Planned Development (P-D) #50 to Residential Planned Development (RP-D) #78. The Establishment of Residential Planned Development (RP-D) #78 would establish a Site

Utilization Plan for approximately 10.76 acres with a land use designation of Low Density (LD) Residential. Refer to the Map at Attachment D for the proposed land use changes.

In addition to the applications above, the applicant is proposing to subdivide the approximately 10.76 acres into a residential subdivision with 53 single-family homes. The proposed subdivision does not include the creation of any courts or cul-de-sacs, but it will require creating three new streets, expanding two streets with frontage improvements (Gaucho Drive, and Cardella Road) and extending two roads (El Redondo Drive and Horizons Avenue) up to Cardella Road as shown on the map at Attachment D. Given that the proposed subdivision is under 60 units, the development would not be subject to the City's recently adopted Regional Housing Needs Allocation Unit Production Plan.

The applicant has not proposed any elevations or sample site plans. The applicant is proposing that the development be subject to the development standards of the R-1-5 Zone found in the Zoning Ordinance under Table 20.08-2 Development Standards for Single-Family Residential Zoning Districts. The development standards include requirements for minimum lot sizes, lot dimensions, maximum lot coverage, minimum building setbacks, maximum building height, etc. (Attachment F). These standards would be adopted as the standards for Residential Planned Development (RP-D) #78. Even though the applicant does not have proposed elevations, the exterior design would be required to comply with the City's standard design requirements for single-family homes as shown under Merced Municipal Code Section 20.46.020 - Design Standards for Single-Family Dwellings and Mobile Homes (Attachment G). These standards cover different design elements such as roof pitch, roofing material, exterior materials, window treatment, etc. These standards would also be adopted as standards for RP-D #78.

Surrounding uses as noted in Attachment C.

Surrounding Land	Existing Use of Land	City Zoning Designation	City General Plan Land Use Designation
North	Agriculture (across Cardella Road)	County Jurisdiction	Office Commercial (CO)
South	Undeveloped Land (pending residential subdivision)	Planned Development (P-D) #50	Village Residential (VR)
East	Undeveloped Land	Planned Development (P-D) #50	Village Residential (VR)
West	Undeveloped Land	Planned Development (P-D) #57	Village Residential (VR)

Background on the Urban Village Concept

The subject site is currently part of a planned urban village residential neighborhood. The Urban Village Concept goes back to 1990 with the Merced 2030 - How Should We Grow?, a process which analyzed the various growth and expansion options available to the City. As a result of this study, it was determined that Merced's growth pattern for new growth areas should be based on mixed-use, pedestrian friendly, and transit-friendly design principles, known as the Urban Village Concept. As a follow-up to this planning process, the City commissioned an urban design study for an 8,000-acre portion of Northern Merced which resulted in the publication of the North Merced Conceptual Land Use Plan and Merced Villages Design Guidelines in late 1991. This established the basic "urban design" policy direction used in preparation of the *Merced Vision 2015 General Plan* published in 1997, and the *Merced Vision 2030 General Plan* (Chapter 6 Urban Design Concepts is provided at Attachment J).

Approval of this proposal would prevent the creation of the Urban Village Residential Neighborhood that was originally intended for this neighborhood when it was annexed into the City in 2003. The urban village neighborhood concept is intended to create a high-density neighborhood (through multi-family, town houses, small single-family lots, etc.) that surround a regional commercial center (minimum of 10 acres) as is currently reserved for this site. The high-density residential surrounding the commercial is called an Inner Village. These Inner Villages allow a density between 10-36 dwelling units per acre. Surrounding the Inner Village is the Outer Village which has a reduced density between 4-12 dwelling units per acre. The commercial land is the central part of the Urban Village Residential concept which is intended to be sustained by the surrounding high density residential units because it creates a neighborhood where residents can easily walk to work, commercial amenities (retail/restaurants), and entertainment opportunities. This is similar to the mixed-use developments found in Downtown Merced. This land use development concept is intended to promote active/walkable neighborhoods with accessible amenities that would not be car-dependent resulting in less pollution and more environmentally friendly development. The approval of this land use change would eliminate the commercial uses that are needed for the Urban Village Residential concept to function. With the loss of commercial land there would also be a loss in job creation and amenities to the community, but an increase in housing.

The property owner has indicated that there has been minimal interest from commercial developers to develop this land. They noted a challenge for commercial developers is the subject site being located on the edge of the City limits in a part of town that is mostly undeveloped with low traffic counts. Due to these challenges, the property owner is requesting a land use change to low density residential for a single-family home subdivision to fulfill a high housing demand in Merced having vacancy rates under 1% over the past few years.

Surrounding Projects

The subject site (approximately 10.7 acres) was annexed into the City in 2003, as part of the Fahrens Creek North Annexation which incorporated approximately 152.19 acres into the City limits. This annexation followed the annexation of the Fahrens Creek II annexation, approved earlier in 2003. Both annexations were approved with a land use policy that would support the Urban Village concept with 10-acres of commercial surrounded by an inner village residential (minimum 10 dwelling units per acres) and subsequently surrounded by outer village residential with densities between 2 and 6 dwelling acres.

Surrounding the project site are some recently approved entitlements, many of which have not been constructed yet. To the east is the Sage Creek Apartment Complex (248 units on 13.5 acres), to the south is Sage Creek subdivision (103 single-family homes on 16 acres), and to the west is the Royal Woods Estates (113 single-family lots on 16 acres with 3.60 acres reserved for future multifamily). Building permits have not been submitted for any of the surrounding projects. A final map has been approved for the Sage Creek subdivision and grading work/construction is in progress. Approving this subdivision would connect the surrounding sites up to an arterial road in Cardella Road via extension of two collector roads (El Redondo Drive and Horizons Avenue), further developing the street network in the area - along with extending utilities such as sewer and water main lines to other parts of north Merced.

Findings/Considerations

Please refer to Exhibits B of the Draft Planning Commission Resolutions at Attachment A and Attachment B of Staff Report #23-289.

ATTACHMENTS

- A. Draft Planning Commission Resolution - General Plan Amendment/Fahrens Creek Specific Plan Amendment/Zone Change/Establishment of Residential Planned Development (RP-D) #78
- B. Draft Planning Commission Resolution - Tentative Subdivision Map
- C. Location Map
- D. Land Use Map
- E. VTSM #1326 Layout
- F. Table 20.08 - 1 Permitted Land Uses in the Residential Zoning Districts
- G. Land Use Table 20.08-2- Development Standards for Single-Family Residential Zoning Districts
- H. Section MMC 20.46.020 - Design Standards for Single-Family Dwelling and Mobile Home
- I. MMC 18.16.080 - Information Required (for Tentative Subdivision Maps)
- J. Urban Design (Portion of Chapter 6 from General Plan)
- K. Initial Study (Negative Declaration)
- L. Presentation

CITY OF MERCED
Planning Commission

Resolution #4109

WHEREAS, the Merced City Planning Commission at its regular meeting of April 5, 2023, held a public hearing and considered **General Plan Amendment #22-05, Fahrens Creek Specific Plan Amendment #5, Zone Change #432, and the Establishment of Residential Planned Development (RP-D) #78**, initiated by ISEA International, property owner, for an approximately 10.76 acre parcel generally located on the south side of Cardella Road, between El Redondo Drive and Horizons Avenue (1250 Cardella Road). The General Plan Amendment would change the General Plan land use designation from Office Commercial (CO)/Neighborhood Commercial (CN) to Low Density Residential (LD). The Fahrens Creek Specific Plan Amendment would change the land use designation for the Specific Plan from Office Commercial/Neighborhood Commercial to Low Density Residential. The Zone Change would change the Zoning designation from Planned Development (P-D) #50 to Residential Planned Development (RP-D) #78. These changes would allow the subdivision of the parcel into 53 single-family lots, ranging in size from 5,000 square feet to 6,718 square feet. The subject site is more particularly described as Parcel 1 as shown on the map entitled “Parcel Map for YCH” recorded in Volume 102, Page 16, in Merced County Records; also known as a portion of Assessor’s Parcel Number (APN) 206-030-017; and,

WHEREAS, the Merced City Planning Commission concurs with Findings/Considerations A through F of Staff Report #23-289 (Exhibit B of Planning Commission Resolution #4109); and,

NOW THEREFORE, after reviewing the City’s Initial Study and Draft Environmental Determination, and fully discussing all the issues, the Merced City Planning Commission does resolve to hereby recommend to City Council adoption of a Negative Declaration regarding Environmental Review #22-50, and recommend approval of General Plan Amendment #22-05, Fahrens Creek Specific Plan Amendment #5, Zone Change #432, and Establishment of Residential Planned (RP-D) #78, subject to the Conditions set forth in Exhibit A attached hereto and incorporated herein by this reference.

Upon motion by Commissioner _____, seconded by Commissioner _____, and carried by the following vote:

AYES: Commissioner(s)
NOES: Commissioner(s)
ABSENT: Commissioner(s)
ABSTAIN: Commissioner(s)

PLANNING COMMISSION RESOLUTION #4109

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April 5, 2023

Adopted this 5th day of April 2023

Chairperson, Planning Commission of
the City of Merced, California

ATTEST:

Secretary

Exhibits:

Exhibit A – Conditions of Approval

Exhibit B – Findings/Considerations

Conditions of Approval
Planning Commission Resolution # 4109
General Plan Amendment #22-05, Fahrens Creek Specific Plan Amendment
#5, Zone Change #431, Establishment of Residential Planned Development
(RP-D) #78

1. The proposed General Plan Amendment, Fahrens Creek Specific Plan Amendment and Zone Change shall be as shown on the Proposed Land Use Map at Attachment D of Planning Commission Staff Report #23-289.
2. Approval of the General Plan Amendment, Fahrens Creek Specific Plan Amendment, Zone Change, and Residential Planned Development Establishment is subject to the applicant(s) entering into a written (developer) agreement that they agree to all the conditions and shall pay all City and school district fees, taxes, and/or assessments, in effect on the date of any subsequent subdivision and/or permit approval, any increase in those fees, taxes, or assessments, and any new fees, taxes, or assessments, which are in effect at the time the building permits are issued, which may include public facilities impact fees, a regional traffic impact fee, Mello-Roos taxes—whether for infrastructure, services, or any other activity or project authorized by the Mello-Roos law, etc. Payment shall be made for each phase at the time of building permit issuance for such phase unless an Ordinance or other requirement of the City requires payment of such fees, taxes, and/or assessments at an earlier or subsequent time. Said agreement to be approved by the City Council prior to the adoption of the ordinance, resolution, or minute action.
3. The proposed project shall comply with all standard Municipal Code and Subdivision Map Act requirements as required by the City Engineering Department.
4. The Project shall comply with all applicable conditions set forth in the resolutions for Annexation No. 190 (Fahrens Creek North Annexation) previously approved for this site as well as all applicable conditions of the Fahrens Creek Specific Plan.
5. All other applicable codes, ordinances, policies, etc., adopted by the City of Merced shall apply.
6. Community Facilities District (CFD) annexation is required for annual operating costs for police and fire services as well as storm drainage, public

EXHIBIT A
OF PLANNING COMMISSION RESOLUTION #4109

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landscaping, street trees, street lights, parks and open space. CFD procedures shall be initiated before final map approval. Developer/Owner shall submit a request agreeing to such a procedure, waiving right to protest and post deposit as determined by the City Engineer to be sufficient to cover procedure costs and maintenance costs expected prior to first assessments being received.

7. The developer/applicant shall indemnify, protect, defend (with counsel selected by the City), and hold harmless the City, and any agency or instrumentality thereof, and any officers, officials, employees, or agents thereof, from any and all claims, actions, suits, proceedings, or judgments against the City, or any agency or instrumentality thereof, and any officers, officials, employees, or agents thereof to attack, set aside, void, or annul, an approval of the City, or any agency or instrumentality thereof, advisory agency, appeal board, or legislative body, including actions approved by the voters of the City, concerning the project and the approvals granted herein. Furthermore, developer/applicant shall indemnify, protect, defend, and hold harmless the City, or any agency or instrumentality thereof, against any and all claims, actions, suits, proceedings, or judgments against any governmental entity in which developer/applicant's project is subject to that other governmental entity's approval and a condition of such approval is that the City indemnify and defend (with counsel selected by the City) such governmental entity. City shall promptly notify the developer/applicant of any claim, action, suits, or proceeding. Developer/applicant shall be responsible to immediately prefund the litigation cost of the City including, but not limited to, City's attorney's fees and costs. If any claim, action, suits, or proceeding is filed challenging this approval, the developer/applicant shall be required to execute a separate and formal defense, indemnification, and deposit agreement that meets the approval of the City Attorney and to provide all required deposits to fully fund the City's defense immediately but in no event later than five (5) days from that date of a demand to do so from City. In addition, the developer/applicant shall be required to satisfy any monetary obligations imposed on City by any order or judgment.
8. The developer/applicant shall construct and operate the project in strict compliance with the approvals granted herein, City standards, laws, and ordinances, and in compliance with all State and Federal laws, regulations, and standards. In the event of a conflict between City laws and standards and a State or Federal law, regulation, or standard, the stricter or higher standard shall control.

9. Residential Planned Development #78 shall have the same development standards set forth for the R-1-5 Zoning District. Residential Planned Development #78 shall also comply with the design requirements set forth in Merced Municipal Code Section 20.46.020.

Findings and Considerations
Planning Commission Resolution #4109
General Plan Amendment #22-05, Fahrens Creek Specific Plan
Amendment #5, Zone Change #432, Establishment of Residential Planned
Development (RP-D) #78

FINDINGS/CONSIDERATIONS:

General Plan Compliance and Policies Related to This Application

- A) If the General Plan Amendment is approved, the proposed project would comply with the General Plan land use designation of Low Density Residential (LD) which allows 2 to 6 dwelling units per acre. The proposed 53 lot subdivision would provide a density of 4.93 units/acre. The project would also comply with the Zoning designation of Residential Planned Development (RP-D) #78 if the Zone Change and Establishment of RP-D #78 are approved.

The proposed project, with conditions of approval, will help achieve the following General Plan land use policies:

- Policy L-1.5: Protect existing neighborhoods from incompatible developments.
- Policy L-1.6: Continue to pursue quality single-family residential development.
- Policy L-1.8: Create livable and identifiable residential neighborhoods.
- Policy L-9: Ensure connectivity between existing and planned urban areas.

Urban Village Concept

The Urban Village Concept goes back to 1990 with the *Merced 2030 – How Should We Grow?* process. This process was a study that analyzed the various growth and expansion options available to the City. As a result of this study, it was determined that Merced's growth pattern for new development areas should be based on mixed-use, pedestrian friendly, and transit-friendly design principles, known as the Urban Village Concept. As a follow-up to this planning process, the City commissioned an urban design study for an 8,000-acre portion of Northern Merced which resulted in the publication of the North Merced Conceptual Land Use Plan and Merced Villages Design Guidelines

in late 1991. This established the basic “Urban Design” policy direction used in preparation of the *Merced Vision 2015 General Plan* and *Merced Vision 2030 General Plan*.

Approval of this proposal would prevent the creation of the Urban Village Residential Neighborhood that was originally intended for this area when it was annexed into the City in 2003. Urban Villages are intended to create a high-density neighborhood (through multi-family, town houses, small single-family lots, etc.) that surround a regional commercial center (minimum of 10 acres). The subject site was reserved to be the neighborhood commercial center for this area. The residential zone surrounding the commercial is called an Inner Village that allows a density between 10-36 dwelling units per acre. Surrounding the Inner Village is the Outer Village which has a reduced density between 4-12 dwelling units per acre.

The commercial land is the central part of the Urban Village Residential concept which is intended to be sustained by the surrounding high density uses where residents can easily walk to either work, commercial amenities (retail/restaurants), and entertainment opportunities (similar to Downtown Merced). This land use concept is intended to promote active walkable neighborhoods with accessible amenities that would not be car-dependent, resulting in less pollution and more environmentally friendly development. The approval of this land use change would eliminate the commercial that is needed for the Urban Village Residential concept to function. With the loss of commercial land there would also be a loss in job creation and amenities to the community, but a gain in housing inventory.

The General Plan addresses the Urban Village Residential Concept in various sections of the General Plan. Shown below are some goals and policies that would be impacted by approving this proposal.

- Policy L-2.6 – Provide Neighborhood Commercial Centers in Proportion to Residential Development in the City
- Policy L-2.7 – Locate and Design New Commercial Developments to Provide Good Access from Adjacent Neighborhoods and Reduce Congestion on Major Streets

In addition, the below sections from Chapter 3 – Land Use, discuss encouraging Urban Villages in new growth areas.

- Sections 3.6.1 – Mixed Uses, and 3.6.2 Merced Urban Villages – for promoting “pedestrian and transit-friendly areas (in) the

Urban Village, also known as Transit Ready Development. Urban Villages are compact, mixed-use districts that will accommodate projected growth, help maintain Merced's present quality of life, and help ensure its continued economic vitality."

- Promoting Section 6.4 Merced's Urban Villages (Transit Ready Development)

Mandatory Findings

B) Chapter 20.80 (Zoning Ordinance Amendments) and 20.82 (General Plan Amendments) outlines procedures for considering Zone Changes and General Plan Amendments, but does not require any specific findings to be made for approval. In addition, to amend specific plans, such as the Fahrens Creek Specific Plan, there are no specific findings that need to be made. However, Planning practice would be to provide objective reasons for approval or denial, but these can take whatever form deemed appropriate by the Planning Commission and City Council. Based on State law and case law, the following findings are recommended:

1. *The proposed amendment is deemed to be in the public interest.*

The proposed amendment is deemed to be in the public interest because it will provide needed housing.

2. *The proposed amendment is consistent and compatible with the rest of the General Plan and any implementation programs that may be affected.*

The proposed amendment is not consistent or compatible with the rest of the General Plan, but it does provided needed housing for the community.

3. *The potential impacts of the proposed amendment have been assessed and have been determined not to be detrimental to the public health, safety, or welfare.*

The proposed project does not include any uses that would be detrimental to the public health, safety, and welfare of the City. Implementation of the conditions of approval and adherence to all applicable Building Codes, Fire Codes, and City Standards would prevent the project from having any detrimental effect on the health, safety, and welfare of the City.

4. *The proposed amendment has been processed in accordance with the applicable provisions of the California Government Code and the California Environmental Quality Act (CEQA).*

Planning staff has conducted an environmental review (#22-50) of the project in accordance with the requirements of the California Environmental Quality Act (CEQA), and a Negative Declaration (see Attachment K of Planning Commission Staff Report #23-289) has been recommended.

Neighborhood Impact (Loss of Urban Village Neighborhood)

- C) As mentioned under Finding A, this area was originally reserved for an Urban Village Residential Neighborhood. Approval of this proposal would prevent the creation of the Urban Village Residential Neighborhood that was originally intended for this area when it was annexed into the City in 2003. Approval of the proposed General Plan Amendment, Specific Plan Amendment, Zone Change, and Establishment of Residential Planned Development (RP-D) #78 would change the character envisioned for this neighborhood by the General Plan and Fahrens Creek Specific Plan. Commercial uses would have to be located farther away from the neighborhood. However, the change would provide more needed housing and expand the existing residential uses in the area.

The property owner has indicated that there has been minimal interest from commercial developers to develop this land given the location of the subject site being on the edge of the City limits in a part of town that is mostly undeveloped with low traffic counts. Due to these challenges in attracting commercial development, the property owner is requesting a land use change to low density residential for a single-family home subdivision to fulfill a high housing demand in Merced with insufficient inventory and vacancy rates under 1%.

Public hearing notices were sent to all property owners within 300 feet of the project site. At the time that this report was prepared, the City had not received any comments regarding this project.

Affordability Requirements

- D) In April 2022, the City Council approved Resolution 2022-15 regarding the requirement for 12.5% affordable housing for new single-family residential subdivisions and multifamily residential projects. This requirement is triggered by two qualifiers that need to be met; entitlement type and number

of units created. For single-family residential developments, the affordability requirement is triggered by a legislative action agreement (through annexations, general plan amendments, site utilization plan revisions, or zone changes) for projects with over 60 homes. Subdivisions with less than 60 homes are not required to provide affordable units. The proposed 53-unit subdivision is exempt from having to provide affordable units, as even though the proposal does require a legislative action agreement it contains less than the 60 units needed to trigger the affordability requirement.

Finding for Residential Planned Developments

E) Per Merced Municipal Code Section 20.20.20 (J) Planned Development (P-D) Zoning Districts, approval of an application for Planned Development Establishment or Revision with accompanying Preliminary Site Utilization Plan only if the following findings can be made:

1. *The proposed development is consistent with the goals, policies, and actions of the General Plan and any applicable specific plan and community plan.*

The proposed development requires a General Plan Amendment so it is not consistent with the General Plan. However, as shown under Finding A, the proposal provides much needed housing for the community and meets some of the goals and policies regarding promoting residential developments.

2. *The site for the proposed development is adequate in size and shape to accommodate proposed land uses.*

The project site is approximately 10.76 acres, which exceeds the 1-acre minimum requirements for a Residential Planned Development as shown under Merced Municipal Code Section 20.20.020 (D.2) Planned Development (P-D) Zoning Districts.

3. *The site for the proposed development has adequate access considering the limitations of existing and planned streets and highways.*

The subject site would improve the street network in the areas by extending both El Redondo Drive and Horizons Avenue north connecting with Cardella Road. This would allow the surrounding neighborhoods to the south to have a more direct access to northern roads in Merced.

4. *Adequate public services exist or will be provided to serve the proposed development.*

City utilities such as water and sewer main lines are directly available to the south at El Redondo Drive and Horizons Avenue.

5. *The proposed development will not have a substantial adverse effect on surrounding property, will be compatible with the existing and planned land use character of the surrounding area, and will enhance the desirability of the area and have a beneficial effect.*

The surrounding parcels to the south, east, and west have been entitled for residential developments. The property to the south is a residential subdivision for single-family homes (Sage Creek) that is currently under construction. To the north, across Cardella Road, is County Jurisdiction with a General Plan Designation of Office Commercial. Given the other surrounding residential entitlements, the proposed low-density residential subdivision would be compatible with the surrounding area.

6. *The proposed development carries out the intent of the Planned Development zoning district by providing a more efficient use of the land and an excellence of site design greater than that which could be achieved through the application of established zoning standards.*

The proposed development provides efficient use of land by proposing a “U-Shaped” street network that does not include the use of cul-de-sacs, that normally result in terminated streets.

7. *Each individual unit of the proposed development, in each phase as well as the total development, can exist as an independent unit capable of creating a good environment in the locality and being in any stage as desirable and stable as the total development.*

The proposed subdivision (Lotus) does not include multiple phases, and is intended to be constructed in one phase. All off-site public improvements would be required to be bonded for at the final map stage, and installed prior to home constructions.

8. *Any deviation from the standard ordinance requirements is warranted by the design and additional amenities incorporated in the development plan, which offer certain unusual redeeming features to compensate for any deviations that may be permitted.*

The proposed subdivision does not include any deviations from the City's standard ordinance requirements as the proposal would be required to comply with the City's R-1-5 Standards.

9. *The principles incorporated in the proposed development plan indicate certain unique or unusual features, which could not otherwise be achieved under the other zoning district.*

The proposed development does not include any unique or unusual features, but it does provide much needed housing for the community and extends utilities north to an area with a lot of missing infrastructure (roads, sewer, water, etc.).

Environmental Clearance

- F) Infill projects over 5 acres or projects that don't comply with Zoning/General Plan designations require an Initial Study, per the California Environmental Quality Act (CEQA). In this case, the project site is not consistent with Zoning or the General Plan and is over 5 acres (at 10.7 acres) – thus an Initial Study was required. An Initial Study includes a wide range of analysis required by the State covering an array of subjects including, but not limited to, impacts on vehicle miles traveled, air quality, biological resource, public services, cultural resources, and City utilities. Planning staff has conducted an environmental review of the project in accordance with the requirements of CEQA, and concluded that Environmental Review #22-50 results in a Negative Declaration as the proposal would not have a significant effect on the environment and does not require the preparation of an Environmental Impact Report. A copy of the Initial Study with a Negative Declaration can be found at Attachment K of Planning Commission Staff Report #23-289.

CITY OF MERCED
Planning Commission

Resolution #4110

WHEREAS, the Merced City Planning Commission at its regular meeting of April 5, 2023, held a public hearing and considered **Vesting Tentative Subdivision Map #1326**, initiated by ISEA International, property owner. The proposed subdivisions would subdivide one parcel (approximately 10.76 acres) into 53 single-family lots, ranging in size between 5,000 square feet to 6,750 square feet. The approximate 10.76-acre subject site is generally located south of Cardella Road, between El Redondo Drive and Horizon Avenue. The subject site is more particularly described as Parcel 1 as shown on the map entitled “Parcel Map for YCH” recorded in Volume 102, Page 16, in Merced County Records; also known as a portion of Assessor’s Parcel Number (APN) 206-030-017; and,

WHEREAS, the Merced City Planning Commission concurs with Findings/Considerations A through M of Staff Report #23-289 (Exhibit B of Planning Commission Resolution #4110); and,

WHEREAS, the Merced City Planning Commission concurs with the Findings for Tentative Subdivision Map Requirements in Merced Municipal Code Section 18.16.80, 18.16.90, and 18.16.100 as outlined in Exhibit B; and,

NOW THEREFORE, after reviewing the City’s Initial Study and Draft Environmental Determination, and fully discussing all the issues, the Merced City Planning Commission does resolve to hereby adopt a Negative Declaration regarding Environmental Review #22-50, and approve Vesting Tentative Subdivision Map #1326, subject to the Conditions set forth in Exhibit A attached hereto and incorporated herein by this reference.

Upon motion by Commissioner_____, seconded by Commissioner _____, and carried by the following vote:

AYES: Commissioner(s)

NOES: Commissioner(s)

ABSENT: Commissioner(s)

ABSTAIN: Commissioner(s)

PLANNING COMMISSION RESOLUTION #4110

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April 5, 2023

Adopted this 5th day of April 2023

Chairperson, Planning Commission of
the City of Merced, California

ATTEST:

Secretary

Exhibits:

Exhibit A – Conditions of Approval

Exhibit B – Findings/Considerations

Conditions of Approval
Planning Commission Resolution # 4110
Vesting Tentative Subdivision Map #1326

1. The proposed project shall be constructed/designed as shown on Exhibit 1 (Proposed Vesting Tentative Map at Attachment E), and as modified by the conditions of approval within this resolution.
2. All conditions contained in *Resolution #1175-Amended ("Standard Tentative Subdivision Map Conditions")* shall apply.
3. The proposed project shall comply with all standard Municipal Code and Subdivision Map Act requirements as applied by the City Engineering Department.
4. The Project shall comply with all applicable conditions set forth in the resolutions for Annexation No. 190 (Fahrens Creek North Annexation) previously approved for this site as well as all applicable conditions of the Fahrens Creek Specific Plan.
5. All other applicable codes, ordinances, policies, etc., adopted by the City of Merced shall apply.
6. Community Facilities District (CFD) annexation is required for annual operating costs for police and fire services as well as storm drainage, public landscaping, street trees, street lights, parks and open space. CFD procedures shall be initiated before final map approval. Developer/Owner shall submit a request agreeing to such a procedure, waiving right to protest and post deposit as determined by the City Engineer to be sufficient to cover procedure costs and maintenance costs expected prior to first assessments being received.
7. The developer/applicant shall indemnify, protect, defend (with counsel selected by the City), and hold harmless the City, and any agency or instrumentality thereof, and any officers, officials, employees, or agents thereof, from any and all claims, actions, suits, proceedings, or judgments against the City, or any agency or instrumentality thereof, and any officers, officials, employees, or agents thereof to attack, set aside, void, or annul, an approval of the City, or any agency or instrumentality thereof, advisory agency, appeal board, or legislative body, including actions approved by the voters of the City, concerning the project and the approvals granted herein. Furthermore, developer/applicant shall indemnify, protect, defend, and hold

harmless the City, or any agency or instrumentality thereof, against any and all claims, actions, suits, proceedings, or judgments against any governmental entity in which developer/applicant's project is subject to that other governmental entity's approval and a condition of such approval is that the City indemnify and defend (with counsel selected by the City) such governmental entity. City shall promptly notify the developer/applicant of any claim, action, suits, or proceeding. Developer/applicant shall be responsible to immediately prefund the litigation cost of the City including, but not limited to, City's attorney's fees and costs. If any claim, action, suits, or proceeding is filed challenging this approval, the developer/applicant shall be required to execute a separate and formal defense, indemnification, and deposit agreement that meets the approval of the City Attorney and to provide all required deposits to fully fund the City's defense immediately but in no event later than five (5) days from that date of a demand to do so from City. In addition, the developer/applicant shall be required to satisfy any monetary obligations imposed on City by any order or judgment.

8. The developer/applicant shall construct and operate the project in strict compliance with the approvals granted herein, City standards, laws, and ordinances, and in compliance with all State and Federal laws, regulations, and standards. In the event of a conflict between City laws and standards and a State or Federal law, regulation, or standard, the stricter or higher standard shall control.
9. The project shall comply with all requirements of the California Building Code and all flood requirements of the Federal Emergency Management Agency (FEMA), as well as the requirements for the California Urban Level of Flood Protection (CA 200-year flood).
10. All public improvements shall be provided as required by the City Engineer along new Streets A, B, and C, and the widening of Cardella Road and Gaucho Drive, and the extensions of El Redondo Drive and Horizons Avenue within the proposed subdivision. All improvements shall meet City Standards.
11. All landscaping within the public right-of-way shall comply with state and local requirements for water conservation. All irrigation provided to street trees or other landscaping shall be provided with a drip irrigation or micro-spray system and shall comply with the City's Water Efficient Landscape Ordinance (MMC Section 20.36.030). Landscape plans for all public landscaping shall be provided with the Improvement Plans.

12. Prior to final inspection of any home, all front yards and side yards exposed to public view shall be provided with landscaping to include, ground cover, trees, shrubs, and irrigation in accordance with Merced Municipal Code Section 20.36.050. Irrigation for all on-site landscaping shall be provided by a drip system or micro-spray system in accordance with the State's Emergency Regulation for Statewide Urban Water Conservation or any other state or City mandated water regulations dealing with the current drought conditions. All landscaping shall comply with the City's Water Efficient Landscape Ordinance (MMC Section 20.36.030).
13. A 7-foot-tall concrete block wall shall be installed along Horizons Avenue, El Redondo Drive, and Cardella Road. The wall shall be treated to allow easy removal of graffiti or the developer shall plant fast-growing vines to cover the wall to deter graffiti. Developer shall submit landscape/irrigation/wall plans for approval by City Engineer. All walls shall be solid masonry. Fast-growing vines or other plants shall be planted on or near the wall to deter graffiti and/or a graffiti resistant coating applied to the wall. Details to be worked out with staff.
14. Landscaping shall be provided between the block wall and the sidewalk along Horizons Avenue, El Redondo Drive, and Cardella Road. This strip of land shall be dedicated to the City and maintained through the Community Facilities District during the Final Map stage, as required by the City Engineer.
15. Developer shall provide construction plans and calculations for all landscaping and public maintenance improvements. All such plans shall conform to City standards and meet approval of the City Engineer.
16. Traffic control signs, street markings, and striping shall be as directed by the City Engineer.
17. The applicant shall dedicate interior street rights-of-way and all necessary easements as needed for irrigation, utilities, drainage, landscaping, and open space during the Final Map stage as required by the City Engineer.
18. Fire hydrants shall be installed along the street frontage to provide fire protection to the area. The hydrants shall meet all City of Merced standards and shall comply with all requirements of the City of Merced Fire Department. Final location of the fire hydrants shall be determined by the Fire Department.
19. All undeveloped areas shall be maintained free of weeds and debris.
20. Street names shall be approved by the City Engineer.

21. Compliance with the “corner visual triangle” provisions of MMC 20.30.030 is required for corner lots, and may result in the applicant constructing smaller homes on these lots or increasing the front yard setbacks.
22. Valley Gutters may be installed in this subdivision per City standards.
23. Rolled curbing may be installed in this subdivision consistent with City Standard Design ST-1, if approved by the City Engineer.
24. At the building permit stage, the site plans for each lot shall include a minimum 3-foot by 6-foot concrete pad located in the side yard or backyard for the storage of 3 refuse containers. A paved access to the street from this pad shall be provided.
25. Full public improvements shall be installed/repared if the permit value of the project exceeds \$100,000.00. Public improvements may include, but not be limited to, repairing/replacing the sidewalk, curb, gutter, and street corner ramp(s), so that they comply with ADA standards and other relevant City of Merced/State/Federal standards and regulations.
26. The project shall comply with all the Post Construction Standards required to comply with State requirements for the City’s Phase II MS-4 Permit (Municipal Separate Storm Sewer System).
27. Sewer manholes shall be installed as determined necessary by the City Engineer.
28. To utilize a basin, the developer shall provide all required calculations to the Engineering Department.
29. The developer shall use proper dust control procedures during site development in accordance with San Joaquin Valley Air Pollution Control District rules.
30. The main water line for the subdivision shall include a loop system designed as required by the Public Works Department, unless otherwise approved by the City Engineer.
31. Minor modifications to the tentative subdivision map may be reviewed and approved through a Site Plan Review Permit, or be referred back to the Planning Commission if deemed necessary by the Director of Development Services.
32. This resolution for a Tentative Subdivision Map (TSM #1326) does not become effective until the General Plan Amendment, Specific Plan Amendment, Zone Change, and Establishment of Residential Planned

Development #78 for this site (GPA #22-05, Fahrens Creek Specific Plan Amendment #5, ZC #432, and RP-D #78) are approved by the City Council.

33. The developer shall design the public right-of-way along Cardella Road so that it totals 158 feet of right-of-way (with 79 feet of right-of-way dedicated along property frontage), or as required by the City Engineer.
34. The developer shall install a 16 inch ductile iron pipe for water services along Cardella Road, or as required by the City Engineer.
35. The developer shall design public right-of-way along El Redondo Drive and Horizons Avenue so that it totals 94 feet of right-of-way, or as required by the City Engineer.
36. The street corner ramps along the northern side of Gaucho Drive, between El Redondo Drive and Horizons Avenue, shall be designed to match the street corner ramps along the southern side of El Redondo Drive recently designed by the developer of the subdivision to the south. Details to be worked out with the Engineering Department.
37. The developer shall reach-out to the Merced Irrigation District to determine if a storm drainage agreement is required for storm drainage discharge to MID facilities.
38. If there is a private irrigation line from the MID through the site, the applicant shall re-route or replace the line so that it may continue to serve nearby properties. The applicant shall work with MID to determine the need, size, and location of these lines.
39. The proposal is subject to the development standards for the City's Low Density Residential (R-1-5) Zone, and the Design Standards set forth under Merced Municipal Code Section 20.46.020.

**Findings and Considerations
Planning Commission Resolution #4110
Vesting Tentative Subdivision Map #1326**

FINDINGS/CONSIDERATIONS:

General Plan Compliance and Policies Related to This Application

- A) If the General Plan Amendment is approved, the proposed project would comply with the General Plan land use designation of Low Density Residential (LD) which allows 2 to 6 dwelling units per acre. The proposed 53 lot subdivision would provide a density of 4.93 units/acre. The project would also comply with the Zoning designation of Residential Planned Development (RP-D) #78 if the Zone Change and Establishment of RP-D #78 are approved.

The proposed Tentative Subdivision Map, with conditions of approval, will help achieve the following General Plan land use policies:

- Policy L-1.5: Protect existing neighborhoods from incompatible developments.
- Policy L-1.6: Continue to pursue quality single-family residential development.
- Policy L-1.8: Create livable and identifiable residential neighborhoods.
- Policy L-9: Ensure connectivity between existing and planned urban areas.

Traffic/Circulation

- B) It is anticipated that the proposal would generate approximately 507.21 Average Daily Trips (ADT) based on an average daily rate of 9.57 trips per dwelling unit. The subject site would be accessed via two collector streets, El Redondo Drive and Horizons Avenue (Attachments C and D of Planning Commission Staff Report #23-289). This would connect the subject site and surrounding properties to roads further north such as Cardella Road. This street connectivity would no longer require neighboring residents to drive 0.75 miles south to Yosemite Avenue to then drive back up north 1 mile to access Cardella Road or other northern roads. The traffic generated by this subdivision should not exceed the current and projected capacity for the surrounding street system as the subject site was designed to accommodate

higher traffic counts for a 10-acre commercial/professional center with the existing General Plan designations of Neighborhood Commercial and Office Commercial.

Public improvements would need to be installed and frontage streets. As shown on Attachment D of Planning Commission Staff Report #23-289, this proposal includes the creation of Streets A, B, and C, the widening of Gaucho Drive and Cardella Road, and the extensions of El Redondo Drive and Horizons Avenue.

The right-of-way width of Cardella Road would be 158 feet. El Redondo and Horizons Avenue's right-of-way widths would be 94 feet. The new street's (Street "A" and Street "B") right-of-way widths would be 49 feet. The right-of-way includes streets, curb, gutter, sidewalk, and in some cases concrete masonry unit (CMU) block walls and park strips. All streets would need to be designed to City Engineering Design Standards (Conditions #33 and #35 of Planning Commission Staff Report #23-289). The applicant is proposing that Gaucho Drive, Street "A", Street "B", and Street "C" have rolled curbs and gutters (Condition #23 of Planning Commission Staff Report #23-289).

Site Design

- C) The proposed subdivision with 53 residential lots is considered relatively smaller than those currently on the City's active Tentative Subdivision Map Activity List, which has 17 active maps with 9 maps over 100 units, three of those maps containing over 249 single family units. The proposed layout for the subdivision does not include any cul-de-sacs, it consists of three streets with two being approximately 200 feet long, and one being approximately 500 long. These new streets are connected to create a wide u-shape street network that loops back to Gaucho Drive. The subdivision does not include the construction of any parks or basins. The subject site was designed to be served by the existing storm basin at the southeast corner of Horizons Avenue and Monaco Drive (or other site approved by Engineering). The nearest park is Rudolph Joseph Merino Park located approximately ½ mile south. As mentioned under the Traffic/Circulation Finding, the proposed road extension would serve as a significant road connection that would link the existing subdivision and future subdivisions to the south, east, and west out to Cardella Road providing more direct access to northern parts of Merced and eventually a more direct path to UC Merced when Cardella Road connects to G Street.

Elevations

- D) At this time, the applicant does not have any proposed elevations. This proposal will be within a Residential Planned Development, but the applicant does not have a particular design style or features proposed for this subdivision. During the building permit stage, staff would review the elevations to confirm that they meet the Zoning Ordinance's minimum design standards for single-family homes as shown under Merced Municipal Code 20.46 – Residential Design Standards (Attachment G of Planning Commission Staff Report #23-289). Staff would review plans to confirm compliance with Fire Department standards, and ensure that the architecture is of high quality that provides a variety of colors, textures, materials, and building forms.

Public Improvements/City Services

- E) The developer would be required to install all streets, utilities, and other improvements within the subdivision. City water and sewer lines would be extended from the south (along El Redondo Drive and Horizons Avenue) to serve this subdivision. Each lot would be required to pay connection fees for sewer and water connections at the building permit stage. Each parcel would be required to meet the City's storm drainage and run-off requirements for the City's MS-IV permit.

In response to significant growth in Merced without a corresponding increase in the General Fund and other revenues, the City Council adopted public facilities impact fees in 1998, and also established a requirement for Community Facilities Districts (Condition #6 of Planning Commission Staff Report #23-289) to help fund roadway, police, fire, and park infrastructure to help fund operating costs for police and fire services. In addition, this district would cover cost related to streetlights, storm drain, and maintenance of landscaping.

Public Facilities Impact Fee Program

- F) The developer is responsible for paying public facility impact fees for each home, and are typically paid at the time that the building permit is issued by the Building Department. These fees are used to pay for their fair share towards capital facilities and infrastructure generated by new development such as arterial streets, traffic signals, bridges, police/fire stations, bikeways, etc. The City Council adopted new impact fees in early 2022, and this included fee updates to commercial, industrial, and residential projects. The current

impact fee per single family homes in this area is \$12,326.00. These fees are updated annually at the start of the calendar year, in accordance with the Engineering Construction Cost Index as published by Engineering News Record.

Schools

- G) The Project site falls within the jurisdiction of the Merced City School District (elementary schools and middle schools) and the Merced Union High School District (MUHSD). Students from the subdivision would attend elementary schools, middle schools, and the high school surrounding the area. School fees per State law requirements are considered to be full mitigation for the impacts on schools from new development.

Landscaping

- H) Each lot within the subdivision shall be provided with front yard landscaping in compliance with Zoning Ordinance Section 20.36 – Landscaping. Section 20.36.050 requires all exterior setback areas, excluding areas required for access to the property to be landscaped.

The landscape area along the street side of concrete masonry unit wall shall be maintained through the Communities Facilities District (CFD).

Parking

- I) The applicant does not have any site plans showing the proposed parking for each single-family residential lot. However, the development would be required to comply with the standard parking requirements for single-family homes. Per Merced Municipal Code Section 20.38 – Parking and Loading, the parking requirements for a single-family home is 1 parking stall, indifferent of the number of bedrooms or bathrooms in the home. The applicant has noted that they expect to exceed the parking requirement with 2-car garages for each home. During the building permit stage, Planning staff would review each site plan to ensure that each residential lot contains at least 1 parking stall. Each lot would also need to provide a 20-foot-long driveway for vehicle backing space.

Neighborhood Impact

- J) The subject site is surrounded by mostly undeveloped land and located on the edge of the City limits within the Northwest quadrant of the City, south of Cardella Road between El Redondo Drive and Horizons Avenue. Approval of this proposal would prevent the creations of the Urban Village Residential Neighborhood that was originally intended for this area when it was annexed into the City in 2003. Urban Villages are intended to create a high-density neighborhood (through multi-family, town houses, small single-family lots, etc.) that surround a regional commercial center (minimum of 10 acres). The subject site was reserved to be the regional commercial center for this area. The residential surrounding the commercial is called an Inner Village that allows a density between 10-36 dwelling units per acres. Surrounding the Inner Village is the Outer Village which has a reduced density between 4-12 dwelling units per acre. The commercial land is the central part of the Urban Village Residential concept which is intended to be sustained by the surrounding high density uses where residents can easily walk to either work, commercial amenities (retail/restaurants), and entertainment opportunities located (similar to Downtown Merced). This land use concept is intended to promote active walkable neighborhoods with accessible amenities that would not be car-dependent, resulting in less pollution and more environmentally friendly development. The approval of this land use change would eliminate the commercial that is needed for the Urban Village Residential concept to function. With the loss of commercial land there would also be a loss in job creation and amenities to the community, but additional housing would be generated.

Surrounding the project site are some recently approved developments, which have not been constructed yet. To the east is the Sage Creek Apartments (248 units on 13.5 acres), to the south is the Sage Creek subdivision (103 single-family homes on 16 acres), and to the west is the Royal Woods Estates Development (113 single-family lots on 16 acres with 3.60 acres reserved for future multifamily). Building permits have not been submitted for any of the surrounding projects. A final map has been recorded for the Sage Creek subdivision and grading/construction work is in progress. Approving this subdivision would connect the surrounding sites up to an arterial road at Cardella Road via the extension of two collector roads at El Redondo Drive and Horizons Avenue. This would further develop the street network in the area – along with extending utilities such as sewer and water main lines. Approving this proposal would not result in incompatible development, as it

would be residential surrounded by a variety of residential zones, but it would eliminate this area from completing the Urban Village concept originally envisioned for this area when it was annexed into the City, and the neighborhood would not benefit from the walkability that was first planned for this area while losing job opportunities and amenities typically associated with commercial developments.

Public hearing notices were sent to all property owners within 300 feet of the project site. At the time that this report was prepared, the City had not received any comments regarding this project.

Tentative Subdivision Map Requirements

- K) Per Merced Municipal Code (MMC) Section 18.16.080 – Information Required, a tentative subdivision map shall include all of the requirements shown at Attachment I of Planning Commission Staff Report #23-289. Said requirements include stating the location of the subject site, the name of the subdivision, and showing the layout of the proposed lots. MMC 18.16.090 – Required Statement, requires the applicant to provide a statement that explicitly states any deviations from tentative subdivision map requirements, standard drawings, or Zoning laws. In this case, the applicant is not requesting any deviations from City requirements. MMC 18.16.100 - Public Hearing – Generally, requires a public hearing to review and approve a tentative subdivision map in conformance with the Subdivision Map Act.

Per the California Environmental Quality Act, a public hearing notice was mailed to property owners within 300 feet of the subject site and published in a qualifying newspaper, Merced County Times, three weeks prior to this meeting. In addition, staff reached out to local utility companies, local school districts, and other relevant government agencies to solicit comments. At the time this staff report was prepared, staff did not receive any comments regarding this application.

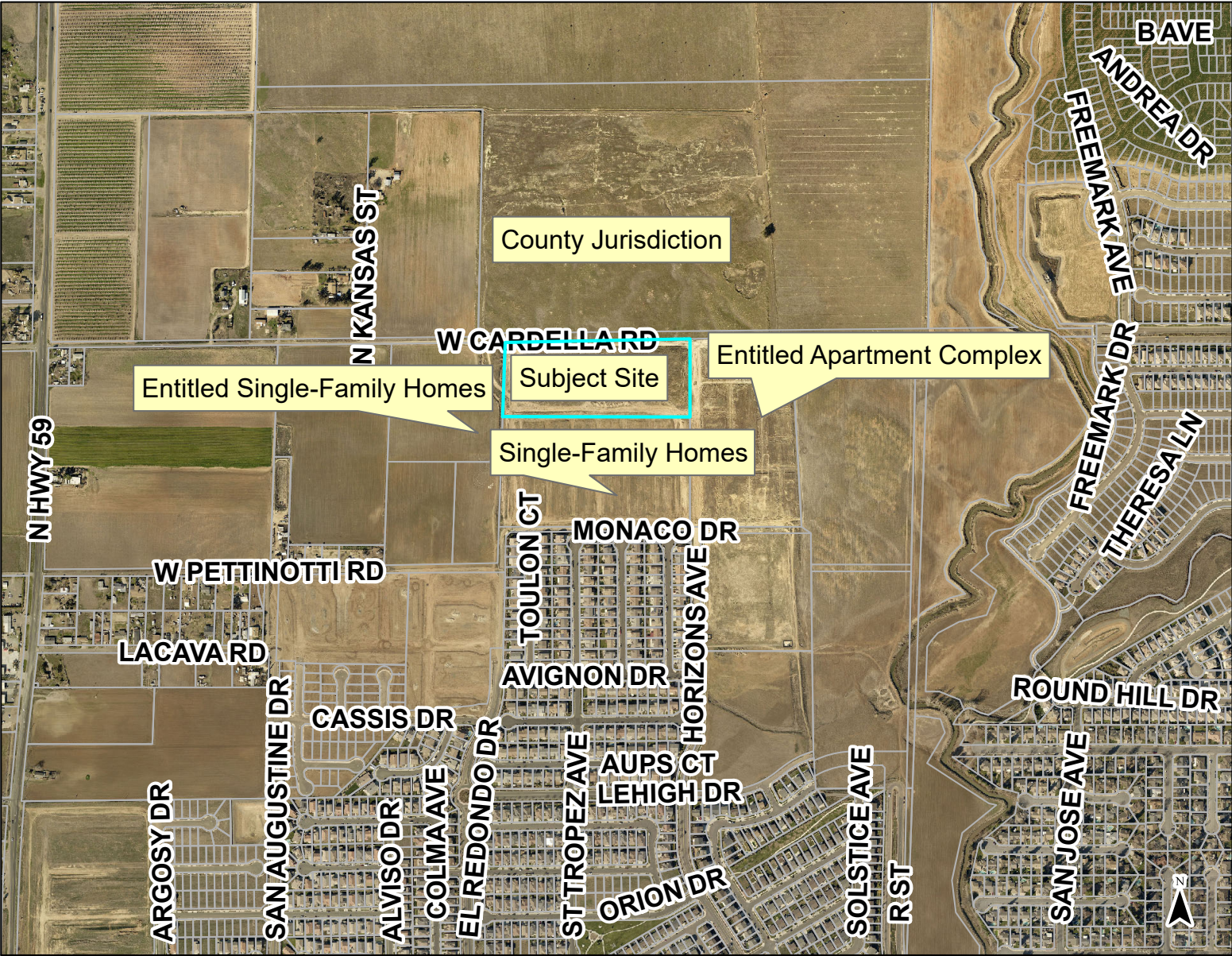
Affordability Requirements

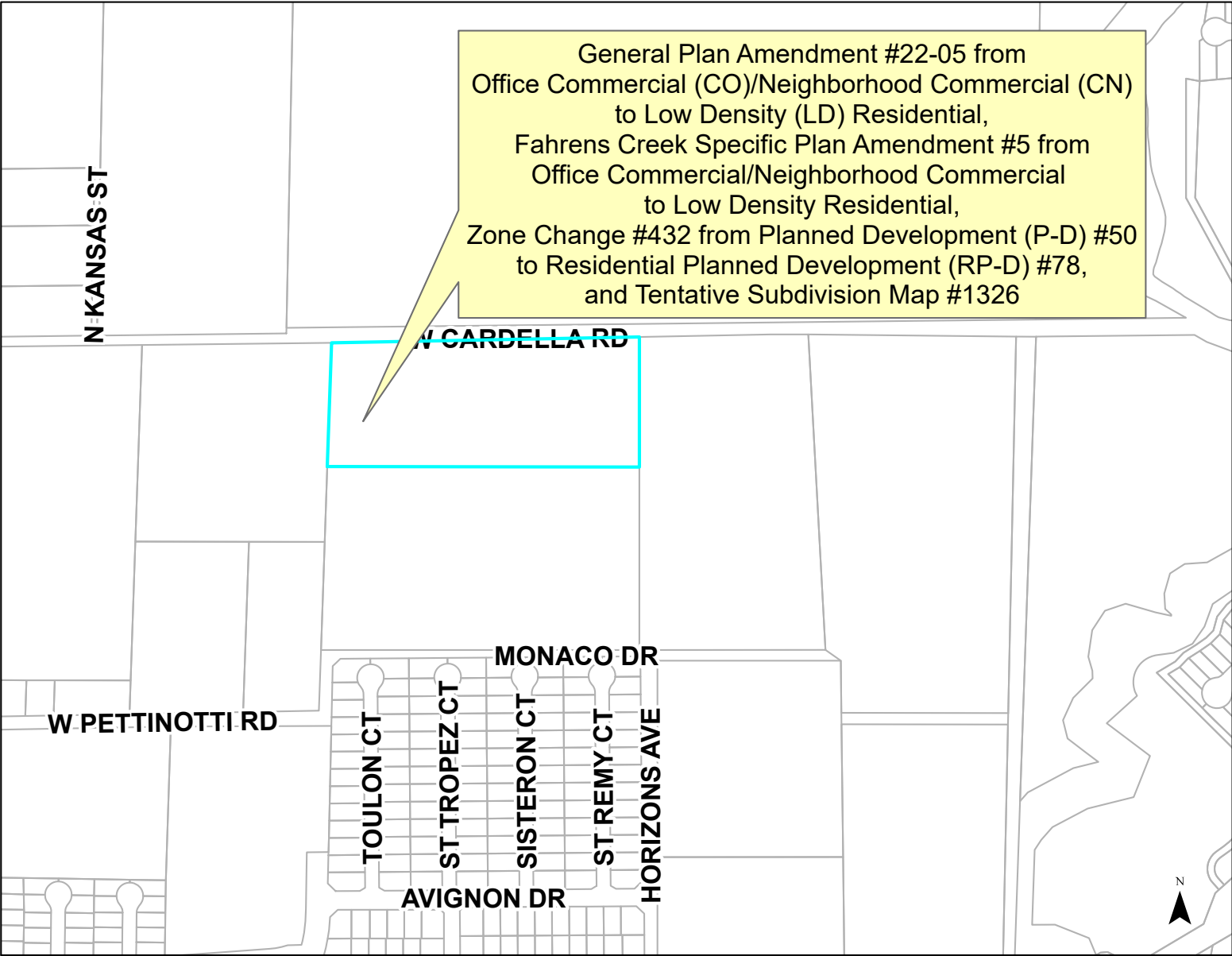
- L) In April 2022, the City Council approved Resolution #2022-15 regarding the requirement for 12.5% affordable housing for new single-family residential subdivisions and multifamily residential projects under specific circumstances. This requirement is triggered by two qualifiers that need to be met; entitlement type and number of units created. For single-family residential developments, the affordability requirement is triggered by legislative action agreements that are required for Zone Changes (or site

utilization plan revisions, general plan amendments, or annexations) for projects over 60 single-family residential homes. Projects under 60 single-family residential homes are not required to provide affordable units, even with a legislative action agreement. The proposed 53-unit subdivision is exempt from having to provide affordable units, as even though the proposal requires a legislative action agreement (via Zone Change and General Plan Amendment) it contains less than the 60 units required to trigger the affordability requirement.

Environmental Clearance

- M) Infill projects over 5 acres or projects that don't comply with Zoning/General Plan designations require an Initial Study, per the California Environmental Quality Act (CEQA). In this case, the project site is not consistent with Zoning or the General Plan and is over 5 acres (at 10.7 acres) – thus an Initial Study was required. An Initial Study includes a wide range of analysis required by the State covering an array of subjects including, but not limited to, impacts on vehicle miles traveled, air quality, biological resource, public services, cultural resources, and City utilities. Planning staff has conducted an environmental review of the project in accordance with the requirements of CEQA, and concluded that Environmental Review #22-50 results in a Negative Declaration as the proposal would not have a significant effect on the environment and does not require the preparation of an Environmental Impact Report. A copy of the Initial Study with a Negative Declaration can be found at Attachment K of Planning Commission Staff Report #23-289.





TENTATIVE MAP NOTES:

INFORMATION REQUIRED PER MERCED MUNICIPAL
CODE SECTION 18.16.080

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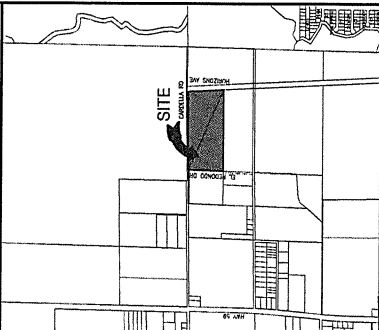
LEGEND:

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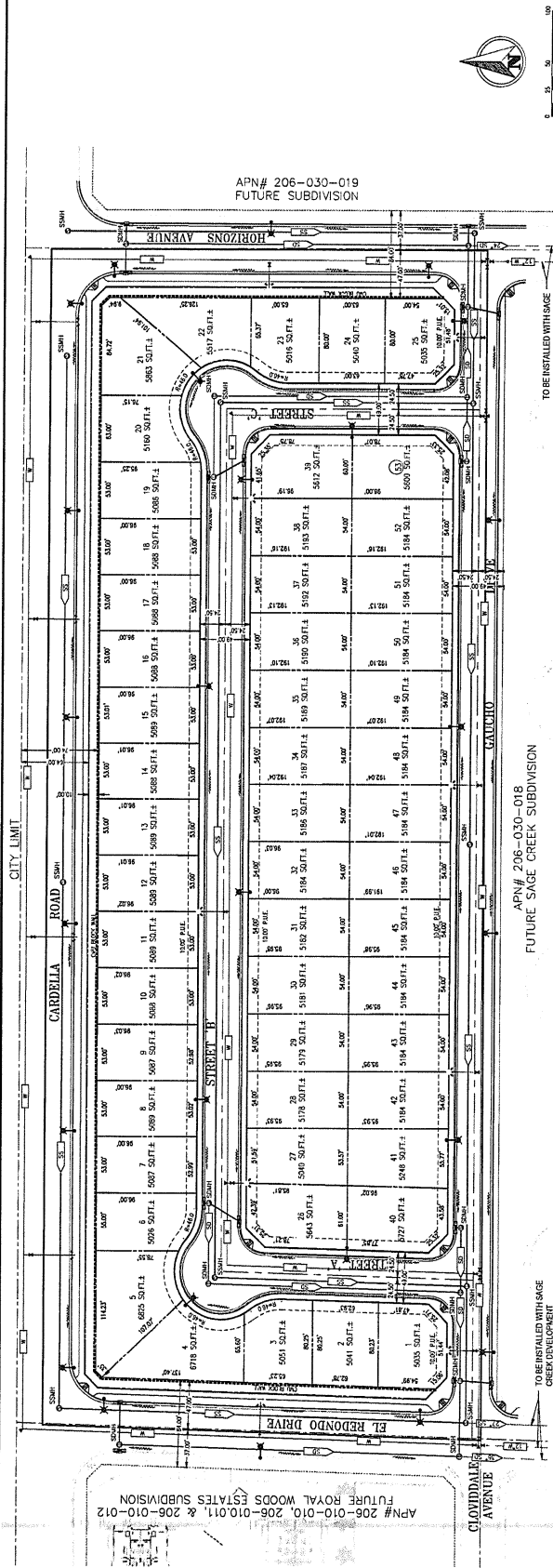
LEGAL DESCRIPTION	

LOT 3, AS SHOWN ON THE MAP ENTITLED, MAP OF BARNELL'S MERCED TRACT, FILED NOVEMBER 14, 1913 IN THE OFFICE OF THE COUNTY RECORDER OF MERCED COUNTY, VOLUME 6 OF OFFICIAL PLATS, PAGE 14.

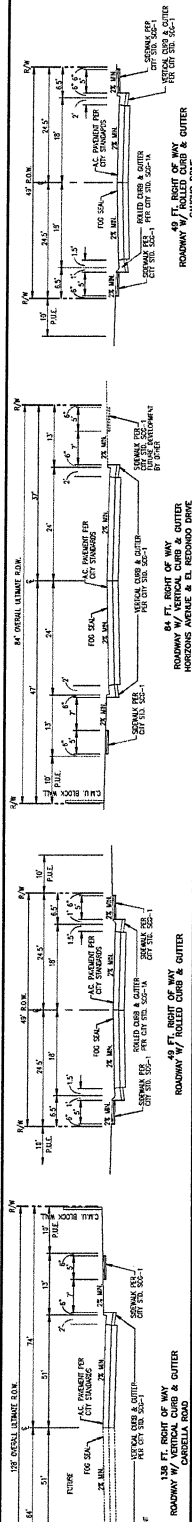
LOCATION MAP:



1 NOTES, LEGEND, LEGAL DESCRIPTION & VICINITY MAP



2. VESTING TENTATIVE SUBDIVISION MAP



3. STREET SECTIONS

20.08.020 Land Use Regulations for Residential Zoning Districts

A. Permitted Land Uses. Table 20.08-1 identifies land uses permitted in residential zoning districts.

TABLE 20.08-1 PERMITTED LAND USES IN THE RESIDENTIAL ZONING DISTRICTS

Key	Zoning District ^[1]						Additional Regulations
	R-R	R-1	R-2	R-3	R-4	R-MH	
P Permitted Use							
M Minor Use Permit Required							
SP Site Plan Review Permit Required							
C Conditional Use Permit Required							
X Use Not Allowed							
RESIDENTIAL USES							
Accessory Dwelling Units	P	P	P	P	P	X	Chapter 20.42
Duplex Homes	X	P	P	P	P	X	
Fraternities and Sororities	X	C	C	C	C	X	Sec. 20.44.060
Group/Transitional/Supportive Housing	P [3]	P [3]	P [3]	P [3]	P [3]	P [3]	
Mobile Home Parks	C	X	X	X	X	SP	
Multiple-Family Dwellings	X	X	C [4]	P	P	X	
Residential Care Facilities, Small (1-6 persons)	P	P	P	P	P	P	
Residential Care Facilities, Large (More than 6)	C	C	C	C	C	X	
Single-Family Dwellings	P	P	P	P	P	M	Sec. 20.46.020
Single-Room Occupancy	X	X	X	SP	SP	X	Sec. 20.44.120
COMMUNITY USES							
Colleges and Trade Schools	C	C	C	C	C	X	
Community Assembly	C	C	C	C	C	C	
Community Gardens	C	C	C	C	C	C	Sec. 20.44.050
Cultural Institutions	X	C	C	C	C	X	
Day Care Centers	X	X	X	M	M	M	
Day Care, Adult (1-12 persons)	X	X	C[5]	C[5]	C[5]	X	
Day Care Home Facilities, Small (1-8 children)	P	P	P	P	P	P	
Day Care Home Facilities, Large (9-14 children)	P	P	P	P	P	P	
Foster Family Homes, Small (6 persons or fewer)	P	P	P	P	P	P	
Foster Family Homes, Large (7+ persons)	C	X	X	C	C	X	
Golf Courses	C	C	X	X	X	X	
Nursing and Convalescent Homes	C	X	X	C	C	X	
Parks and Recreational Facilities	C	C	C	C	C	C	
Public Safety Facilities	C	C	C	C	C	C	
Schools, Public or Private	C	C	C	C	C	X	

Key	Zoning District ^[1]						Additional Regulations
P Permitted Use							
M Minor Use Permit Required							
SP Site Plan Review Permit Required							
C Conditional Use Permit Required							
X Use Not Allowed							
	R-R	R-1	R-2	R-3	R-4	R-MH	
COMMERCIAL USES							
Bed and Breakfast	C	C	C	C	C	C	Sec. 20.44.030
Commercial Recreation, Indoor	X	X	X	X	X	M [6]	
Commercial Recreation, Outdoor	C	X	X	X	X	M [6]	
Home Occupation, Major	SP[9]	SP [9]	SP [9]	SP [9]	SP [9]	SP[9]	Chapter 20.48
Home Occupation, Minor	P[9]	P[9]	P[9]	P[9]	P[9]	P[9]	Chapter 20.48
Mobile Home Sales	X	X	X	X	X	M	
Personal Services	X	X	X	SP[6]	SP[6]	SP[6]	
Retail, General (Limited)	M[7]	X	X	M [8]	M [8]	M [6]	
Temporary Subdivision Sales Offices (Max. 2 Years)	P	P	P	P	P	P	
AGRICULTURE AND NATURAL RESOURCES USES							
Animal Raising and Production	SP[10]	C [10]	C [10]	C [10]	X	X	Chapter 6.04
Crop Cultivation	SP[10]	C [10]	C [10]	C [10]	C [10]	C [10]	
TRANSPORTATION, COMMUNICATIONS, AND UTILITIES USES							
Utilities, Major	C	C	C	C	C	X	
Utilities, Minor	P	P	P	P	P	X	
Wireless Communications Facilities	See Chapter 20.58						

Notes:

[1] A Site Plan Review Permit may be required per Chapter 20.32 (Interface Regulations) regardless of the uses shown in Table 20.08-1.

[2] DELETED

[3] Only permitted for rooming and boarding houses as an accessory use. The maximum persons allowed are: R-1, R-R, & R-MH (1 person); R-2 (2 persons); and R-3 and R-4 (no limit).

[4] Permitted only on lots 15,000 sq. ft. or greater with five or more units and at least 3,000 sq. ft. per unit.

[5] For day care home facilities for adults, a Conditional Use Permit would allow up to 12 adults in care.

[6] Permitted only as an ancillary use to serve residents, not to exceed more than 2,500 sq. ft.

[7] Permitted only for onsite retail for agricultural products.

[8] Permitted only when ancillary to a multi-family use and intended to serve residents only. No exterior display or advertising is permitted. Retail use must be located within the same building as residences.

[9] A Minor Use Permit is required for a cottage food industry home occupation.

[10] Agricultural uses are temporary, transitional uses in the City and should not remain on a permanent basis. The appropriate length of time for the use will be defined in the Conditional Use Permit based on the types of crops, surrounding uses, etc. Hog-raising and onsite sale of products, including wholesale, are prohibited. See Chapter 6.04 (Animal Control) for additional regulations.

**TABLE 20.08-2 DEVELOPMENT STANDARDS FOR SINGLE-FAMILY RESIDENTIAL
ZONING DISTRICTS**

	Figure Label	Zoning District				
		R-R	R-1-20	R-1-10	R-1-6	R-1-5
Lot and Density Standards (Minimums)						
Lot Area		1 acre [4]	20,000 sq. ft.	10,000 sq. ft.	6,000 sq. ft.	5,000 sq. ft.
Lot Width [2]						
Interior Lots		125 ft.	85 ft.	70 ft.	60 ft.	50 ft.
Corner Lots		125 ft.	85 ft.	70 ft.	65 ft.	55 ft.
Lot Depth [3]		None	125 ft.	100 ft.	100 ft.	80 ft.
Lot Area per Dwelling Unit		1 acre [4]	20,000 sq. ft.	10,000 sq. ft.	6,000 sq. ft.	5,000 sq. ft.
Primary Structure Standards						
Setbacks (min.)						
Exterior Yards, Front	A	30 ft.	30 ft.	20 ft.	20 ft.	15 ft. [1]
Exterior Yards, Side (Corner Lots only) [5]	B	15 ft.	15 ft.	10 ft.	10 ft.	10 ft.
Exterior Yards, Cul-De-Sacs		30 ft.	30 ft. [1]	15 ft. [1]	15 ft.[1]	15 ft.[1]
One Interior Yard	C D	15 ft.	15 ft.	10 ft.	10 ft.	10 ft.
All Other Interior Yards	C D	25 ft.	10 ft.	7 ft.	5 ft.	5 ft.
Height (max.)	E					
Feet		35 ft.	35 ft.	35 ft.	35 ft.	35 ft.
Other Standards						
Accessory Structure Standards		See Chapter 20.28				
Driveway Length (min.)[6]		20 ft.	20 ft.	20 ft.	20 ft.	20 ft.
Lot Coverage (max.)		25%	30%	40%	45%	50%
Off-Street Parking		See Chapter 20.38				
Projections Into Required Yards		See Chapter 20.26				
Separation Between Structures (min.)		As required by the California Building Code				

Notes:

[1] 20-foot minimum for garages.

[2] Lots located on curved streets, turnarounds, or cul-de-sac bulbs shall meet the minimum lot width requirement at the established front setback line.

[3] Cul-de-sac lots located on the cul-de-sac bulbs shall meet the minimum lot depth requirement measured at the mean horizontal distance between the front and rear lot lines, but at no point shall be less than 80 feet in depth.

[4] May be reduced to 1/3 acre if City sewer and water serves the property.

[5] On corner lots, if the yard abuts the exterior front yard of an adjacent lot, then it shall be considered an exterior front yard. Otherwise, it shall be considered an exterior side yard.

[6] Driveway length is measured from the garage/carport to the back of the sidewalk or front property line whichever is furthest from the street.

TABLE 20.08-3 DEVELOPMENT STANDARDS FOR MULTI-FAMILY RESIDENTIAL ZONING DISTRICTS

	Figure Label	Zoning District				
		R-2	R-3-2	R-3-1.5	R-4	R-MH
Lot and Density Standards (Minimums)						
Lot Area		6,000 sq. ft.	6,000 sq. ft.	7,500 sq. ft.	7,500 sq. ft.	10 acres
Lot Width						
Interior Lots		60 ft.	60 ft.	60 ft.	70 ft.	200 ft.
Corner Lots		65 ft.	65 ft.	65 ft.	70 ft.	200 ft.
Lot Depth		100 ft.	-	-	-	200 ft.
Lot Area per Dwelling Unit		3,000 sq. ft.	2,000 sq. ft.	1,500 sq. ft.	1,000 sq. ft.	[1]
Primary Building Standards						
Setbacks (min.)						
Exterior Yards, Front	A	15 ft.	15 ft.	15 ft.	15 ft.	25 ft.
Exterior Yards, Side (Corner Lots Only)	B	10 ft.	10 ft.	10 ft.	10 ft.	10 ft.
One Interior Yard	C D	10 ft.	10 ft.	10 ft.	10 ft.	10 ft.
All Other Interior Yards	C D	5 ft.	5 ft.	5 ft.	6 ft. [2]	10 ft.
Height (max.)	E					
Feet		35 ft.	35 ft.	35 ft.	40 ft.	35 ft.
Other Standards						
Accessory Structure Standards		See Chapter 20.28				
Driveway Length (min.)		20 ft.	-	-	-	-
Lot Coverage (max.)		50%	55%	55%	65%	65%
Off-Street Parking		See Chapter 20.38				
Projections Into Required Yards		See Chapter 20.26				
Separation Between Structures (min.)		15 ft.	15 ft.	15 ft.	10 ft.	15 ft.

Notes:

[1] The maximum residential density in the R-MH zoning district is ten dwelling units per acre.

[2] Rear yard minimum 10 feet for structures over 25 feet in height, an additional 1 foot per each additional 5 feet in height.

D. R-1-5 Subdivisions. Homes for R-1-5 subdivisions shall comply with the following design standards, unless exceptions from individual standards are granted through a Minor Use Permit per Section 20.68.020:

1. A minimum of 25 percent of the front elevations along a street shall have a minimum 25-foot garage setback.
2. No three-car garages shall be allowed on 5,000-square-foot lots, except on lots with alley access or lots exceeding 60 feet in width.
3. All subdivisions shall provide a variety of dwelling elevations appropriate for the scale of the project. Elevations shall be approved by the Planning Division. At a minimum, the same elevations shall not be repeated for adjacent houses. Varied front setbacks and heights are encouraged as ways of achieving variety.
4. Windows, doors, and garage doors (except recessed garage doors) on the front elevation shall have raised trim in order to provide visual interest and relief.
5. Plans for two-story structures immediately adjacent to a developed R-1 area shall receive special attention by the Planning Division. Planning Division staff shall consider the relationship of second-story windows, doors, and balconies with the privacy of neighbors, and may require that these features be redesigned or omitted from second-story rear walls.



E. Exceptions on Required Front Setback. In any residential zoning district, the required front setback may be modified with a Minor Use Permit if at least 50 percent of the homes are already constructed on the same block with front setbacks that are different from the front setback requirement in Table 20.08-2 (Setback and Height Standards for Residential Zoning Districts). In such cases, the modified setbacks shall comply with the following requirements:

1. The front setback shall not exceed the average of existing front setbacks on the same block.
2. The front setback shall not exceed the average of existing front setbacks of the two immediately adjoining lots.
3. For corner lots, the front setback shall not exceed the front setback of the immediately adjoining lot.
4. The front setback for all lots shall be a minimum of 10 feet and a maximum of 50 feet.

Chapter 20.46 - RESIDENTIAL DESIGN STANDARDS

Sections:

20.46.010 Purpose

20.46.020 Design Standards for Single-Family Dwellings and Mobile Homes

20.46.030 General Design Standards for Multi-Family Dwellings

20.46.040 Specific Design Standards for Multi-Family Dwellings

20.46.010 Purpose

This chapter establishes design standards for residential uses, in addition to regulations set forth in Chapter 20.08 (Residential Zones), except that parking, location, and address requirements in Section 20.46.020 do not apply to accessory dwelling units.

20.46.020 Design Standards for Single-Family Dwellings and Mobile Homes

- A. Applicability.** The following standards shall apply to all single-family developments and mobile homes, unless exceptions from individual standards are granted through a Minor Use Permit per Section 20.68.020.
- B. Siding.** No shiny or reflective exterior siding materials, which are more reflective than semi-gloss paint, shall be permitted.
- C. Exterior Walls.**
1. Materials shall extend to the ground where a unit is mounted at grade-level or the top of the solid concrete or masonry perimeter foundation where an above-grade foundation is used.
 2. Materials shall be limited to stucco, wood, brick, stone, glass, or decorative concrete block. No tin or other metallic exterior wall material shall be used.
 3. Materials shall be the same as or complementary to the wall materials and roofing materials of the dwelling unit.
- D. Windows.**
1. All windows, doors, and gable ends shall be architecturally treated with a trim.
 2. No shiny or reflective materials shall be permitted for trim which are more reflective than semi-gloss paint.



E. Roof.

1. **Roof Pitch Slope.** The slope or inclination of a pitched roof shall be no less than a ratio of 4 inches vertical rise for each 12 inches horizontal run (4:12).



2. **Projection.** Overhanging eaves shall be at least 12 inches from the exterior vertical walls.

3. **Materials.**

- a. Roofs shall be composed of non-wood or fire-retardant-treated wood shingles or shake shingles, non-reflective and matte-finish metal, rock or concrete or adobe or composition tile, or other similar materials commonly used in the area.

- b. Fascia boards shall be used on all sides of the structure to screen exposed elements, like rafters and vents, and to give the roof a finished edge.
- c. Roofing materials for a garage or carport shall be the same as the wall materials and roofing materials of the dwelling unit.

4. **Mechanical and Utility Equipment.** All mechanical and utility equipment shall be screened from the public right-of-way.

- F. **Parking.** Each unit shall have at least 200 square feet of off-street parking outside of required setback areas.

- G. **Width.** Each unit shall have a width of at least 20 feet.

- H. **Location.** Each dwelling shall face or have frontage upon a street or permanent means of access to a street by way of a public or private easement other than an alley. Such easements shall not be less than 10 feet in width.



- I. **Landscaping.** All front yards, and all side yards exposed to public view on corner lots, shall be landscaped with drought-tolerant ground cover, trees, and shrubs, including but not limited to, City street trees. Underground irrigation of the required landscaping shall be required. All shall be installed prior to occupancy. (Refer to Chapter 20.36.)

- J. **Foundation.** All homes and mobile homes must be attached to a permanent foundation system that complies with all building codes of the City.

- K. **Addresses.** The street address number of the house shall be displayed on the front wall of the house clearly visible from the street and shall be a minimum height of 4 inches with a ½ inch stroke (or as otherwise required in the California Residential and Fire Codes.)

18.16.080 - Information required.

Every tentative map shall be clearly and legibly reproduced. The following information shall be shown on, or accompanying, the map:

1. A key or location map on which is shown the general area including adjacent property, subdivisions and roads;
2. The tract name, date, north point, scale and sufficient legal description to define location and boundaries of the proposed subdivision;
3. Name and address of recorded owner or owners;
4. Name and address of the subdivider;
5. Name and business address of the person who prepared the map;
6. Acreage of proposed subdivision to the nearest tenth of an acre;
7. Contours at six-inch intervals to determine the general slope of the land and the high and low point thereof;
8. The locations, names, widths, approximate radii of curves and grades of all existing and proposed roads, streets, highways, alleys and ways in and adjacent to the proposed subdivision or subdivision to be offered for dedication;
9. Proposed protective covenants;
10. Location and description of all easements;
11. Locations and size of all existing and proposed public utilities;
12. Proposed method of sewage and stormwater disposal;
13. Location and character of all existing and proposed public open space in and adjacent to the subdivision and a statement of intention with regard to park land dedication or payment of a fee in lieu thereof;
14. Lot layout, approximate dimensions and area in square feet of each irregular lot and lot numbers;
15. City limit lines occurring within the general vicinity of the subdivision;
16. Classification of lots as to intended land use, zone, and density;
17. Approximate bearings and distances to quarter-section bounds within the general vicinity of the subdivision;
18. Proposed public improvements;
19. Statement as to whether the subdivision is to be recorded in stages;
20. Existing use and ownership of land immediately adjacent to the subdivision;
21. Preliminary title report issued not more than sixty days prior to filing of the tentative map;
22. The outline of any existing buildings and indication of any to remain in place and their locations in relation to existing or proposed street and lot lines;

23. Location of all existing trees and indication of those proposed to remain in place, standing within the boundaries of the subdivision;
24. Location of all areas subject to inundation or storm water overflow, the location, width and direction of flow of all watercourses and indicate flood zone classification;
25. Elevations of sewers at proposed connection.

(Ord. 1533 § 1, 1984: Ord. 1358 § 3, 1980: Ord. 1342 § 2 (part), 1980: prior code § 25.32(c)).

18.16.090 - Required statement.

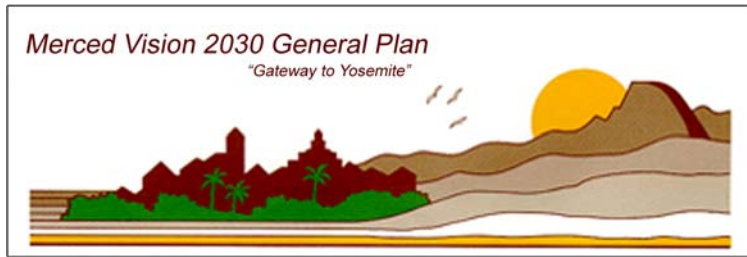
A statement shall be presented by the subdivider in written form accompanying the map and shall contain justification and reasons for any exceptions to provisions of this title, the standard drawings or for any amendments to or variation from the zoning law, which may be requested in conjunction with the subdivision proposed.

(Ord. 1533 § 2, 1984: Ord. 1342 § 2 (part), 1980: prior code § 25.33).

18.16.100 - Public hearing—Generally.

The planning commission shall review the tentative map at a public hearing to determine whether it is in conformity with the provisions of law and of this title and upon that basis, within the time allowed in the Subdivision Map Act.

(Ord. 1358 § 4, 1980: Ord. 1342 § 2 (part), 1980: prior code § 25.34(a)).



Chapter 6

Urban Design

6.1 INTRODUCTION

6.1.1 Background & Scope

Urban design is not merely a set of urban aesthetic guidelines but rather encompasses land use and design elements which enhance the livability of the community. Urban design is a grouping of concepts and guidelines which are used to describe the image or character of the City's environment.

Urban design concepts tend to fall into two distinct categories, relating to:

- The location of different land uses throughout the City and their relationship to one another. (For example, Policies UD-1.1 to UD-1.5 define relationships between commercial, residential, and public land uses and the planned circulation system which links them with one another.)
- The visual character and appearance of individual buildings, sites, and districts. (Policy UD-2.2 and the "Merced Urban Design Guidelines" pages throughout this chapter provide aesthetic guidelines for development.)

In attempting to influence the type, location, and character of both private and public

development, urban design policies provide the tools to help create a desirable relationship between new and existing development.

Within the *Merced Vision 2030 General Plan*, the urban design focus for new growth areas is primarily defined by the Urban Village concept (mixed use, pedestrian and transit-friendly neighborhoods). At a city-wide scale, this urban design concept defines the relationship between various parts of the City, linked together by open space and transportation corridors.

At the neighborhood scale, the Urban Village concept results in development of commercial centers surrounded by residential areas, open space, and public facilities. At the project scale, this concept is intended to provide ideas which can be applied to solve a number of design problems and promote long-term, livable community development.

The goal is to build an environmentally and economically "sustainable" city. A "sustainable city" is a city designed, constructed, and operated to efficiently use land and other natural resources, minimize waste, and manage and conserve resources for the use of present and future generations.

A “sustainable” community is one where:

- 1) Housing, schools, shopping areas, and other things which meet most of the daily needs of residents are located within walking distance of one another;
- 2) Higher population densities are located around transit stops to provide the critical mass of people and activities needed to make transit economically viable;
- 3) Housing provides places to live for a variety of people within a single neighborhood; and,
- 4) Mixed use and transit friendly commercial and employment centers are promoted.

Such a community makes efficient use of land and promotes alternative modes of transportation, thus helping to preserve both our air quality and our quality of life. These same characteristics can also be used to describe many of Merced’s older neighborhoods.

6.1.2 Relationship to State Law

Urban design is of critical importance to the decisions that are made regarding general growth and development of a city. Although not a “required element” under state planning law, “good” urban design is the overall purpose of the planning process.

6.1.3 Relationship to Other General Plan Chapters

Within the *Merced Vision 2030 General Plan*, the Urban Design Chapter focuses on the Urban Village concept. Village development will be guided by the principles in this Urban Design Chapter. Other chapters of the General Plan, especially the Land Use Chapter, reflect the community

planning principles described in the Urban Design Chapter. Within all of the General Plan chapters, the idea of a “sustainable city” and the design principles for pedestrian- and transit-friendly development have been given specific application in the form of goals, policies and actions relating to the chapter subject area. Overall community appearance has also been addressed, primarily in Policy UD-2.2.

6.2 GUIDING PRINCIPLES

The *Urban Village* and other land use and design concepts have been implemented in the *Merced Vision 2030 General Plan* through the following guiding principles:

- **Conserve natural resource areas that give form and character to the community.** The policies contained in the Open Space, Conservation & Recreation Chapter, as well as others, provide for strengthening the visual and physical connection between the City and its natural elements. The Urban Expansion Chapter guides future City growth away from important resource areas to the extent feasible.



- **Promote an urban form that integrates housing, shops, work places, schools, parks and civic facilities.** The Urban Village development approach, as set forth in the Land Use Chapter and Land Use Diagram, is the primary means of implementing this principle. Within this land use pattern, development is to be guided by the principles contained in this Urban Design Chapter. Land use planning needs to address long-term as well as short-term needs for a variety of residential, commercial, and industrial land uses.



- **Reinforce the elements of the community which give Merced its unique identity.** Through purposeful acts of community building at the City's inception, Merced developed into an attractive community. The Village development concept expands on these successful early planning efforts to assure that future growth and development retains Merced's unique character.
- **Expand the City's non-vehicular transportation network.** Through provisions contained in the Transportation and Circulation Chapter

and supporting policies in other chapters of this Plan, the City's extensive system of bike and pedestrian paths will expand to serve new growth and development.



- **Promote convenient pedestrian and vehicular access to transit, commercial, recreation and residential places.** The success of the City's urban design approach relies on private development which provides convenient vehicular access but is also pedestrian-friendly. This Urban Design Chapter proposes various design approaches which will improve access and encourage walking and bicycling as viable transportation options.
- **Reinforce the Downtown as a focus point in the City.** Downtown Merced plays an important role in the social and economic well being of the community. As the seat of government for Merced County, Downtown supports a regional government center. Additionally, the Downtown area is the direct access point to regional highway and railway networks. Policies contained in the various chapters of this plan strengthen the role and function of Merced's Downtown.

- ***Conserve the special qualities of existing neighborhoods and districts.*** The distinctive character of Merced's older residential neighborhoods is one of the most memorable features of the community. The Land Use Chapter of this plan provides policies for maintaining these qualities. The policies and design proposals of this Urban Design Chapter provide a basis for developing these qualities in new and expanding neighborhoods.



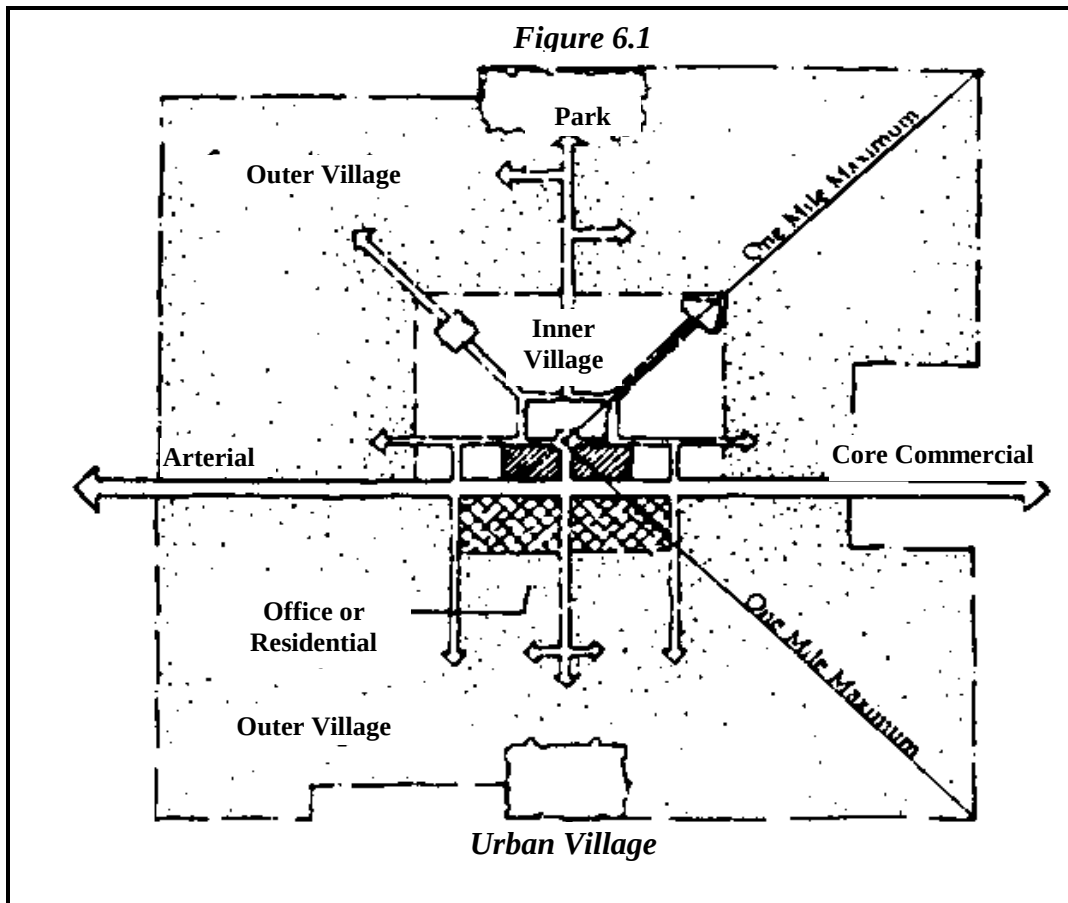
- ***Focus residential, commercial and employment center development to encourage public transit use.*** Successful urban centers of the future will be designed to accommodate local and regional public transportation systems. This public transit focus is a central theme of the City's urban design concept. Urban design policies which facilitate transit friendly development as well as convenient vehicular access are contained in the Land Use, Transportation, and Urban Design Chapters of the *Merced Vision 2030 General Plan*.
- ***Maximize the use of City streets as public spaces.*** The streets of Merced comprise the major open spaces of the City and are among its liveliest public

spaces. Design considerations should focus on providing convenient automobile access to residential, commercial, employment, and public areas while accommodating other forms of transportation as well. Policies contained in the Transportation and Circulation Chapter, along with the design concepts developed in the Urban Design Chapter, are aimed at balancing the need for auto movement and parking with the need for the street system to accommodate other vital community activities.

- ***Assure that development takes place in a balanced manner in order to promote the economic vitality of evolving areas.*** The development of Urban Villages will be a cooperative effort between the City, landowners, and the development community. Villages will likely be developed over a number of years and, thus, will need close coordination between these groups to assure that the desired mixture of land uses is achieved and development costs remain low. It should be noted, however, that the majority of the Villages will be available for traditional single-family development but with a transit and pedestrian focus.

6.3 URBAN DESIGN GUIDELINES

The Urban Design Chapter, unlike other chapters of this Plan, also contains design guidelines that are not in the form of goals, policies or actions. These guidelines, contained in the "Urban Design Guidelines" sections of this Chapter, are provided as suggestions for architects and designers and are not mandatory requirements.



6.4 MERCED'S URBAN VILLAGES (TRANSIT READY DEVELOPMENT)

In 1990, *Merced 2030-How Should We Grow?* analyzed the various growth and expansion options available to the City. As a result of this study, it was determined that Merced's growth pattern for new growth areas should be based on mixed use, pedestrian- and transit-friendly design principles, simply known as the "Urban Village Concept."

As a follow-up to this planning process, the City commissioned a more refined urban design study for an 8,000-acre portion of the

"Northern City" which resulted in the publication of the *North Merced Conceptual Land Use Plan* and *Merced Villages Design Guidelines* in late 1991. This publication established the basic "urban design" policy direction that was used in the preparation of the *Merced Vision 2015 General Plan* in 1997. This *Merced Vision 2030 General Plan* continues to utilize the same Urban Village design principles.

Application of "Urban Village" design principles will be encouraged in all new growth areas of the City, including North Merced, Southwest Merced, and South Merced.

The fundamental building block for the Land Use Plan in new growth areas is the *Urban Village*, a compact, mixed-use district that encourage pedestrian and transit travel, which is also referred to “Transit Ready Development” instead of “Transit-Oriented Development.” This is because Transit-Oriented Development generally refers to light rail or more extensive public transit systems while “Transit Ready Development” is more descriptive of a City such as Merced where the transit options haven’t yet been as fully developed. By utilizing the Urban Village Concept, the City will be designed to accommodate these kinds of transit options in the future, however.

The following sections describe the basic components of a “village.”

6.4.1 Inner Villages

The *Inner Village* is a mixed-use community within an average 1/4 mile walking distance of a transit stop and *Core Commercial* area. All Inner-Villages include a mixture of parks, shops, medium-density residences, and civic uses. Inner Villages combine these uses within a comfortable walking distance, making it convenient for residents and employees to travel by transit, bicycle or foot as well as by car.

A Merced example of an “Inner Village” would be the area surrounding the College Green Shopping Center at Olive and G. Higher-density apartments surround the commercial center and are directly connected to the center through a pedestrian walkway and College Green Drive.

6.4.2 Core Commercial Areas

Each village must have a mixed-use *Core Commercial* area located immediately adjacent to the medium-density

neighborhoods (*Village Core Residential areas*--see below). At a minimum, the Core area should provide convenience retail and civic sites. Larger cores may also include major supermarkets, professional offices, day care, restaurants, service commercial, entertainment uses, comparison retail and other retail stores. A transit stop and village green should be located in the Inner Village near the commercial and residential areas.



6.4.3 Village Core Residential Areas

“*Village Core Residential*” is the land use category applied to the residential areas that are within a convenient walking distance (about 1/4 mile) from the Core Commercial area and transit stop. (On the Land Use Diagram, this category is simply labeled “Village Residential.”) These areas are built at densities high enough to support the commercial area and transit use. Together, the *Core Commercial* and *Village Core Residential* areas make up the *Inner Village*. An average minimum gross density of 10 dwelling units per acre (du/ac) will allow a mix of small lot single-family, townhouses and apartments in Village Core Residential areas.

All Village Core Residential areas should be pedestrian in scale, ranging from slightly under to slightly over one-quarter mile in radius and should provide direct and easy access to Core Commercial areas and transit stops. Village Core Residential areas may contain a variety of housing types and ownerships, ranging from small lot single-

family homes to apartment buildings, as long as the overall average gross density of the Inner Village is at least 10 du/ac. While housing diversity is desirable, this density requirement could be achieved using only a single-family product--small lots with ancillary units.

6.4.4 Outer Village Areas

Less compact areas surrounding the Inner Villages contain lower density housing, offices, schools, and open space. These areas are known as the *Outer Village*. The Outer Villages are tied to the Inner Villages by a local network of connector streets so that perimeter arterials and thoroughfares are not relied upon for local travel, thereby reducing demand on these roads and providing safe paths for pedestrians and bicyclists. This circulation system is a key component of Village developments.



The Outer Village Area is intended to provide lower-density uses that are not appropriate in the Inner Village because they are not sufficiently compact and are more reliant on the automobile. Outer Village areas are designated for single-family and office uses (only along arterials across from Core Commercial areas) that will help support the Core Commercial businesses and transit service. “Low Density Residential,” which allows single-family

residences (see Chapter 3), is the land use category that will be applied to most of the Outer Village areas.

These Outer Village areas make up the majority of the land available in the Village areas. (Of each one- square-mile Village, approximately two-thirds of that area will be the Outer Village.) These areas will be much like traditional single-family neighborhoods, except they will have more of a pedestrian- and transit-friendly atmosphere.

Public schools and parks that provide services to both the Outer Village and Inner Village should be located in the Outer Village near the boundary of the Inner Village.

6.4.5 Open Space, Parks & Plazas

The location of parks, plazas and trails should be coordinated to distribute a variety of recreation opportunities throughout the growth area. Growth areas should contain a network of open space including community parks, neighborhood parks, village parks, village greens, plazas and an inter-connected ‘greenway’ trail system. (Refer to Section 7.2.2 for more details.)



6.5 URBAN DESIGN GOALS, POLICIES, AND ACTIONS

Goal Area UD-1: Transit Ready Development or Urban Villages

GOALS

- **An Integrated Urban Form**
- **Transit-Ready Community Design**
- **Pedestrian- and Bicycle-Compatible Neighborhoods**

POLICIES

- UD-1.1** Apply Transit-Ready Development or Urban Village design principles to new development in the City's new growth areas.
- UD-1.2** Distribute and design Urban Villages to promote convenient vehicular, pedestrian, and transit access.
- UD-1.3** Promote and facilitate Core Commercial design principles in Village commercial areas.
- UD-1.4** Promote and facilitate Urban Village residential area design principles.
- UD-1.5** Design and develop public and quasi-public buildings and uses utilizing Transit-Ready Development or Urban Village principles.

Policy UD-1.1

Apply Transit-Ready Development or Urban Village Design Principles to New Development in the City's New Growth Areas.

The fundamental building block of the Plan is the Village, a compact, mixed-use district that will accommodate projected growth, maintain Merced's present quality of life and help ensure its continued economic vitality. Villages achieve these goals by encouraging pedestrian and transit travel, and by minimizing single-use, low density developments that generate traffic congestion, air pollution, a scarcity of affordable housing, monotonous landscapes and poor utilization of environmental and land resources. The City of Merced has established the "Urban Village" model (also known as "Transit Ready Development") as the basic design concept governing urban form in new growth areas. Its principles should be applied as much as feasible in new growth areas throughout the Merced urban area.

Implementing Actions:

- 1.1.a** The focus of new development will be the "Urban Village," which are mixed-use, pedestrian- and transit-friendly communities within a one-square mile area.

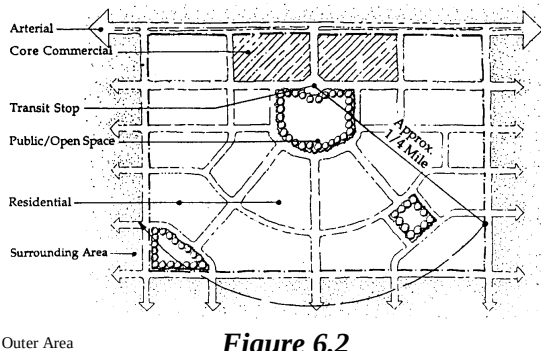
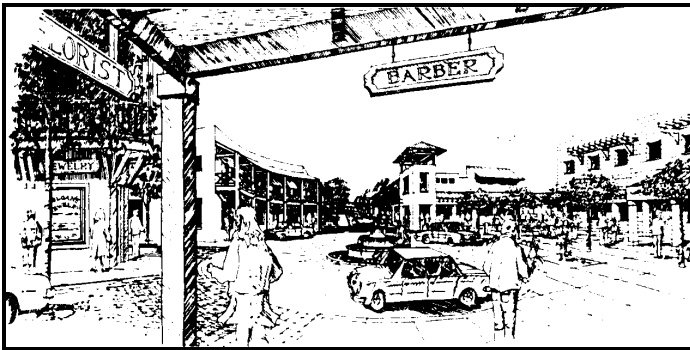


Figure 6.2
"Inner Village"

Villages should include a mixture of parks, shops, a variety of housing types, and civic uses. Villages combine these uses within a convenient distance, making it easier for residents and employees to travel by transit, bicycle or foot as well as by car. Village sites should be located on or near planned transit segments and provide a physical environment that encourages pedestrian and transit travel.

1.1.b Each village shall have a mixed-use "Core Commercial" area located immediately adjacent to Village Core Residential neighborhoods.



At a minimum, plans for designated Core areas should provide convenience retail and civic sites. Larger cores may also include major supermarkets, professional offices, day care, restaurants, service commercial, comparison retail and other retail stores located adjacent to the transit stop. Optional upper floor office and residential uses in the Core

Commercial area increases the mixed-use, round-the-clock nature of the Core area. A transit stop and village green should be located between commercial uses and Village Core Residential areas.

Three kinds of Core Commercial areas may occur:

- a) Convenience Centers — providing a convenience "mini-market" with some ancillary retail (typically 3-10 acres);
- b) Neighborhood Centers — providing a supermarket with an additional anchor store, major ancillary retail and professional offices (typically 10-20 acres); or,
- c) Community Center — providing a supermarket and drugstore, ancillary retail, professional offices and additional anchors such as junior department stores and health clubs (ranging from 20-60 acres).

1.1.c "Village Core Residential Areas" (part of the "Inner Villages") shall include residences that are within a convenient walking distance from Core Commercial areas and transit stops, and are built at densities high enough to help support them.

Village designs should incorporate an average minimum gross density of 10 dwelling units per acre (du/ac) which will allow a mix of small lot single-family, townhomes and apartments in Village Core Residential areas. All Village Core Residential areas should be pedestrian in scale, ranging from slightly under to slightly over one-quarter mile in radius and should provide direct and easy access to Core Commercial areas and transit stops.

Village Core Residential areas may contain a variety of housing types and ownership options, ranging from small lot single-family homes to apartment buildings, as long as the overall average gross density of the Village is at least 10 du/ac. (Gross densities calculations should include the area in lots as well as in streets and alleys immediately in front and behind the lots). While housing diversity is desirable, this density requirement could be achieved using only a single-family product — small lots with carriage (ancillary) units. Small village parks should be provided as an urban amenity within these denser Village Core Residential areas.

1.1.d Each Village will have an “Outer Village” adjacent to it which includes lands no further than one mile from the Core Commercial area.

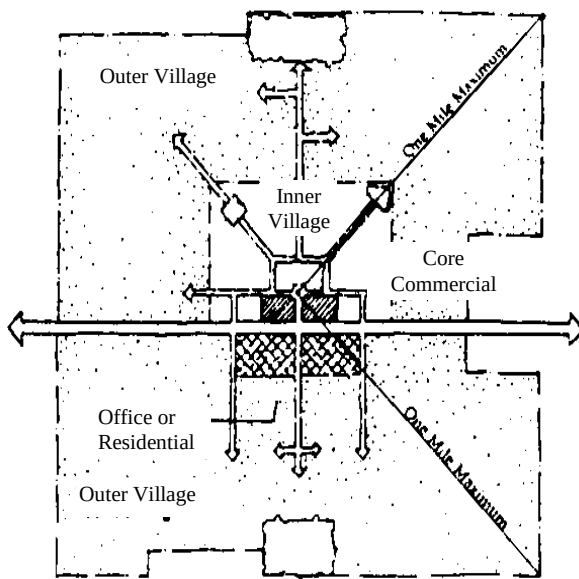


Figure 6.3
Urban Village

Site plans for the “Outer Village” street network must provide multiple direct street and bicycle connections to the center without use of an arterial street. Outer Villages may have lower density housing, public schools, community parks, limited areas of office uses, and park-and-ride lots.

The Outer Village is intended to provide uses that are not appropriate in the Inner Villages, because they are not sufficiently compact and are more reliant on the automobile. Public schools and parks that provide services to both the Inner and Outer Village should be located in Outer Villages near the boundary of the Inner Village.

Commercial uses that are very similar in nature and market appeal to those located in the Village's Core Commercial area are generally not allowed in Outer Villages because they diminish the viability of the Village's retail center, although professional office uses may be located on the opposite side of the arterial across from the Village Core Commercial Area.

1.1.e The location of parks, plazas, and trails should be coordinated to distribute a variety of recreation opportunities throughout the area.

The Urban Village area should contain a network of open space including community parks, neighborhood parks, village parks, village greens, plazas and an interconnected “greenway” trail system. Bicycle and pedestrian trails should be created along major creeks, high-voltage power lines, transitways, and along the abandoned Yosemite Valley Railroad (YVRR) railroad bed in North Merced to provide easy access to parks and schools that should be located along them.

1.1.f Uses which rely extensively upon autos or trucks are encouraged to locate in Business Park or other commercial areas along major transportation corridors.

An important concept of Urban Village development is to create areas which are less dependent upon auto and truck transportation than other areas of the City. Many uses typically allowed in commercial areas rely predominantly upon auto travel to generate business patrons. These uses, such as auto dealers and repair shops, mini-storage facilities, travel commercial complexes, and motels, should not be permitted in Villages in most cases. These uses should be accommodated in nearby areas where the street and highway system can support the traffic loads that they generate. For example, such uses are appropriate in business park areas adjacent to Highway 59 in North Merced.

Similarly, light industrial uses should not generally be permitted in Villages except that business park/research & development type uses may be appropriate in those Villages in the northeastern portion of the City near UC Merced. Industrial uses are appropriate, however, where existing industrial activities occur and along major transportation corridors.

- 1.1.g The City will work with individual property owners within the Village areas to assure that development occurs in a balanced manner to assure economic viability of individual projects.**

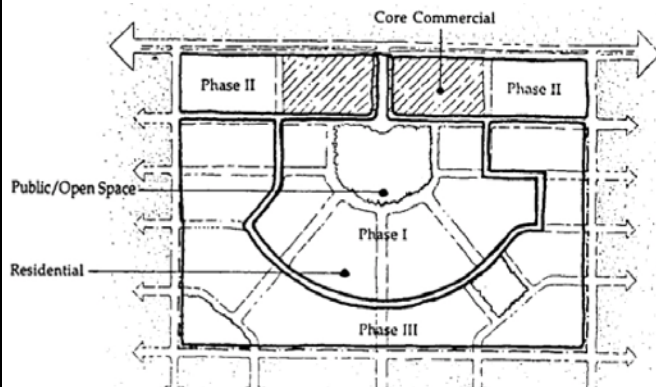


Figure 6.4

Conceptual Phasing of a Village

The growth area must be developed in a balanced phasing pattern. Schools and parks must be dedicated concurrent with commercial and residential uses. Furthermore, areas must be set aside for land uses that will be needed in later phases, but where market demand needs to mature, such as Core Commercial and higher density housing areas. For this reason, development of Villages is seen as a cooperative effort between the City, landowners and the development community.

Villages represent relatively large projects which may be executed over several years. The phasing of the project is critical to its success, both as a financial undertaking and as a mechanism to encourage transit use. In order to encourage the public service agencies to provide public facilities in a timely manner to serve the needs of residents, developers are asked to dedicate sites designated for public uses concurrent with development of commercial and residential uses. Developers should also work with the City to ensure that the recommended mixture of land uses is achieved in a timely manner and development costs remain low.

- 1.1.h Develop special “Urban Village” design principles to encourage more job-generating uses within the Urban Villages.**

Special “Urban Village” designs should be developed to provide for increased opportunities for job-based land uses attracted by a university climate in some Urban Villages, especially in the northwestern area of the City, while still maintaining the basic concept of mixed-use, pedestrian and transit oriented communities. These “Urban Villages” may differ from others in the Community in the mixture of business park, research and development, office, public/cultural uses, and retail uses within the Village Core areas instead of the retail/office/public facilities focus of other Villages which are more residential in nature.

Policy UD-1.2

Distribute and Design Urban Villages to Promote Convenient Vehicular, Pedestrian, and Transit Access.

Villages should be distributed throughout the City's growth area in a pattern that allows the greatest number of residents access to a variety of shopping opportunities. Villages should be distributed to permit residents to walk to retail and public facilities without having to cross an arterial street. Villages should also be located to take advantage of main transit lines and existing retail market demand.

The Urban Village circulation system encourages all modes of travel, while providing adequate access for automobile traffic. This street pattern is achieved by providing multiple routes to destinations without relying on arterials. This pattern of multiple routes keeps traffic volumes lower on individual connector streets and allows pedestrians and bicyclists to avoid unfriendly arterials. This pattern also favors pedestrians by slowing traffic, reducing pavement, and improving the sense of shelter afforded by houses and trees. Within the Urban Village development concept, local and connector streets should be designed to discourage through traffic, while still providing an interconnected and a legible circulation network.

Implementing Actions:

1.2.a Villages should be located to maximize access to their Core Commercial areas from their adjacent neighborhoods without relying on arterials.

Villages with major retail centers should be spaced at least one mile apart and should be distributed to serve various growth sub-areas. Generally, there should be one Village for each full square mile bound by arterials, except in rural residential areas.

1.2.b The boundary of each village varies with the size of the Core Commercial area and does not extend across arterials.

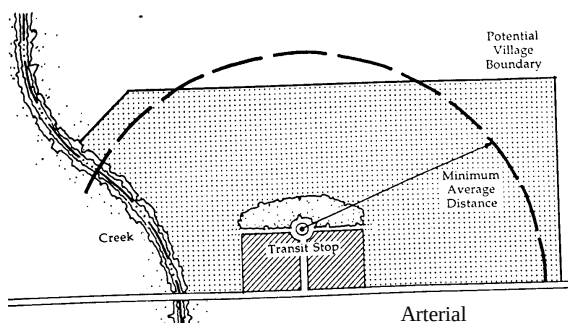


Figure 6.5
Village Boundaries

While the shape of the Village may vary, the size of the Inner Village should not be less than the area described by the quarter-mile walking distance radius (ranging from 1200 to 1600 feet) from the transit stop and core commercial area.

The minimum size of an Inner Village should vary according to the kind of Core Commercial area within the Village; larger Villages are associated with larger Core Commercial areas. The minimum distance requirement does not apply to areas with

major intervening features such as major creeks and high-voltage power lines, where the boundary should follow the major feature.

Inner Villages should typically be at least 100 acres when associated with a Community Center, 70 acres when associated with a Neighborhood Center, and 50 acres when associated with a Convenience Center.

1.2.c Building intensities and densities should meet the minimum requirements set forth for a Village to promote more active centers, support transit, and encourage pedestrian-oriented development that fronts onto the street.

Compared with other Village areas, the Inner Villages should have the highest commercial intensities (the amount of building relative to the size of the site) and the highest residential densities (the number of dwelling units in a given area). Core Commercial areas should be intensive enough to provide a "main street" shopping spine. Multi-storied buildings and structured parking are strongly encouraged near transit stops to better utilize the lands adjacent to the transit line and to provide additional transit ridership. A development pattern is encouraged where densities are highest at the center of the Village and become lower as the distance from the center increases. Thus higher density housing types such as apartments and townhouses are most appropriate adjacent to the Core, with lower density single family housing placed further out.

1.2.d The Village street system should provide multiple and parallel routes between the Core Commercial area and the rest of the Village. In no case shall trips which could be internal to a square mile bound by arterials be forced onto an arterial.

The collector street pattern should be simple and memorable. Winding roads, dead end streets and cul-de-sacs that cut off direct access to Village Centers should be discouraged in Village Core Residential Areas, but may be appropriate in some Outer Village areas. Streets should converge near common destinations that contribute to an area's unique identity, such as transit stops, Core Commercial areas, schools and parks

The street system should allow autos, bikes, and pedestrians to travel on small local streets to any location in the Village. At no time should an arterial street be the only preferable route to and from the Inner Village and its Outer Village.

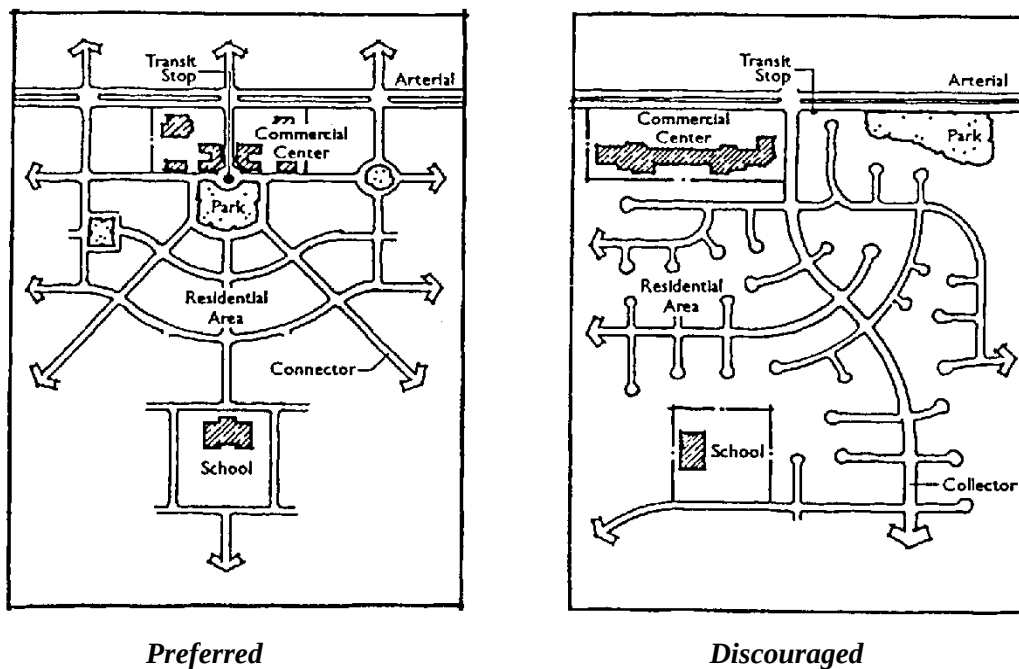


Figure 6.6
Village Street Systems

1.2.e Arterial streets should allow efficient conveyance of through traffic and must not pass through Villages.

The paved width of arterials should provide for safety, efficiency and long term needs. The regional traffic circulation system is dependent upon an efficient and smooth-flowing network of arterials. The required right-of-way for arterials varies with anticipated need. (Refer to Chapter 4, Circulation Map.)

1.2.f Collector and local streets should connect the Inner and Outer Village to Core Commercial areas, schools, and community parks without the use of arterials.

In general, Collectors should be designed to carry moderate levels of local traffic smoothly, in a way that is compatible with bicycle and foot traffic. A network of collectors should provide alternative paths to destinations within the Village for neighborhood residents. The collector network should not provide a speedy through-route alternative to arterials. "T" intersections and "dog leg" alignments could be used to reduce through traffic and reduce speeds. The precise alignment of collectors will be determined as individual projects are designed.

Collectors should contain bikeways. Driveway cuts should be minimized and alley access to rear garages is encouraged to minimize potential conflicts among autos and bicyclists, and for the convenience of residents along collectors. Collectors and some local streets should be aligned along the edge of parks and open space to enhance the aesthetic character of the streets and sidewalks.

1.2.g The pedestrian and bicycle system must provide clear and direct access to the Core Commercial area and the transit stop.

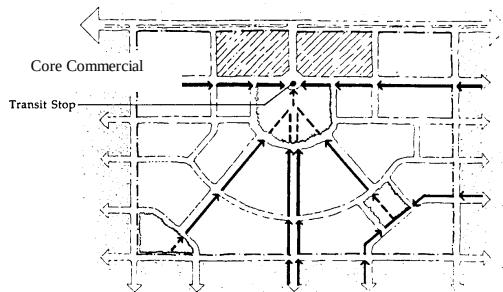


Figure 6.7
Pedestrian & Bicycle System

Although the street and sidewalk system will accommodate many destinations within Villages, the primary destination will be the Commercial Core and transit stop. Direct paths to the transit stop should be lined with activities and be shaded. The configuration of parking, shopping and pedestrian routes should reinforce access to transit. A feeling of safety for pedestrians and bicyclists can be provided through the use of park strips between the curb and the sidewalk or bike path which provide separation from auto traffic.

CITY OF MERCED
PLANNING & PERMITTING DIVISION

TYPE OF PROPOSAL: General Plan Amendment #22-05, Fahrens Specific Plan Amendment #5, Zone Change #432, Residential Planned Development Establishment #78, and Tentative Subdivision Map #1326

INITIAL STUDY: #22-50

DATE RECEIVED: December 8, 2022 (date application determined to be complete)

LOCATION: 1250 Cardella Road

ASSESSOR'S PARCEL NUMBERS: 206-030-017

(SEE ATTACHED MAP AT ATTACHMENTS A)

Please forward any written comments by April 5, 2023 to:

Francisco Mendoza-Gonzalez, Associate Planner
City of Merced Planning & Permitting Division
678 West 18th Street
Merced, CA 95340
209-385-6929
mendozaf@cityofmerced.org

Applicant Contact Information:

Attn: ISEA International, LLC
42260 Vargard Road
Fremont, CA 94593
(510) 378-3950
svpmarketing@yahoo.com

PROJECT DESCRIPTION

The Project site consists of an approximate 10.76-acre parcel (APN: 206-030-017) located at 1250 Cardella Road (Attachment B), generally located on the south side of Cardella Road, between El Redondo Drive and Horizons Avenue. The subject site has a Zoning classification of Planned Development (P-D) #50 and General Plan designations of Office Commercial (CO) and Neighborhood Commercial (CN). The subject site is generally surrounded by undeveloped land.

The applicant would like to develop a single-family subdivision, for a total of 53 residential lots. The current zoning classification of Planned Development (P-D) #50 and General Plan designations of Office Commercial (CO) and Neighborhood Commercial (CN) are intended for commercial type uses which include, but are not limited to, professional services, personal services, retail, restaurants, etc. The existing land use designation also allows for multi-family residential at a density up to 36 dwelling units per acre. The proposed subdivision would be accessible from the new Gaucho Drive which connects with two collector roads, El Redondo Drive

and Horizons Avenue (both north/southbound lanes) out to the nearest arterial roads north to Cardella Road and south to Yosemite Avenue.

Project Location

The subject site is located within the northwestern quadrant of Merced. The subject site is surrounded by residential uses to the south, east, and west (either recently entitled or under construction). South of the subject site is a subdivision that has been approved for single-family homes, to the east is an undeveloped 15.5 acre parcel that was recently entitled for an apartment complex, to the southwest is undeveloped land that was entitled for single-family homes, and to the north across Cardella Road is agricultural land in Merced County jurisdiction (with a General Plan designation of Office Commercial). The table below identifies the surrounding uses:

Table 1 Surrounding Uses (Refer to Attachment A)			
Surrounding Land	Existing Use of Land	Zoning Designation	City General Plan Land Use Designation
North	Undeveloped/Agriculture (across from Cardella Road)	Merced County Jurisdiction	Office Commercial (CO)
South	Single-Family Homes (across from Gaucho Drive)	Planned Development (P-D) #50	Village Residential (VR)
East	Undeveloped Land (across from Horizons Avenue)	Planned Development (P-D) #50	Village Residential (VR)
West	Undeveloped Land (across from El Redondo Drive)	Planned Development (P-D) #57	Village Residential (VR)

1. INITIAL FINDINGS

- A. The proposal is a project as defined by CEQA Guidelines Section 15378.
- B. The Project is not a ministerial or emergency project as defined under CEQA Guidelines (Sections 15369 and 15369).
- C. The Project is therefore discretionary and subject to CEQA (Section 15357).
- D. The Project is not Categorically Exempt.
- E. The Project is not Statutorily Exempt.
- F. Therefore, an Environmental Checklist has been required and filed.

2. CHECKLIST FINDINGS

- A. An on-site inspection was made by this reviewer on February 27, 2023.
- B. This checklist was prepared on March 15, 2023.
- C. The *Merced Vision 2030 General Plan* and its associated Environmental Impact Report [EIR (SCH# 2008071069)] were certified in January 2012. The document

comprehensively examined the potential environmental impacts that may occur as a result of build-out of the 28,576-acre Merced (SUDP/SOI). For those significant environmental impacts (Loss of Agricultural Soils and Air Quality) for which no mitigation measures were available, the City adopted a Statement of Overriding Considerations (City Council Resolution #2011-63). This document herein incorporates by reference the *Merced Vision 2030 General Plan, the General Plan Program EIR* (SCH# 2008071069), and Resolution #2011-63.

As a subsequent development project within the SUDP/SOI, many potential environmental effects of the Project have been previously considered at the program level and addressed within the General Plan and associated EIR. (Copies of the General Plan and its EIR are available for review at the City of Merced Planning and Permitting Division, 678 West 18th Street, Merced, CA 95340.) As a second tier environmental document, Initial Study #22-50 plans to incorporate goals and policies to implement actions of the *Merced Vision 2030 General Plan*, along with mitigation measures from the General Plan EIR, as mitigation for potential impacts of the Project.

Project-level environmental impacts and mitigation measures (if applicable) have been identified through site-specific review by City staff. This study also utilizes existing technical information contained in prior documents and incorporates this information into this study.

3. ENVIRONMENTAL IMPACTS:

Will the proposed project result in significant impacts in any of the listed categories? Significant impacts are those that are substantial, or potentially substantial, changes that may adversely affect the physical conditions within the area affected by the Project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. (Section 15372, State CEQA Guidelines. Appendix G of the Guidelines contains examples of possible significant effects.)

A narrative description of all “potentially significant,” “negative declaration: potentially significant unless mitigation incorporated,” and “less than significant impact” answers are provided within this Initial Study.

A. Aesthetics

SETTING AND DESCRIPTION

The project site is located in northwest Merced, approximately three miles northwest of Downtown and two and a half a mile northeast of Highway 99. The project site consists of an undeveloped totaling approximately 10.76 acres. The terrain is generally flat. The site is surrounded by residential uses to the south (single-family homes under construction) and undeveloped land designated Village Core Residential to the east and west.

The proposed project would include one single-family home on each newly created lot, for a total of 53 single-family homes. The site plans, floor plans, or elevations for this subdivision have not

been submitted. Even though the applicant is proposing a Residential Planned Development, the applicant is not proposing a unique set of development standards that would set standards for maximum building height, maximum lot coverage, minimum setback requirements, minimum parking requirements, etc. The applicant is proposing to utilize the existing development standards for the Low Density Residential (R-1-5) Zone already contained within the City's Zoning Ordinance. Similarly, for the building elevations, the applicant is not proposing any specific architectural standards for this subdivision. The exterior elevations shall be evaluated at a later time when building permit applications are submitted to ensure compliance with the City's general design requirements for single-family homes as shown under MMC 20.46.020 – Design Standards for Single-Family Dwellings and Mobile Homes.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
A. <u>Aesthetics.</u> Will the Project:				
1) Have a substantial adverse effect on a scenic vista?				✓
2) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
3) Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

1) No Impact

No designated scenic vistas exist on the project site or in the project area. Therefore, no impacts in this regard would occur with this development.

2) No Impact

There are no officially designated State Scenic Highways or Routes in the project vicinity. Therefore, the Project would have no impact on scenic resources, such as rock outcroppings, trees, or historic buildings within a scenic highway.

3) Less-Than-Significant Impact

The proposed Project would transform the site from a mostly undeveloped site to a fully developed site. Undeveloped lots tend lead to concerns regarding weed abatement, waste drop-off, and general dilapidation. The proposed homes, parking, and streets would fully develop the site. The units would add architectural interest with the use of siding, stucco, and stone veneers or as otherwise meeting the City's minimum single-family design standards. Based on these factors, this impact is considered to be less than significant.

4) Less Than Significant

Construction of the proposed project and off-site improvements include new lighting on the buildings and throughout the new streets for this subdivision. This new lighting could be a source of light or glare that would affect the views in the area. However, the City of Merced has adopted the California Green Building Standards Code as Section 17.07 of the Merced Municipal Code. As administered by the City, the Green Building Standards Code prohibits the spillage of light from one lot to another. This would prevent new glare effects on the existing buildings surrounding the project site.

B. Agriculture Resources**SETTING AND DESCRIPTION**

Merced County is among the largest agriculture producing Counties in California (ranked fifth), with a gross income of more than \$4.4 billion. The County's leading agriculture commodities include milk, almonds, cattle and calves, chickens, sweet potatoes, and tomatoes.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
B. <u>Agriculture Resources.</u> Will the Project:				
1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and monitoring Program of the California Resources Agency, to non-agriculture?			✓	
2) Conflict with existing zoning for agricultural use or a Williamson Act contract?				✓
3) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?				✓
4) Cause development of non-agricultural uses within 1,000 feet of agriculturally zoned property (Right-to-Farm)?				✓

1) Less Than Impact

The project site is located within the City Limits of Merced. The California Department of Conservation prepares Important Farmland Maps through its Farmlands Mapping and Monitoring Program (FMMP). The system of classifying areas is based on soil type and use. According to the latest Merced County Important Farmlands Map, the project site is classified as "Farmland of Local Importance". The conversion of this land from a mostly undeveloped lot (not being used for agricultural purposes), zoned for commercial development, to a developed urban parcel was analyzed as part of the Environmental Impact Report for the *Merced Vision 2030 General Plan*. The development of single-

family homes on “Farmland of Local Importance” that is not being used for agricultural purposes is considered to have less-than-significant impact. Therefore, CEQA requires no further review across an arterial roadway.

2) No Impact

There are no Williamson Act contract lands in this area and the land is not being used for agricultural uses. Therefore, there is no impact.

3) Less-Than-Significant Impact

Refer to Item #1 above.

4) No Impact

The nearest land being used for farming is located north of the subject site, across Cardella Road. The proposed development would not affect farming operations as the farm site is located on a separate parcel.

C. Air Quality

SETTING AND DESCRIPTION

For additional information, see Appendix A at Attachment C for combined studies on Air Quality, Green House Gas Emissions, and Vehicle Miles Traveled.

The project site is in the San Joaquin Valley Air Basin (SJVAB), which includes the southern half of the Central Valley and is approximately 250 miles long and an average of 35 miles wide. The Coast Ranges, which have an average height of 3,000 feet, serve as the western border of the SJVAB. The San Emigdio Mountains, part of the Coast Ranges, and the Tehachapi Mountains, part of the Sierra Nevada, are both south of the SJVAB. The Sierra Nevada extends in a northwesterly direction and forms the air basin’s eastern boundary. The SJVAB is mostly flat with a downward gradient to the northwest.

The climate of the SJVAB is heavily influenced by the presence of these mountain ranges. The mountain ranges to the west and south induce winter storms from the Pacific Ocean to release precipitation on the western slopes, producing a partial rain shadow over the valley. A rain shadow is defined as the region on the leeward side of a mountain where noticeably less precipitation occurs because clouds and precipitation on the windward side remove moisture from the air. In addition, the mountain ranges block the free circulation of air to the east and entrap stable air in the Central Valley for extended periods during the cooler months.

Winters in the SJVAB are mild and fairly humid, and summers are hot, dry, and typically cloudless. During the summer, a high-pressure cell is centered over the northeastern Pacific, resulting in stable meteorological conditions and steady northwesterly winds.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
C. <u>Air Quality.</u> Would the project:				
1) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			✓	
3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O ₃ precursors)?			✓	
4) Expose sensitive receptors to substantial pollutant concentrations?			✓	
5) Create objectionable odors affecting a substantial number of people?			✓	

Impacts are evaluated below on the basis of both State CEQA Guidelines Appendix G criteria and SJVAPCD significance criteria.

SJVAPCD's thresholds for determining environmental significance separate a project's short-term emissions from long-term emissions. The short-term emissions are related mainly to the construction phase of a project. For this project, the long-term emissions are related primarily to household trips.

1) **Less-than-Significant Impact**

As part of the building permit review process, the applicant is required to consult with the San Joaquin Valley Air Pollution Control District (SJVAPCD) and is classified as nonattainment for ozone, PM₁₀, and PM_{2.5}. The SJVAPCD have applicable SIPs to address these nonattainment issues. The SJVAPCD has provided significance criteria (Table 2), which if a project's emissions are below these the significance criteria, the project is considered to not conflict with or obstruct implementation of the applicable air quality plan. As shown in Appendix A at Attachment C, the project's emissions do not exceed the SJVAPCD significance criteria.

2) **Less-than-Significant Impact**

Construction of the project would require demolition, site preparation, grading, building/infrastructure, paving and architectural coating. As shown in Table 3, construction criteria emission would not exceed the SJVAPCD significance criteria

TABLE 3
MAXIMUM ANNUAL CONSTRUCTION EMISSIONS

Pollutant/Precursor	Construction Emissions	Significant Criteria	Exceed Significant
	Tons/Year		
CO	1.66	100	No
NO _x	1.53	10	No
NO ₂	0.96	10	No
SO _x	0.003	27	No
Total PM ₁₀	0.27	15	No
Total PM _{2.5}	0.16	15	No

Operation of the project would emit criteria pollution from area, energy, mobile, stationary, waste, and water sources. Table 4 on Appendix A at Attachment C shows the emissions from the operation of the project with 53 single-family homes. As shown in Table 4 project emissions would not exceed the SJVAPCD significance threshold. Therefore, operation of the project would not adversely impact regional air quality.

3) Less-than-Significant Impact

Although SJVAPCD does not have any quantitative cumulative significant criteria, air quality is cumulative in nature. CAAQS are predicated on past, present, and future emissions; therefore, if project-related emissions are found to have a less-than-significant impact in the near-term conditions, then cumulative impacts would also be less-than-significant. Project-related air quality impacts were found to be less-than-significant in the near-term conditions. The project would not adversely affect regional air quality in the future. Therefore, this impact would be less than significant.

4) Less-than-Significant Impact

The shortest distance between a project site and the nearest sensitive receptor (single family homes) is approximately 630 feet. Construction activities would be short term and intermittent. Although used during construction, heavy construction equipment would be the main source of pollutants during construction of the project. Given that heavy equipment would be used intermittently and during the day time hours, and given the short duration of construction activities in a given area and distance to the nearest sensitive receptor, exposure of sensitive receptors to substantial pollutant concentrations would not occur. Operation of the project would not result in substantial pollutant concentrations. This impact would be less than significant.

5) Less-than-Significant Impact

Given the use of heavy equipment during construction, the time of day heavy equipment would be operated, and the distance to the nearest sensitive receptor, the project would not emit objectionable odors that would be adversely affect a substantial number of people. Operation of the project would not emit odors. Therefore, construction and operation of the project would have a less-than-significant impact associated with odors. This impact would be less than significant.

D. Biological Resources**SETTING AND DESCRIPTION**

The project site is located in northwest Merced, approximately three miles northwest of Downtown and a two and a half mile northeast of Highway 99. The development is surrounded by sites that are considered undeveloped (east, and west), with a single-family home subdivision (under construction) to the south, and agricultural uses to the north across Cardella Road outside City limits. The project site does not contain any creeks or other wetland areas.

The general project area is located in the Central California Valley eco-region (Omernik 1987). This eco-region is characterized by flat, intensively farmed plains with long, hot, dry summers and cool, wet winters (14-20 inches of precipitation per year). The Central California Valley eco-region includes the Sacramento Valley to the north, the San Joaquin Valley to the south, and ranges between the Sierra Nevada Foothills to the east and the Coastal Range foothills to the west. Nearly half of the eco-region is actively farmed, and about three-fourths of that farmed land is irrigated.

The biological resources evaluation, prepared as part of the *Merced Vision 2030 General Plan Program Environmental Impact Report* (EIR), does not identify the project area as containing any seasonal or non-seasonal wetland or vernal pool areas. Given the adjacent, built-up, urban land uses/agricultural uses and major roadways, no form of unique, rare or endangered species of plant and/or animal life could be sustained on the subject site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
D. <u>Biological Resources.</u> Would the Project:				
1) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				✓
2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			✓	
3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

1) No Impact

The proposed project would not have any direct effects on animal life by changing the diversity of species, number of species, reducing the range of any rare or endangered species, introducing any new species, or leading to deterioration of existing fish or wildlife habitat. Although the *Merced Vision 2030 General Plan* identifies several species of plant and animal life that exist within the City's urban boundaries, the subject site does not contain any rare or endangered species of plant or animal life.

2) Less-than -Significant Impact

The proposed project would not have any direct effects on riparian habitat or any other sensitive natural community. The City General Plan identifies Bear, Black Rascal, Cottonwood, Miles, Fahrens, and Owens Creeks within the City's growth area. The subject site is approximately 2.15 miles from Bear Creek, and approximately 0.33 miles for Fahrens Creek which are Waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board. Any proposed "fill" of that waterway would be subject to permits from ACOE, CDFW, and the Regional Water Quality Control Board. No such "fill" or disturbance of the waterway is proposed as part of this development. The City's General Plan requires the preservation of the creek in its natural state. No riparian habitat identified in CDFW or USFW plans are present on the project site. Therefore, the Project would have a less-than-significant impact on riparian habitat.

3) No Impact

The project site would not have any direct effect on wetlands as no wetlands have been identified in the project area.

4) No Impact

The Project would not have any adverse effects on any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridor, or impede the use of native wildlife nursery sites.

5) Less Than Significant Impact

The Project would not interfere with any local policies or ordinances protecting biological resources such as tree preservation policy or ordinance. The City requires the planting and maintenance of street trees along all streets and parking lot trees in parking lots but has no other tree preservation ordinances.

6) No Impact

The proposed project would not conflict with the provisions of a habitat conservation plan. There are no adopted Habitat Conservation Plans, Natural Conservation Community Plan, or other approved local, regional, or state Habitat Conservation Plan for the City of Merced or Merced County.

E. Cultural Resources**SETTING AND DESCRIPTION**

The City of Merced area lies within the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur.

Merced County was first explored by Gabriel Moraga in 1806, when he named the Merced River, "El Rio de Nuestra Senra de la Merced." Moraga's explorations were designed to locate appropriate sites for an inland chain of missions. Moraga explored the region again in 1808 and 1810.

Archaeology

Archaeological sites are defined as locations containing significant levels of resources that identify human activity. Very little archaeological survey work has been conducted within the City or its surrounding areas. Creeks, drainage, and sloughs exist in the northern expansion area of the City, and Bear Creek and Cottonwood Creek pass through the developed area. Archaeological sites in the Central Valley are commonly located adjacent to waterways and represent potential for significant archaeological resources.

Paleontological sites are those that show evidence of pre-human existence. They are small outcroppings visible on the earth's surface. While the surface outcroppings are important indications of paleontological resources, it is the geological formations that are the most important. There are no known sites within the project area known to contain paleontological resources of significance.

Historic Resources

In 1985, in response to community concerns over the loss of some of the City's historic resources, and the perceived threats to many remaining resources, a survey of historic buildings was undertaken in the City. The survey focused on pre-1941 districts, buildings, structures, and objects of historical, architectural, and cultural significance. The survey area included a roughly four square-mile area of the central portion of the City.

The National Register of Historic Places, the California Historical Landmarks List, and the California Inventory of Historic Resources identify several sites within the City of Merced. These sites are listed on the Merced Historical Site Survey and are maintained by the Merced Historical Society. There are no listed historical sites on the project site.

According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of paleontologic or archeological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
E. <u>Cultural Resources.</u> Would the Project:				
1) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?			✓	
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?			✓	
3) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			✓	
4) Disturb any human remains, including those interred outside of formal cemeteries?			✓	

1) Less-than-Significant Impact

The Project would not alter or destroy any known historic or archaeological site, building, structure, or object; nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses. According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of historical or archeological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

2) Less-than-Significant Impact

The Project would not alter or destroy any known prehistoric or archaeological site, building, structure, or object; nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses. According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of historical or archeological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

3) Less-than-Significant Impact

The Project would not alter or destroy any paleontological resource, site, or unique geological feature. According to the environmental review conducted for the General Plan, there are no listed historical sites and no known locations within the project area that contain sites of paleontological significance. The General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

4) Less-than-Significant Impact

The proposed project would not disturb any known human remains, including those interred outside of formal cemeteries; nor would it alter or affect unique ethnic cultural values or restrict religious or sacred uses. There are no known cemeteries in the project area. Excavation of the site would be needed to construct the proposed project, so it is possible that human remains would be discovered. However, Section 7050.5 of the California Health and Safety Code requires that if human remains are discovered during the construction phase of a development, all work must stop in the immediate vicinity of the find and the County Coroner must be notified. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendant. The descendant will then recommend to the landowner the appropriate method for the disposition of the remains and any associated grave goods. Additionally, the City's General Plan (Implementation Action SD-2.1.a) requires that the City utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation. By following the requirements of the Health and Safety Code and

Compliance with the City's General Plan, this potential impact would be less than significant.

F. Geology and Soils

SETTING AND DESCRIPTION

The City of Merced is located approximately 150 miles southeast of San Francisco along the east side of the southern portion of the Great Valley Geomorphic Province, more commonly referred to as the San Joaquin Valley. The valley is a broad lowland bounded by the Sierra Nevada to the east and Coastal Ranges to the west. The San Joaquin Valley has been filled with a thick sequence of sedimentary deposits from Jurassic to recent age. A review of the geological map indicates that the area around Merced is primarily underlain by the Pleistocene Modesto and Riverbank Formations with Holocene alluvial deposits in the drainages. Miocene-Pliocene Mehrten and Pliocene Laguna Formation materials are present in outcrops on the east side of the SUDP/SOI. Modesto and Riverbank Formation deposits are characterized by sand and silt alluvium derived from weathering of rocks deposited east of the SUDP/SOI. The Laguna Formation is made up of consolidated gravel sand and silt alluvium, and the Mehrten Formation is generally a well consolidated andesitic mudflow breccia conglomerate.

Faults and Seismicity

A fault, or a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side, are an indication of past seismic activity. It is assumed that those that have been active recently are the most likely to be active in the future, although even inactive faults may not be "dead." "Potentially Active" faults are those that have been active during the past two million years or during the Quaternary Period. "Active" faults are those that have been active within the past 11,000 years. Earthquakes originate where movement or slippage occurs along an active fault. These movements generate shock waves that result in ground shaking.

Based on review of geologic maps and reports for the area, there are no known "active" or "potentially active" faults, or Alquist-Priolo Earthquake Fault Zones (formerly referred to as a Special Studies Zone) in the SUDP/SOI. In order to determine the distance of known active faults within 50 miles of the Site, the computer program EZ-FRISK was used in the General Plan update.

Soils

Soil properties can influence the development of building sites, including site selection, structural design, construction, performance after construction, and maintenance. Soil properties that affect the load-supporting capacity of an area include depth to groundwater, ponding, flooding, subsidence, shrink-swell potential, and compressibility.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
F. <u>Geology and Soils.</u> Would the Project:				
1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?			✓	
b) Strong seismic ground shaking?			✓	
c) Seismic-related ground failure, including liquefaction?			✓	
d) Landslides?			✓	
2) Result in substantial soil erosion or loss of topsoil?			✓	
3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?			✓	
4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓

1) **Less than Significant Impact**

The project site is not located within a mapped fault hazard zone, and there is no record or evidence of faulting on the project site (City of Merced General Plan Figure 11.1). Because no faults underlie the project site, no people or structures would be exposed to substantial adverse effects related to earthquake rupture.

According to the City's *Merced Vision 2030 General Plan* EIR, the probability of soil liquefaction occurring within the City of Merced is considered to be a low to moderate hazard; however, a detailed geotechnical engineering investigation would be required for the project in compliance with the California Building Code (CBC).

There would be no exposure to any geological hazards in the project area.

Ground shaking of moderate severity may be expected to be experienced on the project site during a large seismic event. All building permits are reviewed to ensure compliance with the California Building Code (CBC). In addition, the City enforces the provisions of the Alquist Priolo Special Study Zones Act that limit development in areas identified as having special seismic hazards. All new structures shall be designed and built in accordance with the standards of the California Building Code.

APPLICABLE GENERAL PLAN GOALS AND POLICIES

The City's *Merced Vision 2030 General Plan* contains policies that address seismic safety.

<i>Goal Area S-2: Seismic Safety:</i>	
Goal: Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity	
Policies	
S-2.1	Restrict urban development in all areas with potential ground failure characteristics.

The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

Landslides generally occur on slopes of 15 percent or greater. The project site's topography is generally of slopes between 0 and 3 percent, which are considered insufficient to produce hazards other than minor sliding during seismic activity.

Therefore, no hazardous conditions related to seismic ground shaking would occur with the implementation of the Project. Additionally, the implementation of the project would not lead to offsite effects related to hazards related to seismic groundshaking, nor would any existing off-site hazards be exacerbated.

2) Less-Than-Significant Impact

Construction associated with the proposed project could result in temporary soil erosion and the loss of topsoil due to construction activities, including clearing, grading, site preparation activities, and installation of the proposed buildings and other improvements. The City of Merced enforces a Storm Water Management Program in compliance with the Federal Clean Water Act. All construction activities are required to comply with the City's Erosion and Sediment Control Ordinance (MMC §15.50.120.B), including the implementation of Best Management Practices (BMPs) to limit the discharge of sediment.

3) Less Than Significant Impact

The City of Merced is located in the Valley area of Merced County and is, therefore, less likely to experience landslides than other areas in the County. The probability of soil liquefaction actually taking place anywhere in the City of Merced is considered to be a low hazard. Soil types in the area are not conducive to liquefaction because they are either too

coarse or too high in clay content. According to the *Merced Vision 2030 General Plan* EIR, no significant free face failures were observed within this area and the potential for lurch cracking and lateral spreading is, therefore, very low within this area.

4) Less-Than-Significant

Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when they dry) or swelling (when they become wet). Expansive soils can also consist of silty to sandy clay. The extent of shrinking and swelling is influenced by the environment, extent of wet or dry cycles, and by the amount of clay in the soil. This physical change in the soils can react unfavorably with building foundations, concrete walkways, swimming pools, roadways, and masonry walls.

Implementation of General Plan Policies, adherence to the Alquist-Priolo Act, and enforcement of the California Building Code (CBC) Standards would reduce the effect of this hazard on new buildings and infrastructure associated with the proposed development. This would reduce potential impacts to a less-than-significant level.

5) No Impact

The project site would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. However, the proposed project would be served by the City's sewer system. No new septic systems are allowed within the City Limits, and any existing systems will need to be removed upon demolition of the current home on the site.

G. Hazards and Hazardous Materials

SETTING AND DESCRIPTION

Hazardous Materials

A substance may be considered hazardous due to a number of criteria, including toxicity, ignitability, corrosivity, or reactivity. The term "hazardous material" is defined in law as any material that, because of quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

Wildland and Urban Fire Hazards

Both urban and wildland fire hazard potential exists in the City of Merced and surrounding areas, creating the potential for injury, loss of life, and property damage. Urban fires primarily involve the uncontrolled burning of residential, commercial, or industrial structures due to human activities. Wildland fires affect grassland, brush or woodlands, and any structures on or near these fires. Such fires can result from either human-made or natural causes.

Urban fires comprise the majority of fires in the City of Merced. The site is adjacent to undeveloped agricultural land, which could be a source for a wildland fire. However, the City of Merced Fire Department has procedures in place to address the issue of wildland fires, so no additional mitigation would be necessary.

Airport Safety

The City of Merced is impacted by the presence of two airports-Merced Regional Airport, which is in the southwest corner of the City, and Castle Airport (the former Castle Air Force Base), located approximately eleven miles northwest of the subject site.

The continued operation of the Merced Regional Airport involves various hazards to both flight (physical obstructions in the airspace or land use characteristics which affect flight safety) and safety on the ground (damage due to an aircraft accident). Growth is restricted around the Regional Airport in the southwest corner of the City due to the noise and safety hazards associated with the flight path.

Castle Airport also impacts the City. Portions of the northwest part of the City's SUDP/SOI and the incorporated City are within Castle's safety zones. The primary impact is due to noise (Zones C and D), though small areas have density restrictions (Zone B2). The military discontinued operations at Castle in 1995. One important criterion for determining the various zones is the noise factor. Military aircraft are designed solely for performance, whereas civilian aircraft have extensive design features to control noise.

Potential hazards to flight include physical obstructions and other land use characteristics that can affect flight safety, which include: visual hazards such as distracting lights, glare, and sources of smoke; electronic interference with aircraft instruments or radio communications; and uses which may attract flocks of birds. In order to safeguard an airport's long-term usability, preventing encroachment of objects into the surrounding airspace is imperative.

According to the Merced County Airport Land Use Compatibility Plan, the project site is not located in any restricted safety zones for either airport, and no aircraft overflight, air safety, or noise concerns are identified.

Railroad

Hazardous materials are regularly shipped on the BNSF and SP/UP Railroad lines that pass through the City. While unlikely, an incident involving the derailment of a train could result in the spillage of cargo from the train in transporting. The spillage of hazardous materials could have devastating results. The City has little to no control over the types of materials shipped via the rail lines. There is also a safety concern for pedestrians along the tracks and vehicles utilizing at-grade crossings. The design and operation of at-grade crossings allows the City some control over rail-related hazards. Ensuring proper gate operation at the crossings is the most effective strategy to avoid collision and possible derailments. The Burlington Northern Santa Fe Railroad is approximately 2 miles from the site and Union Pacific Railroad is approximately 3 miles away.

Public Protection and Disaster Planning

Hospitals, ambulance companies, and fire districts provide medical emergency services. Considerable thought and planning have gone into efforts to improve responses to day-to-day emergencies and planning for a general disaster response capability.

The City's Emergency Plan and the County Hazardous Waste Management Plan both deal with detailed emergency response procedures under various conditions for hazardous material spills. The City also works with the State Department of Health Services to establish cleanup plans and to monitor the cleanup of known hazardous waste sites within the City.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
G. <u>Hazards and Hazardous Materials.</u> Would the Project:				
1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✓	
4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			✓	
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			✓	
6) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?			✓	
7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
8) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			✓	

1) **Less-Than-Significant Impact**

Construction activities associated with the proposed project would involve the use, storage, transport, and disposal of oil, gasoline, diesel fuel, paints, solvents, and other hazardous materials. The Project would be required to adhere to all applicable federal and state health

and safety standards. Construction activity must also be in compliance with the California Occupational Safety and Health Administration regulations (Occupational Safety and Health Act of 1970). Compliance with these requirements would reduce the risk of hazards to the public to a less-than-significant level.

2) Less-Than-Significant Impact

Construction on the project site would be reviewed for the use of hazardous materials at the building permit stage. Implementation of Fire Department and Building Code regulations for hazardous materials, as well as implementation of federal and state requirements, would reduce any risk caused by a future use on the site from hazardous materials to a less than significant level.

APPLICABLE GENERAL PLAN GOALS AND POLICIES

The City of Merced *Vision 2030 General Plan* contains policies that address hazardous materials.

<i>Goal Area S-7: Hazardous Materials</i>	
Goal: Hazardous Materials Safety for City Residents	
Policies	
S-2.1	Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.
Implementing Actions:	
7.1.a	Support Merced County in carrying out and enforcing the Merced County Hazardous Waste Management Plan.
7.1.b	Continue to update and enforce local ordinances regulating the permitted use and storage of hazardous gases, liquids, and solids.
7.1.d	Provide continuing training for hazardous materials enforcement and response personnel.

3) Less-Than-Significant Impact

The nearest school is Rivera Elementary and Middle Schools, located on the northeast corner of Buena Vista and R Street. The subject site is within 1.2 miles of this school. There are no other existing or proposed schools within ¼ mile of the site. Given the California Building Code protective measures required during the construction process, this developments impacts would be less than significant. Post-construction, the site would be used for dwelling purposes only.

4) Less-Than-Significant Impact

No project actions or operations would result in the release of hazardous materials that could affect the public or the environment, and no significant hazard to the public or the environment would result with project implementation. This potential impact is less than significant.

5) Less-Than-Significant Impact

The project site is located over four miles from the Merced Regional Airport. The approximate 10-acre site is surrounded by existing residential uses or reserved for residential purposes, except for north across Cardella Road which is in County jurisdiction with a General Plan designation of Office Commercial. Given the land use designation and surrounding land use, the potential impact is less than significant.

6) Less-Than-Significant Impact

The closest private airstrip to the site is approximately 15 miles away. There would be no hazard to people living or working on the project site.

7) Less-Than-Significant Impact

The proposed project will not adversely affect any adopted emergency response plan or emergency evacuation plan. No additional impacts would result from the development of the project area over and above those already evaluated by the EIR prepared for the *Merced Vision 2030 General Plan*.

APPLICABLE GENERAL PLAN GOALS AND POLICIES:

The *Merced Vision 2030 General Plan* contains policies that address disaster preparedness.

<i>Goal Area S-I: Disaster Preparedness</i>	
Goal: General Disaster Preparedness	
Policies	
S-1.1	Develop and maintain emergency preparedness procedures for the City.
Implementing Actions:	
1.1.a	Keep up-to-date through annual review the City's existing Emergency Plan and coordinate with the countywide Emergency Plan.
1.1.b	Prepare route capacity studies and determine evacuation procedures and routes for different types of disasters, including means for notifying residents of a need to evacuate because of a severe hazard as soon as possible.
7.1.d	Provide continuing training for hazardous materials enforcement and response personnel.

8) Less-Than-Significant Impact

According to the EIR prepared for the *Merced Vision 2030 General Plan*, the risk for wildland fire within the City of Merced is minimal. According to the Cal Fire website, the Merced County Fire Hazard Severity Zone Map shows the project site is designated as a "Local Responsibility Area" (LRA) with a Hazard Classification of "LRA Unzoned."

The City of Merced Fire Department is the responsible agency for responding to fires at the subject site. The project site is served by Station #53 located on 800 Loughborough Drive (approximately 1.75 miles from the project site).

The site is not near agricultural land that could be susceptible to wildland fires. The City of Merced Fire Department has procedures in place to address the issue of wildland fires, so no additional mitigation would be necessary. This potential impact is less than significant.

H. Hydrology and Water Quality

SETTING AND DESCRIPTION

Water Supplies and Facilities

The City's water supply system consists of 22 wells and 14 pumping stations equipped with variable speed pumps that attempt to maintain 45 to 50 psi (pounds per square inch) nominal water pressure. The City is required to meet State Health pressure requirements, which call for a minimum of 20 psi at every service connection under the annual peak hour condition and maintenance of the annual average day demand plus fire flow, whichever is stricter. The project site could be serviced by the extensions of water lines in El Redondo Drive, Horizons Avenue, and new lines installed in Gaucho Drive.

Storm Drainage/Flooding

In accordance with the adopted *City of Merced Standard Designs of Common Engineering Structures*, percolation/detention basins are designed to temporarily collect runoff so that it can be metered at acceptable rates into canals and streams that have limited capacity. The project would be required to adhere to the Post Construction Standards for compliance with the City's Phase II MS4 permit issued by the state of California.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
H. <u>Hydrology and Water Quality.</u> Would the Project:				
1) Violate any water quality standards or waste discharge requirements?			✓	
2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	
3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or offsite?			✓	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite?			✓	
5) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			✓	
6) Otherwise substantially degrade water quality?			✓	
7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			✓	
8) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			✓	
9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?			✓	
10) Inundation by seiche, tsunami, or mudflow?			✓	

1) Less-Than-Significant Impact

The Project is not expected to violate any water quality standards or waste discharge requirements during construction or operation. In addition to compliance with standard construction provisions, the Project shall be required to comply with the Merced Storm Water Master Plan and the Storm Water Management Plan, and obtain all required permits for water discharge. During project operations, the City has developed requirements to minimize the impact to storm water quality caused by development and redevelopment. The increase in impervious areas caused by development can cause an increase in the type and quantity of pollutants in storm water runoff. Prior planning and design to minimize pollutants in runoff from these areas is an important component to storm water quality management. These standards are set forth in the City's Post-Construction Standards Plan and provide guidance for post-construction design measures to ensure that storm water quality is maintained. Compliance with these requirements and permits would reduce the impact to a less than significant level.

APPLICABLE GENERAL PLAN GOALS AND POLICIES:

The *Merced Vision 2030 General Plan* contains policies that address Water Quality and Storm Drainage.

<i>Goal Area P-5: Storm Drainage and Flood Control</i>	
Goal: An Adequate Storm Drainage Collection and Disposal System in Merced	
Policies	
P-5.1	Provide effective storm drainage facilities for future development.
P-5.2	Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping.
Implementing Actions:	
5.1.a	Continue to implement the City's Storm Water Master Plan and the Storm Water Management Plan and its control measures.
5.1.c	Continue to require all development to comply with the Storm Water Master Plan and any subsequent updates.

2) Less-Than-Significant Impact

The City of Merced is primarily dependent on groundwater sources that draw from the San Joaquin aquifer. The City has 22 active well sites with one under construction, and 14 pumping stations, which provide service to meet peak hour urban level conditions and the average daily demand plus fire flows.

According to the City of Merced Water Master Plan, the estimated average peak water demand for the City is 23.1 mgd.

The proposed project is estimated to use approximately 3,000 gallons of water per day. This would represent 0.0080% of the estimated average daily water consumption. Although development of the site would restrict onsite recharge where new impervious surface areas are created, all alterations to groundwater flow would be captured and routed to the storm water percolation ponds or pervious surfaces with no substantial net loss in recharge potential anticipated. This reduces this impact to a less-than-significant level.

3) Less-Than-Significant Impact

The proposed project would result in modifications to the existing drainage pattern on the site. If required by the City's Engineering Department, the project will be designed to capture all surface water runoff onsite and then drain into the City's existing storm drainage system.

The project site is currently vacant and consists of pervious surfaces. The proposed project would create impervious surfaces over a large portion of the project site, thereby preventing precipitation from infiltrating and causing it to pond or runoff. However, stormwater flows would be contained onsite and piped or conveyed to the City's stormwater system, there would be no potential for increased erosion or sedimentation.

Developed storm drainage facilities in the area are adequate to handle this minor increase in flows. The Project would not result in a substantial alteration of drainage in the area, and no offsite uses would be affected by the proposed changes. All potential impacts are less than significant.

4) Less-Than-Significant Impact

The proposed project would alter the existing drainage pattern of the site, but not in a manner that would result in flooding. The site is currently mostly vacant and any construction on the site would alter the drainage pattern and reduce the absorption capability of the site. There are no streams or rivers that would be affected. All storm runoff would be captured onsite and conveyed through pipes to the City's stormwater system. Any changes to the site would drain into the City's existing storm drain system which would prevent any onsite or offsite flooding. This potential impact is less than significant.

5) Less-Than-Significant Impact

Construction on the site will drain into the City's existing storm drain system. The developer would be required to provide documentation showing the capacity exists within the existing lines and basin to serve this project.

6) Less-Than-Significant Impact

The proposed project would not substantially degrade water quality. The proposed project would be served by the City's water system and all water runoff will be contained onsite then directed out to the City's storm drain system. The construction of the project would not affect the water quality and would not degrade water quality in the area. This potential impact is less than significant.

7) Less-Than-Significant Impact

The project would be required to comply with flood-related regulations, including submitting a flood elevation certificate to the City's Building Department during the building permit process. This potential impact is less than significant.

8) Less-Than-Significant Impact

The Flood Insurance Rate Map shows the project within a Zone "X," limited flood hazard area. As required with all new construction, the project would be required to comply with all requirements of the California Building Code (CBC) to ensure construction of the buildings meets the minimum requirements set forth by the CBC and the requirements of Flood Zone "X." Therefore, there are no significant impacts.

9) Less-Than-Significant Impact

The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. According to Figure 11.3 of the *Merced Vision 2030 General Plan*, the project site is inside the inundation area of the Yosemite Lake Dam, but not the Bear Reservoir Dam. In the case of dam failure, the General Plan Safety Element addresses local hazard response procedures. This potential impact is less than significant.

10) Less-Than-Significant Impact

The proposed project is located approximately 80 miles from the Pacific Ocean, distant from any large lakes, and not within the inundation zones for Lake Yosemite or Bear Reservoir at an elevation ranging from approximately 173 feet above MSL. According to

the City's General Plan Safety Element, the City of Merced is not subject to inundation by tsunami, seiche, or mudflow. This potential impact is less than significant.

I. Land Use and Planning

SETTING AND DESCRIPTION

The project site is located within the City Limits of Merced and within its Specific Urban Development Plan and Sphere of Influence (SUDP/SOI).

SURROUNDING USES

Refer to Page 2 of this Initial Study and the map at Attachment A for the surrounding land uses.

Current Use

The project site is approximately 10 acres of mostly undeveloped land located on the south side of Cardella Road, between El Redondo Drive and Horizon Avenue.

The project site is currently within a Planned Development with General Plan designations of Office Commercial (CO) and Neighborhood Commercial (CN), which would allow commercial uses such as, but not limited to, retail, grocery stores, restaurants, personal services, medical, and professional services. The proposed land use amendment would convert the site from commercial to residential with a residential density of approximately 4.95 units per acre, which is within the allowable range of 2 to 6 dwelling units per acre for the proposed General Plan designation of Low Density Residential (LDR), a change from commercial.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. <u>Land Use and Planning.</u> Would the Project:				
1) Physically divide an established community?			✓	
2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			✓	
3) Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓

1) Less-Than-Significant Impact

The project site is within the boundaries of the Merced City Limits. It would not physically divide the community as it is already part of the City. The extension of El Redondo Drive

and Horizons Avenue would improve connectivity north to Cardella Road with a direct access to the northern portion of Merced instead of having to backtrack south to Yosemite Avenue to then travel north to access Cardella Road. This potential impact is less than significant.

2) Less-Than-Significant Impact

The project would change the zoning from commercial to residential, for a site that is surrounded by residential zones and an existing residential subdivision to the south. The current designation of commercial was implemented in order to provide an “Urban Village” in this area. Without the commercial, the surrounding Village Residential is no longer necessary. However, the proposal would be compatible with surrounding residential zones, therefore, the impact is less than significant.

3) No Impact

No Habitat Conservation Plans or Natural Community Conservation Plans have been adopted by the City of Merced. Therefore, there would be no impact.

J. Mineral Resources

SETTING AND DESCRIPTION

The City of Merced does not contain any mineral resources that require managed production according to the State Mining and Geology Board. Based on observed site conditions and review of geological maps for the area, economic deposits of precious or base metals are not expected to underlie the City of Merced or the project site. According to the California Geological Survey, Aggregate Availability in California - Map Sheet 52, minor aggregate production occurs west and north of the City of Merced, but economic deposits of aggregate minerals are not mined within the immediate vicinity of the SUDP/SOI. Commercial deposits of oil and gas are not known to occur within the SUDP/SOI or immediate vicinity.

According to the Merced County General Plan Background Report (June 21, 2007), very few traditional hard rock mines exist in the County. The County’s mineral resources are almost all sand and gravel mining operations. Approximately 38 square miles of Merced County, in 10 aggregate resource areas (ARA), have been classified by the California Division of Mines and Geology for aggregate. The 10 identified resource areas contain an estimated 1.18 billion tons of concrete resources with approximately 574 million tons in Western Merced County and approximately 605 million tons in Eastern Merced County. Based on available production data and population projections, the Division of Mines and Geology estimated that 144 million tons of aggregate would be needed to satisfy the projected demand for construction aggregate in the County through the year 2049. The available supply of aggregate in Merced County substantially exceeds the current and projected demand.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
J. <u>Mineral Resources.</u> Would the Project:				
1) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
2) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				✓

1) No Impact

No mineral resources occur within City Limits, SUDP/SOI, or within the project site, so no impact.

2) Less-Than-Significant Impact

See #1 above.

K. Noise

SETTING AND DESCRIPTION

Potential noise impacts of the proposed project can be categorized as those resulting from construction and those from operational activities. Construction noise would have a short-term effect; operational noise would continue throughout the lifetime of the project. Construction associated with the development of the project would increase noise levels temporarily during construction. Operational noise associated with the development would occur intermittently with the continued operation of the proposed project.

Some land uses are considered more sensitive to noise levels than other uses. Sensitive land uses can include residences, schools, nursing homes, hospitals, and some public facilities, such as libraries. The noise level experienced at the receptor depends on the distance between the source and the receptor, the presence or absence of noise barriers and other shielding devices, and the amount of noise attenuation (lessening) provided by the intervening terrain. For line sources such as motor or vehicular traffic, noise decreases by about 3.0 to 4.5A –weighted decibels (dBA) for every doubling of the distance from the roadway.

Noise from Other Existing Sources

Vehicular noise from Cardella Road, El Redondo Drive, and Horizon Avenue would be the primary existing noise source at the project site. The nearest railroad corridor is approximately 2.25 miles from the project site. The site is surrounded by various residential properties that

generate operational noise on a daily basis. There are no industrial uses located within 1,000 feet of the project site.

According to the *Merced Vision 2030 General Plan*, noise exposure not exceeding 45 dB is considered to be a “normally acceptable” noise level for residential uses.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
K. <u>Noise.</u> Would the Project result in:				
1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
2) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			✓	
3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			✓	
6) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			✓	

1) **Less Than Significant**

Construction Noise

Construction of the Project would temporarily increase noise levels in the area during the construction period. Therefore, the noise from construction may be steady for a few months and then cease all together. Construction activities, including site preparation and grading, building construction, and sidewalk and street improvements would be considered an intermittent noise impact throughout the construction period. These activities could

result in various effects on sensitive receptors, depending on the presence of intervening barriers or other insulating materials. The effects will be short term and would result in a less than significant impact.

Operational Noise

Operational noise would be the main noise source expected from the proposed project. Traffic coming to and from the project site would generate the most noise. However, the site is surrounded by other residential uses, which are generally expected to generate similar amount of noise as the proposed development. Implementation of the Project would not lead to continued offsite effects related to noise generated by the Project. Given the noise from similar low impact zones near the subject site, this potential impact is less than significant.

2) Less-Than-Significant Impact

Implementation of the proposed project would not result in the generation of any ground borne vibration or noise. This is a less-than-significant impact.

3) Less-Than-Significant Impact

As noted above, limited operational noise would be expected from the proposed residential project. Any development on the site could be considered an increase in the ambient noise, given the fact that the site is currently vacant. However, as explained previously, the site is within a residential area and surrounded by residential properties. The potential impacts of this project in the vicinity are less than significant.

4) Less-Than-Significant Impact

The project construction will cause temporary and periodic increases in the ambient noise levels. However, because the construction noise will only be temporary and the increase in noise generated from the site would be minimal, the impacts are less than significant.

5) Less-Than-Significant Impact

The project site is located within 4 miles from active areas of the Merced Regional Airport and approximately 10 miles from the Castle Airport. The airport has a flight patterns that goes northwest/southeast, which most likely does not fly directly over the project site, however, given the distance between the project site and the airports, there should be less-than-significant impact. Therefore, no population working or living at the site would be exposed to excessive levels of aircraft noise. This potential impact is less than significant.

6) Less-Than-Significant Impact

See Section #5 above.

L. Population and Housing

SETTING AND DESCRIPTION

The Project includes the construction of 53 single-family residential units on 53 lots.

Expected Population and Employment Growth

According to the State Department of Finance population estimates for 2022, the City of Merced's population was estimated to be 89,058. Population projections estimate that the Merced SUDP area will have a significant population of 159,900 by the Year 2030.

According to the *Merced Vision 2030 General Plan*, the City of Merced is expected to experience significant population and employment growth by the Year 2030.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
L. <u>Population and Housing.</u> Would the Project:				
1) Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			✓	
3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			✓	

1) **Less-Than-Significant Impact**

The project site has a General Plan designation of Office Commercial and Neighborhood Commercial which allows a residential density up to 36 dwelling units per acre with a conditional use permit. The proposed land use change of Low Density Residential which would allow between 2 and 6 dwelling units per acre, 16% of the number units that can be constructed with the current land use designations. Based on the reduced density, this potential impact would be less than significant.

2) **Less-Than-Significant Impact**

The project site is currently undeveloped and would be considered in-fill development for 53 single-family homes, resulting in less-than-significant impact.

3) **No Impact**

The project site is undeveloped on this approximate 10-acre site. No housing would be displaced as a result of this project. Therefore, the impact is less than significant.

M. Public Services

SETTING AND DESCRIPTION

Fire Protection

The City of Merced Fire Department provides fire protection, rescue, and emergency medical services from five fire stations throughout the urban area. Fire Station #53 is located at 800 Loughborough Drive, approximately 1.5 miles from the site. This Station would serve the proposed project.

Police Protection

The City of Merced Police Department provides police protection for the entire City. The Police Department employs a mixture of sworn officers, non-sworn officer positions (clerical, etc.), and unpaid volunteers (VIP). The service standard used for planning future police facilities is approximately 1.37 sworn officers per 1,000 population, per the Public Facilities Financing Plan.

Schools

The public school system in Merced is served by three districts: 1) Merced City School District (elementary and middle schools); 2) Merced Union High School District (MUHSD); and, 3) Weaver Union School District (serving a small area in the southeastern part of the City with elementary schools). The districts include various elementary schools, middle (junior high) schools, and high schools.

As the City grows, new schools will need to be built to serve our growing population. According to the Development Fee Justification Study for the MUHSD, Merced City Schools students are generated by new development at the following rate:

Table 6 Student Generation Rates		
Commercial/Industrial Category	Elementary (K-8) (Students per 1,000 sq.ft.)	High School (9-12) (Students per 1,000 sq.ft.)
Retail	0.13	0.038
Restaurants	0.00	0.157
Offices	0.28	0.048
Services	0.06	0.022
Wholesale/Warehouse	0.19	0.016
Industrial	0.30	0.147
Multi-Family	0.559 (per unit)	0.109 (per unit)

Based on the table above, the 45 units would generate 30 K-8 students and 6 high school students.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
M. <u>Public Services.</u> Would the Project:				
1) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire Protection?			✓	
b) Police Protection?			✓	
c) Schools?			✓	
d) Parks?			✓	
e) Other Public Facilities?			✓	

1) **Less Than Significant**

a) **Fire Protection**

The project site would be served by Fire Station #53, located at 800 Loughborough Drive (approximately 1.5 mile from the project site). The response from this station would meet the desired response time of 4 to 6 minutes, citywide, 90 percent of the time, within the financial constraints of the City. The proposed change in land use designation would not affect fire protection services, and no new or modified fire facilities would be needed. Any changes to the building or site would be required to meet all requirements of the California Fire Code and the Merced Municipal Code. Compliance with these requirements would reduce any future impacts to a less than significant level.

At the time a building permit is issued, the developer would be required to pay Public Facility Impact Fees (PFIF). A portion of this fee goes to cover the city's costs for fire protection such as fire stations, etc. In addition, the developer would be required to annex into the City's Community Facilities District for Services. This would result in an assessment paid with property taxes in which a portion of the tax would go to pay for fire protection services. Compliance with all Fire, Building, and Municipal Code requirements as well as payment of the Public Facility Impact Fees, and annexation into the City's CFD for services would reduce any potential impacts to a less than significant level.

b) **Police Protection**

The site would be served by the City Police Department. The development of the vacant project site could result in more calls to the site. Implementation of the proposed project would not require any new or modified police facilities.

The same requirements for paying Public Facility Impact Fees and annexation into the City's Community Facilities District for Services would apply with a portion of the fees and taxes collected going toward the costs for police protection. Therefore, this potential impact is reduced to a less-than-significant level.

c) Schools

The project site is located within the boundaries of the Merced City School District and Merced Union High School District. Based on the table and discussion provided in the "Settings and Description" section above, the proposed development would likely generate additional students to the school system. As appropriate, the developer would be required to pay all fees due under the Leroy F. Greene School Facilities Act of 1988. Once these fees are paid, the satisfaction of the developer of his statutory fee under California Government Code §65995 is deemed "full and complete mitigation" of school impacts. This potential impact is less than significant.

d) Parks

Rudolph Joseph Merino Park is located 0.50 miles south of the site. This housing development would slightly increase the use of neighborhood or regional parks.

Payment of the fees required under the Public Facilities Financing Program (PFIF) as described above would be required at time of building permit issuance to help fund future parks and maintenance of existing parks would be required at the building permit stage. The proposed amenities onsite and the payment of fees would reduce this potential impact to less than significant.

e) Other Public Facilities

The development of the Project could impact the maintenance of public facilities and could generate impacts to other governmental services. Payment of the fees required under the Public Facilities Financing Program (PFIF) as described above would mitigate these impacts to a less than significant level.

N. Recreation

SETTING AND DESCRIPTION

The City of Merced has a well-developed network of parks and recreation facilities. Several City parks and recreation facilities are located within a one-mile radius of the project site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
N. <u>Recreation.</u> Would the Project:				
1) Increase the use of neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
2) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

1) Less the Significant Impact

Development of the Project may increase the use of neighborhood or regional parks. However, payment of the required development fees at the building permit stage along with the amenities on site would reduce the potential impacts to a less than significant level.

2) No Impact

The Project is not responsible for the construction or expansion of any recreational facilities.

O. Transportation/Traffic

SETTING AND DESCRIPTION

For additional information see Appendix A at Attachment C for combined studies on Air Quality, Green House Gas Emissions, and Vehicle Miles Traveled.

Roadway System

The project site is located in northwest Merced, approximately three miles north of Downtown and two miles north of Highway 99. The project site consists of an undeveloped lot totaling approximately 10.70 acres. The project site is bounded by collector roads (north-south bound), El Redondo Drive and Horizon Avenue, and the nearest east-west road in Cardella Road, being a Major Arterial Road designed to carry large volumes of traffic traversing through a large portion of the community. Yosemite Avenue connects with Highway 59 and R Street which link with Highway 99 that connects Merced with other regional communities throughout the State. Cardell Road will do so in the future.

Transit Service

The Transit Joint Powers Authority for Merced County has jurisdiction over public transit in Merced County and operates The Bus. The Bus provides transportation for residents traveling

within Merced and outside the City within neighboring communities such as Planada, Atwater, and Livingston.

Vehicle Miles Traveled

Senate Bill (SB) 743 directs the Governor's Office of Planning and Research (OPR) to develop new guidelines for assessing transportation-related impacts that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099[b][1]). These new guidelines will replace automobile delay, as described through level of service (LOS), with more appropriate criteria and metrics based on travel demand, such as "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated" (Public Resources Code Section 21099[b][1]). The State CEQA Guidelines have been amended to include guidance for measuring travel demand and to recommend that delays related to congestion no longer be considered a significant impact under CEQA (OPR 2016).

Vehicle Miles Traveled Analysis

Calculation of VMT shown in the CalEEMod output files in Appendix A, Section 4.0 Operational Detail – Mobile, 4.2 Trip Summary Information shows that the project's annual VMT is 1,906,497 miles. This is unmitigated VMT and does not show reduction for location of the project to transportation, schools, connectivity, employment centers, and shopping.

The project is located within 0.7 mile of the R Street and Pacific Drive bus stop (M2, Merced R Street Route). The project site is located within 0.9 miles from the University of California Merced and 1.2 miles from Rivera Intermediate and Elementary Schools. Merino Park is located approximately 0.55 miles from the project site. The project is located within three miles of the city center where the majority of employers are located. Shopping centers and markets are located within two miles of the project site and throughout Merced.

The CalEEMod trip generation (Institute of Transportation Engineers (ITE), *Trip Generation Manual, 10th Edition*) provides for trip lengths of for home to work as 10.8-mile, home to shop as 7.3-miles, and home to other (schools, recreation) as 7.5-miles. As shown above the distance to from home to work, home to shopping, and home to schools is less than half these default distance provided by the ITE; therefore, given the location of the project, it is expected to reduce VMT by more 50 percent, resulting is a project VMT of 953,518 miles or a 50 percent reduction in the project's VMT.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
O. <u>Transportation/Traffic.</u> Would the project:				
1) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			✓	
2) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?			✓	
3) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?			✓	
4) Result in inadequate emergency access?			✓	

1) Less-than-Significant Impact

The CalEEMod trip generation (Institute of Transportation Engineers (ITE), *Trip Generation Manual, 10th Edition*) provides for trip lengths of for home to work as 10.8-mile, home to shop as 7.3-miles, and home to other (schools, recreation) as 7.5-miles. As shown above the distance to from home to work, home to shopping, and home to schools is less than half these default distance provided by the ITE; therefore, given the location of the project, it is expected to reduce VMT by more 50 percent, resulting is a project VMT of 953,518 miles or a 50 percent reduction in the project's VMT. There are no specific planned transit, bicycle, or pedestrian facilities for this site – so the development would not be eliminating or impact any of the infrastructure required for those modes of transportation. This would result in a less than significant impact.

2) Less-than-Significant Impact

Per CEQA Guidelines Section 15064.3, alternative modes of transportation are being assessed. The Amtrak (passenger train service) is located within 3 miles south providing services to the greater California area and connections to travel across the county. The closest airport is Merced Regional Airport, located approximately 3 miles to the east. The project is located within 0.7 mile of the R Street and Pacific Drive bus stop (M2, Merced

R Street Route). The project site is located within 0.9 miles from the University of California Merced and 1.2 miles from Rivera Intermediate and Elementary Schools. Merino Park is located approximately 0.55 miles from the project site. The project is located within three miles of the city center where the majority of employers are located. Shopping centers and markets are located within two miles of the project site and throughout Merced.

The project would not result in a change in-air traffic patterns, including air traffic associated with any airports. The increase in density would result in slightly more vehicle miles traveled to surrounding uses.

3) Less-than-Significant Impact

The project site is surrounded by developed subdivisions that are missing road connections. The proposed subdivision would extend some of the existing roads in El Redondo Drive and Horizon Avenue installing missing infrastructure along these roads up to Cardella Road. The proposal does not require changes to the existing street network.

The project site is surrounded by a new single-family home subdivision to the south, and undeveloped but entitled parcels that are missing road connections. The proposed subdivision would extend some of the existing roads in El Redondo Drive and Horizon Avenue, and install missing infrastructure Cardella Road and the new Gaucho Drive. The proposal does not require significant changes to the existing street network. Therefore, less than significant impact would occur.

4) Less-than-Significant Impact

The subject site is an approximate 10.76-acre parcel on mostly undeveloped land in a neighborhood with a General Plan designation of Village Core Residential to the east and west of the subject site (minimum 10 dwelling units per acre) and to the south with the same designation with a housing subdivision currently under construction (Sage Creek). There is currently a gap missing infrastructure of roads and utilities between future developments to the east and west, and connectivity with various subdivisions immediately to the south up to Cardella Road where currently there is no direct vehicle access. This entire area has a General Plan designation of Office Commercial (CO)/Neighborhood Commercial (CN) which would allow multifamily with a conditional use permit at a density of 12 to 36 dwelling units per acre. Approving this subdivision would connect the future east and west developments via road extensions and utility installation of Gaucho Drive, and connect the various subdivisions to the south up to Cardella Road where there is currently no access. These road connections would improve the street network within the neighborhood and improve emergency access to the site or surrounding uses. Therefore, project construction and operation would not pose a significant obstacle to emergency response vehicles. This impact on emergency access would be less than significant

P. PUBLIC UTILITIES AND FACILITIES

SETTING AND DESCRIPTION

Water

The City's water system is composed of 22 groundwater production wells located throughout the City, and approximately 350 miles of main lines. Well pump operators ensure reliability and adequate system pressure at all times to satisfy customer demand. Diesel powered generators help maintain uninterrupted operations during power outages. The City of Merced water system delivers more than 24 million gallons of drinking water per day to approximately 20,733 residential, commercial, and industrial customer locations. The City is required to meet State Health pressure requirements, which call for a minimum of 20 psi at every service connection under the annual peak hour condition and maintenance of the annual average daily demand plus fire flow, whichever is stricter. The City of Merced Water Division is operated by the Public Works Department.

The City of Merced's wells have an average depth of 414 feet and range in depth from 161 feet to 800 feet. The depth of these wells would suggest that the City of Merced is primarily drawing water from a deep aquifer associated with the Mehrten geological formation. Increasing urban demand and associated population growth, along with an increased shift by agricultural users from surface water to groundwater and prolonged drought have resulted in declining groundwater levels due to overdraft. This condition was recognized by the City of Merced and the Merced Irrigation District (MID) in 1993, at which time the two entities began a two-year planning process to ensure a safe and reliable water supply for Eastern Merced County through the year 2030. Integrated Regional Water Planning continues today through various efforts.

Wastewater

Wastewater (sanitary sewer) collection and treatment in the Merced urban area is provided by the City of Merced. The wastewater collection system handles wastewater generated by residential, commercial, and industrial uses in the City.

The City Wastewater Treatment Plant (WWTP), located in the southwest part of the City about two miles south of the airport, has been periodically expanded and upgraded to meet the needs of the City's growing population and new industry. The City's wastewater treatment facility has a capacity of 11.5 million gallons per day (mgd); with an average flow of 8.5 mgd. The City has recently completed an expansion project to increase capacity to 12 mgd and upgrade to tertiary treatment with the addition of filtration and ultraviolet disinfection. Future improvements would add another 8 mgd in capacity (in increments of 4 mgd), for a total of 20 mgd. This design capacity can support a population of approximately 174,000. The collection system will also need to be expanded as development occurs.

Treated effluent is disposed of in several ways depending on the time of year. Most of the treated effluent (75% average) is discharged to Hartley Slough throughout the year. The remaining treated effluent is delivered to a land application area and the on-site City-owned wetland area south of the treatment plant.

Storm Drainage

The *Draft City of Merced Storm Drainage Master Plan* addresses the collection and disposal of surface water runoff in the City's SUDP. The study addresses both the collection and disposal of

storm water. Systems of storm drain pipes and catch basins are laid out, sized, and costed in the plan to serve present and projected urban land uses.

It is the responsibility of the developer to ensure that utilities, including storm water and drainage facilities, are installed in compliance with City regulations and other applicable regulations. Necessary arrangements with the utility companies or other agencies will be made for such installation, according to the specifications of the governing agency and the City [(Ord. 1342 § 2 (part), 1980: prior code § 25.21(f)).] The disposal system is mainly composed of MID facilities, including water distribution canals and laterals, drains, and natural channels that traverse the area.

The City of Merced has been involved in developing a Storm Water Management Plan (SWMP) to fulfill requirements of storm water discharges from Small Municipal Separate Storm Sewer System (MS4) operators in accordance with Section 402(p) of the Federal Clean Water Act (CWA). The SWMP was developed to also comply with General Permit Number CAS000004, Water Quality Order No. 2003-0005-DWQ.

Solid Waste

The City of Merced is served by the Highway 99 Landfill and the Highway 99 Compost Facility, located at 6040 North Highway 99. The County of Merced is the contracting agency for landfill operations and maintenance, as the facilities are owned by the Merced County Association of Governments. The City of Merced provides services for all refuse pick-up within the City limits and franchise hauling companies collect in the unincorporated areas. In addition to these two landfill sites, there is one private disposal facility, the Flintkote County Disposal Site, at SR 99 and the Merced River. This site is restricted to concrete and earth material.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
P. <u>Utilities and Service Systems.</u> Would the Project:				
1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			✓	
2) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
3) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	

4) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			✓	
5) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
6) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
7) Comply with federal, state, and local statutes and regulations related to solid waste?			✓	

1) Less-Than-Significant Impact

The project site would be served by City sewer system. There is sufficient capacity for serving this project within the City of Merced. This potential impact is less than significant.

2) Less-Than-Significant Impact

The City's current water and wastewater system is capable of handling this project within the City of Merced. There are existing sewer and water lines along El Redondo Drive and Horizons Avenue, which would be extended to go through the project site. No significant environmental impacts would result from connecting to the line. This potential impact is less than significant.

3) Less-Than-Significant Impact

No new facilities or expansions of existing facilities are needed. This potential impact is less than significant.

4) Less-Than-Significant Impact

As explained above, no new water facilities are needed for this project. The existing water system is sufficient to serve the development. Potential impacts are less than significant.

5) Less-Than-Significant Impact

Refer to item 2 above.

6) Less-Than-Significant Impact

The City of Merced uses the Highway 59 Landfill. Sufficient capacity is available to serve the future project. According to the *Merced Vision 2030 General Plan* DEIR, the landfill has capacity to serve the City through 2030. Potential impacts are less than significant.

7) Less-Than-Significant Impact

All construction on the site would be required to comply with all local, state, and federal regulations regarding solid waste, including recycling. Potential impacts are less than significant.

Q. Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Q. <u>Mandatory Findings of Significance.</u> Would the Project:				
1) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			✓	
2) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects?)			✓	
3) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

1) Less-Than-Significant Impact

As previously discussed in this document, the Project does not have the potential to adversely affect biological resources or cultural resources, because such resources are lacking on the project site, and any potential impacts would be avoided with implementation of the mitigation measures and other applicable codes identified in this report. Also, the Project would not significantly change the existing urban setting of the project area. Thus, this impact would be less than significant.

2) Less-Than-Significant Impact

The Program Environmental Impact Report conducted for the *Merced Vision 2030 General Plan, the General Plan Program EIR* (SCH# 2008071069), has recognized that future development and build-out of the SUDP/SOI will result in cumulative and unavoidable impacts in the areas of Air Quality and Loss of Agricultural Soils. In conjunction with this conclusion, the City has adopted a Statement of Overriding Considerations for these impacts (Resolution #2011-63) which is herein incorporated by reference.

The certified General Plan EIR addressed and analyzed cumulative impacts resulting from changing agricultural use to urban uses. No new or unaddressed cumulative impacts will result from the project that have not previously been considered by the certified General Plan EIR or by the Statement of Overriding Considerations, or mitigated by this Expanded Initial Study. This Initial Study does not disclose any new and/or feasible mitigation measures which would lessen the unavoidable and significant cumulative impacts.

The analysis of impacts associated with the development would contribute to the cumulative air quality and agricultural impacts identified in the General Plan EIR. In the case of air quality, emissions from the proposed project would be less than significant. The nature and extent of these impacts, however, falls within the parameters of impacts previously analyzed in the General Plan EIR. No individual or cumulative impacts will be created by the Project that have not previously been considered at the program level by the General Plan EIR or mitigated by this Initial Study.

3) Less-Than-Significant Impact

Development anticipated by the *Merced Vision 2030 General Plan* will have significant adverse effects on human beings. These include the incremental degradation of air quality in the San Joaquin Basin, the loss of unique farmland, the incremental increase in traffic, and the increased demand on natural resources, public services, and facilities. However, consistent with the provisions of CEQA previously identified, the analysis of the proposed project is limited to those impacts which are peculiar to the project site or which were not previously identified as significant effects in the prior EIR. The previously-certified General Plan EIR and the Statement of Overriding Considerations addressed those cumulative impacts; hence, there is no requirement to address them again as part of this project.

This previous EIR concluded that these significant adverse impacts are accounted for in the mitigation measures incorporated into the General Plan EIR. In addition, a Statement of Overriding Considerations was adopted by City Council Resolution #2011-63 that indicates that the significant impacts associated with development are offset by the benefits that will be realized in providing necessary jobs for residents of the City. The analysis and mitigation of impacts have been detailed in the Environmental Impact Report prepared for the *Merced Vision 2030 General Plan*, which is incorporated into this document by reference.

While this issue was addressed and resolved with the General Plan EIR in an abundance of caution, in order to fulfill CEQA's mandate to fully disclose potential environmental consequences of projects, this analysis is considered herein. However, as a full disclosure

document, this issue is repeated in abbreviated form for purposes of disclosure, even though it was resolved as a part of the General Plan.

Potential impacts associated with the Project's development have been described in this Initial Study. All impacts were determined to be less than significant.

R. Greenhouse Gas Emissions

For additional information see Appendix A at Attachment C for combined studies on Air Quality, Green House Gas Emissions, and Vehicle Miles Traveled.

SETTING AND DESCRIPTION

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation is absorbed by GHGs; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, are released by natural sources and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. The following GHGs are widely accepted as the principal contributors to human-induced global climate change and are relevant to the project: carbon dioxide (CO₂), methane, and nitrous oxide.

Emissions of CO₂ are byproducts of fossil fuel combustion. Methane is the main component of natural gas and is associated with agricultural practices and landfills. Nitrous oxide is a colorless GHG that results from industrial processes, vehicle emissions, and agricultural practices.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO₂. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time the gas remains in the atmosphere (i.e., its atmospheric lifetime). The reference gas for GWP is CO₂; therefore, CO₂ has a GWP of 1. The other main GHGs that have been attributed to human activity include methane, which has a GWP of 28, and nitrous oxide, which has a GWP of 265 (IPCC 2013). For example, 1 ton of methane has the same contribution to the greenhouse effect as approximately 28 tons of CO₂. GHGs with lower emissions rates than CO₂ may still contribute to climate change, because they are more effective than CO₂ at absorbing outgoing infrared radiation (i.e., they have high GWPs). The concept of CO₂-equivalents (CO₂e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

Climate Change

Global climate change is a change in the average weather of the Earth, which can be measured by wind patterns, storms, precipitation, and temperature. It is exacerbated by GHGs, which trap heat in the atmosphere (called the "greenhouse" effect). GHGs include carbon dioxide, methane, and nitrous oxide, and are emitted by natural processes and human activities. Potential adverse effects of global climate change include a reduction in

the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels, and changes to ecosystems and the natural environment.

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

Regulatory Context

The City of Merced has developed and approved a Climate Action Plan (October 1, 2012). The City of Merced Climate Action Plan provides strategies for reduction of GHG emissions. The SJVAPC Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (December 17, 2009) provides guidance for addressing GHG analysis and implements a 29 percent reduction in project GHG emissions.

Significance Criteria

The Climate Action Plan provides strategies and actions for new developments in Part 4: Climate Action Plan Strategies and Actions. Consistency with the Climate action Plan strategies and action would show the project would not significantly increase GHG emissions in the future. The SJVAPCD criteria is to reduce GHG emission by 29 percent over business-as-usual.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
R. <u>Greenhouse Gas Emissions.</u> Would the project:				
1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

1) Less -than-Significant Impact

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies. In December 2009, SJVAPCD adopted the *Final Staff Report Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act* (SJVAPCD 2009). SJVAPCD also developed guidance for land-use agencies to address GHG emission impacts for new development projects. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would have a less-than-significant individual and cumulative impact related to GHG emissions. Projects implementing best performance standards and reducing project-specific GHG emissions by at least 29 percent compared to the business-as-usual condition would have a less-than-significant individual and cumulative impact on global climate change under this guidance. However, models used to estimate GHG emissions now include some of the statewide measures that previously would have been used to evaluate this 29 percent reduction performance standard, so this particular method of comparison is out of date.

To establish the context in which to consider the project's GHG emissions, this analysis used guidance from the adjacent Sacramento Metropolitan Air Quality Management District (SMAQMD) to determine significance. In 2014, SMAQMD adopted a significance threshold for GHG emissions consistent with the goals of Assembly Bill (AB) 32: 1,100 metric tons (MT) CO₂e per year for construction-related and operational emissions (SMAQMD 2014). This significance threshold was developed to assess the consistency of a project's emissions with the statewide framework for reducing GHG emissions.

The impacts associated with GHG emissions generated by the project are related to the emissions from short-term construction and operations. Off-road equipment, materials transport, and worker commutes during construction of the project would generate GHG emissions. Emissions generated by the project during operations are related to indirect GHG emissions associated with residential uses.

Project's GHG Emissions

The proposed project would result in the emission of GHGs during the construction and operational phases.

Construction GHG Emissions

Construction of the project would emit GHGs during the operation of heavy equipment. **Table 5** provides an estimate of project related GHG emissions per construction year.

Table 5

Construction Related GHG Emissions

Construction Year	CO ₂ e Emissions
	MT/year
2023	263.27
2024	110.15
Maximum Year Emissions	263.27

Operational GHG Emissions

Operation of the project would emit GHGs from area, energy, mobile, stationary, waste, and water sources. **Table 5** provides an estimate of project related GHG emissions per construction year. Detailed calculations are provided in Appendix A.

Table 5

Estimation of Project Related GHG Emissions

Operation	CO ₂ e Emissions
	MT/year
Total GHG Emissions	998.21

GHG emissions associated with construction of the project are short-term and will cease following completion of construction activity. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. For additional information see Appendix A at Attachment C. This impact would be less than significant.

2) Less-than-Significant Impact

In 2006, California enacted AB 32, the California Global Warming Solutions Act of 2006 (California Health and Safety Code Section 38500 et seq.). AB 32 establishes regulatory, reporting, and market mechanisms to achieve reductions in GHG emissions and establishes

a cap on statewide GHG emissions. It requires that statewide GHG emissions be reduced to 1990 levels by 2020.

In 2008 and 2014, the California Air Resources Board (ARB) approved the Climate Change Scoping Plan (Scoping Plan) and the first update to the Climate Change Scoping Plan: Building on the Framework, respectively (ARB 2008; ARB 2014). In 2016, the state legislature passed Senate Bill SB 32, which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels. In response to SB 32 and the companion legislation of AB 197, ARB approved the Final Proposed 2017 Scoping Plan Update: The Strategy for Achieving California's 2030 GHG Target in November 2017 (ARB 2017). The 2017 Scoping Plan draws from the previous plans to present strategies to reaching California's 2030 GHG reduction target. The project would comply with any mandate or standards set forth by an adopted Scoping Plan Update effecting construction activities and operations.

In 2012, the City of Merced adopted the *Merced Climate Action Plan* to address the reduction of major sources of GHG emissions. The climate action plan established an emissions target of 1990 levels by 2020, commensurate with the State of California's target (City of Merced 2012). To meet this goal, the City adopted values, goals, and strategies to reduce emissions. Goals of the plan include:

- enhanced mobility of all transportation modes;
- sustainable community design;
- water conservation and technology;
- protection of air resources;
- waste reduction;
- increased use of renewable energy sources;
- building energy conservation; and
- public outreach and involvement.

The project would be consistent with the goals of the *Merced Climate Action Plan*.

The greatest source of GHG emissions emitted from the project is from mobile sources (refer to Appendix A). It is important that the project be consistent with reduced VMT and strategy provided in the Climate Action Plan.

Due to the location of the project to schools, shopping, employment, and transportation, it is reasonable to assume that implementation of the project would reduce VMT and therefore, reduce GHG emissions (refer to Vehicle Miles Traveled Section below). It is anticipated that the location of the project would reduce residential VMT by greater than 50 percent; however, to be conservative a 50 percent reduction in VMTs was used in the CalEEMod (refer to Appendix A). A reduction in VMT of 50 percent will not result in a 50 percent reduction in GHG emissions because the overall project GHG emissions includes, not only mobile emission, but area, energy, waste, and water GHG emission sources. Table 6 shows GHG emissions based on the reduction of VMT estimated in Vehicle Miles Traveled Section, as shown emissions are reduced by 44 percent, CalEEMod output files are provided in Appendix A

Table 6**Reduced VMT Related GHG Emissions**

Operation	CO₂e Emissions
	MT/year
Total GHG Emissions	555.60

The project is also consistent with the City's Climate Action Plan, Strategy EM 1.5 Mobility Development Review Policies due to the project's connectivity with the adjacent neighborhoods, nearby transit stops (Route M5 – Merced South-East), and schools which reduce mobile GHG emissions. The project would not create any significant new sources of GHG emissions and would comply with the City's Climate Action Plan and SJVAPCD emissions reduction requirements; therefore, the project would not contribute to adverse impacts associated with cumulative GHG emissions.

As mentioned above, the project would not exceed emissions thresholds adopted by SMAQMD and would be consistent with the applicable requirements of the *Merced Climate Action Plan*. Therefore, the project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. For additional information see Appendix A at Attachment C. This impact would be less than significant.

4. ENVIRONMENTAL DETERMINATION

On the basis of this initial environmental evaluation:

 X I find that the project could have a significant effect on the environment, and that
a NEGATIVE DECLARATION HAS BEEN PREPARED for public review.

March 1, 2023

Francisco Mendoza-Gonzalez, Associate Planner

Kim Espinosa, Planning Manager
Environmental Coordinator
City of Merced

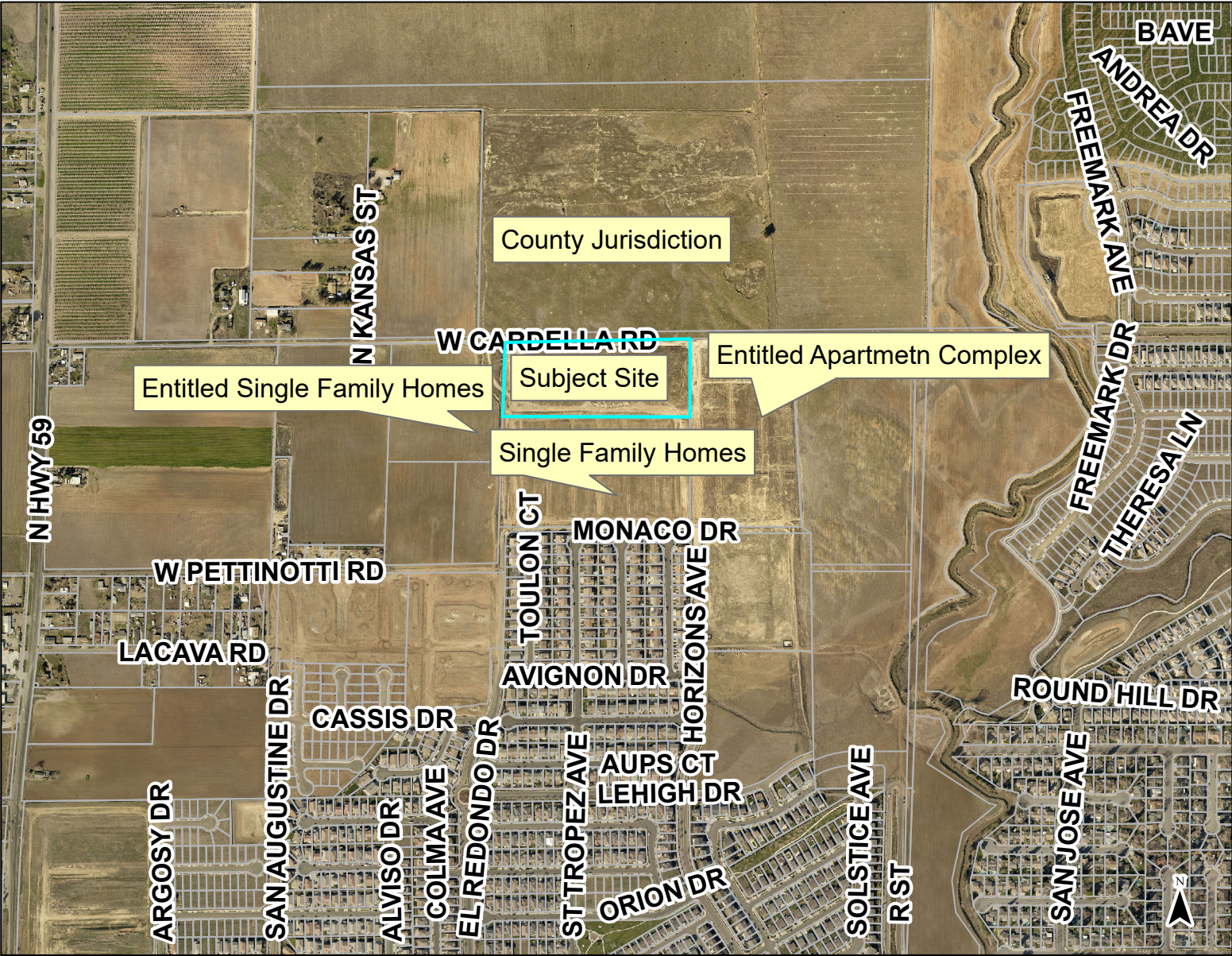
5. PREPARERS OF THE INITIAL STUDY

LEAD AGENCY

City of Merced
Planning & Permitting Division
678 West 18th Street
Merced, CA 95340
(209) 385-6929
Francisco Mendoza-Gonzalez, Associate Planner

ATTACHMENTS:

- A) Location Map
- B) Site Plan
- C) Appendix A – Combined Studies for Air Quality, Green House Gas Emissions, and Vehicle Miles Traveled



[illegible]**LEGAL DESCRIPTION**

LOCATION MAP:

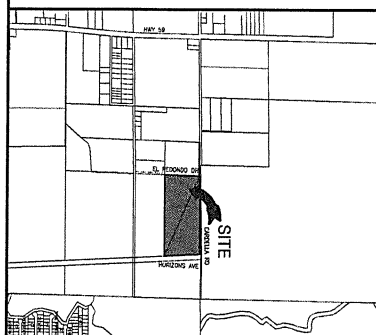


Figure 1 consists of five cross-sectional diagrams of highway bridge girders, labeled 1 through 5. Each diagram shows a central concrete deck with reinforcement bars (R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100) and a central concrete core. The diagrams show the reinforcement layout for the deck, the central core, and the side walls. The reinforcement is shown as a grid of bars with dimensions indicating the spacing and placement. The diagrams are labeled with the right-of-way width and the reinforcement layout.

- Diagram 1:** 12' 0" RIGHT OF WAY. Shows a central concrete deck with reinforcement bars (R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100) and a central concrete core. The reinforcement is shown as a grid of bars with dimensions indicating the spacing and placement.
- Diagram 2:** 42' RIGHT OF WAY. Shows a central concrete deck with reinforcement bars (R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100) and a central concrete core. The reinforcement is shown as a grid of bars with dimensions indicating the spacing and placement.
- Diagram 3:** 64' RIGHT OF WAY. Shows a central concrete deck with reinforcement bars (R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100) and a central concrete core. The reinforcement is shown as a grid of bars with dimensions indicating the spacing and placement.
- Diagram 4:** 84' RIGHT OF WAY. Shows a central concrete deck with reinforcement bars (R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100) and a central concrete core. The reinforcement is shown as a grid of bars with dimensions indicating the spacing and placement.
- Diagram 5:** 40' RIGHT OF WAY. Shows a central concrete deck with reinforcement bars (R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100) and a central concrete core. The reinforcement is shown as a grid of bars with dimensions indicating the spacing and placement.

CARDELLA ROAD
APN: 206-030-017

CITY OF MERCED

STATE OF CALIFORNIA

[illegible]

SCS ENGINEERS

Environmental Consultants & Contractors

November 14, 2022
File No. 01222274.00

Adrian Chen
42260 Vargad Road
Fremont, CA 94539
510-378-3950

Subject: Air Quality (AQ), Greenhouse Gas (GHG), and Vehicle Miles Traveled (VMT) Analyses for the Cardella Road Land Use Project Located in the City of Merced, Merced County, California

Dear Mr. Chen:

Mr. Chen has requested **SCS Engineers (SCS)** to provide an AQ and GHG analyses for submittal to the City of Merced, California. It is our understanding that the Cardella Road Project (project) is required by the City of Merced (City) to analyze the project's impact on AQ, GHG, and VMT; therefore, SCS provides Cardella Road with the following letter.

PROJECT BACKGROUND

SCS understand Cardella Road is a 6.5-acre subdivision project located adjacent to Cardella Road to the north, Redondo Drive to the west, and Horizons Avenue to the east in the City of Merced, CA. The subdivision is approximately 53 lots, ranging between 5,035 to 6,825 square feet.

The proposed project will consist of a constructing a single-family residential subdivision. The City is requesting that AQ, GHG, and VMT analyses be performed.

AIR QUALITY

REGULATORY CONTEXT

Ambient Air Quality Standards

The California Clean Air Act (CAA) establishes maximum ambient concentrations for the criteria air pollutants (CAPs), known as the California Ambient Air Quality Standards (CAAQS). The CAPs are ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), lead (Pb), particulate matter 10 and 2.5 microns in size (PM₁₀ and PM_{2.5}), hydrogen sulfide, sulfates, visibility reducing particles, and vinyl chloride. Concentrations above these time-averaged limits are anticipated to cause adverse health effects to sensitive receptors. **Table 1** shows the standards for the various averaging times for criteria pollutants under the CAAQS. The San Joaquin Valley Air Basin (SJVAB) is in nonattainment for the following CAAQS criteria pollutants: ozone, PM₁₀, PM_{2.5}.

TABLE 1
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Standard
		parts per million or microgram per cubic meter
		CAAQS
Ozone	1 hour	0.09
	8 hour	0.070
CO	8 hour	9
	1 hour	20
NO ₂	Annual Mean	0.03
	1 hour	0.18
SO ₂	24 hour	0.04
	3 hour	N/A
	1 hour	0.25
PM ₁₀	Annual Mean	(20)
	24 hour	(50)
PM _{2.5}	Annual arithmetic mean	(12)
	24 hour	N/A
Pb	Rolling 3-Month Average	N/A
	30 Days	(1.5)
Hydrogen Sulfide	1 hour	0.03
Vinyl Chloride	24 hour	0.01
Sulfate	24 hour	(25)
Visibility Reducing Particles	8 hour	extinction of 0.23 per km

California State Implementation Plan (SIP)

California's SIP is comprised of the State's overall air quality attainment plans to meet the CAAQS as well as the individual air quality attainment plans of each Air Quality Management District (AQMD) and Air Pollution Control District (APCD). The items included in the California SIP are listed in 40 CFR Chapter I, Part 52, Subpart F §52.220. The California SIP is a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), AQMD and APCD rules, State regulations, and federal controls for each air basin and California's overall air quality. Many of the items within the California SIP rely on the same control strategies, such as emissions standards for cars and heavy trucks, fuel regulations, and limitations on emissions from consumer products. AQMDs and APCDs, as well as other agencies such as the Bureau of Automotive Repair, prepare draft California SIP elements and submit them to California Air Resource Board (CARB) for review and approval. The California CAA identifies CARB as the lead agency for compiling items for incorporation into the California SIP, and submitting the items to CARB and the United States Environmental Protection Agency (U.S. EPA) for

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approval. San Joaquin Valley Air Basin (SJVAB) is in nonattainment for ozone, PM₁₀, PM_{2.5} and have approved SIPs.

San Joaquin Valley Air Pollution Control District (SJVAPCD)

The SJVAPCD is a regional agency which regulates stationary sources of air pollution within the SJVAB whose boundaries are contiguous with the County's boundaries. Its primary purpose is to enforce local, state, and federal air quality regulations in order to satisfy ambient air quality standards and protect the public from harm due to poor air quality. The SJVAPCD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review activities. Additionally, the SJVAPCD regulates open and agricultural burning and is responsible for air quality monitoring, preparing clean air plans, and responding to citizen complaints regarding air quality.

All projects in Merced County and in the community of Merced are subject to applicable SJVAPCD rules and regulations in effect at the time of construction and operation. The SJVAPCD has adopted air quality thresholds for determination of impact significance for projects subject to California Environmental Quality Act (CEQA) review. Air quality significance criteria is provided in Table 2.

TABLE 2
AIR QUALITY THRESHOLDS OF SIGNIFICANCE – CRITERIA POLLUTANTS

Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Permitted Equipment and Activities
		Tons/Year	
CO	100	100	100
NO _x	10	10	10
ROG	10	10	10
SO _x	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15

SJVAPCD, AQ Thresholds of Significance – Criteria Pollutants (March 19, 2015)

Sensitive Receptors

Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality related health problems. Residential areas are considered sensitive to poor air quality, because people usually stay home for extended periods of time, increasing the potential exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

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The land surrounding the project sites is primarily open space, there is a residential subdivision located approximately 630 feet to the south and agricultural land uses located approximately 1,375 feet to the north. Merced College is the nearest school to the project site at 0.82 miles and Rudolph Rivera Intermediate and Elementary School are approximately 1.30 miles from the project site. The nearest recreation facility, Merino Park is located 0.52 miles from the project site and the nearest hospital, Mercy Hospital is located 1.27 mile from the project site.

Methodology

The Proposed Project's short-term construction-related criteria pollutant emissions were estimated using California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The CalEEMod used default values for construction and operational emissions estimate. Because the City does not provide criteria pollutant emission thresholds, estimated project-related criteria pollutant emissions were compared to the SJVAPCD CEQA construction and operational criteria pollutant significant criteria shown in Table 2.

Air Quality Analyses

The City of Merced is located in the SJVAB, which is under the jurisdiction of the SJVAPCD and is classified as nonattainment for ozone, PM₁₀, PM_{2.5}. The SJVAPCD have applicable SIPs to address these nonattainment issues. The SJVAPCD has provided significance criteria (Table 2), which if a project's emissions are below these the significance criteria the project is considered to not conflict with or obstruct implementation of the applicable air quality plan. As shown below the project's emissions do not exceed the SJVAPCD significance criteria. **No Impact.**

Construction

Construction of the project would require demolition, site preparation, grading, building/infrastructure, paving and architectural coating. As shown in Table 3, construction criteria emission would not exceed the SJVAPCD significance criteria. **Less than Significant.**

TABLE 3
MAXIMUM ANNUAL CONSTRUCTION EMISSIONS

Pollutant/Precursor	Construction Emissions	Significant Criteria	Exceed Significant
	Tons/Year		
CO	1.66	100	No
NOx	1.53	10	No
ROG	0.96	10	No
SOx	0.003	27	No
Total PM10	0.27	15	No
Total PM2.5	0.16	15	No

Operation

Operation of the project would emit criteria pollution from area, energy, mobile, stationary, waste, and water sources. Table 4, shows the emissions from the operation of the project with 53 single family homes. As shown in Table 4 project emission would not exceed the SJVAPCD significance threshold. Therefore, operation of the project would not adversely impact regional air quality. **Less than Significant.**

TABLE 4
MAXIMUM ANNUAL OPERATIONAL EMISSIONS

Pollutant/Precursor	Construction Emissions	Significant Criteria	Exceed Significant
	Tons/Year		
CO	3.51	100	No
NOx	0.83	10	No
ROG	0.78	10	No
SOx	0.01	27	No
Total PM10	0.73	15	No
Total PM2.5	0.21	15	No

Cumulative Impacts

Although SJVAPCD does not have any quantitative cumulative significant criteria, air quality is cumulative in nature. CAAQS are predicated on past, present, and future emissions; therefore, if project-related emission are found to have a less-than-significant impact in the near-term conditions, then cumulative impacts would also be less-than-significant. Project-related air quality impacts were found to be less-than-significant in the near-term conditions; therefore, the project would not adversely affect regional air quality in the future. **Less than Significant.**

The shortest distance between a project site and the nearest sensitive receptor is approximately 630 feet. Construction activities would be short term and intermittent. Although used during construction, heavy construction equipment would be the main source of pollutants during construction of the project. Given that heavy equipment would be used intermittently and during the day time hours, and given the short duration of construction activities in a given area and distance to the nearest sensitive receptor, exposure of sensitive receptors to substantial pollutant concentrations would not occur. Operation of the project would not result in substantial pollutant concentrations. **Less than Significant.**

Given the use of heavy equipment during construction, the time of day heavy equipment would be operated, and the distance to the nearest sensitive receptor, the project would not emit objectionable odors that would be adversely affect a substantial number of people. Operation of the project would not emit odors. Therefore, construction and operation of the project would have a less-than-significant impact associated with odors. **Less than Significant.**

GREENHOUSE GAS EMISSIONS

CLIMATE CHANGE

Global climate change is a change in the average weather of the Earth, which can be measured by wind patterns, storms, precipitation, and temperature. It is exacerbated by GHGs, which trap heat in the atmosphere (called the “greenhouse” effect). GHGs include carbon dioxide, methane, and nitrous oxide, and are emitted by natural processes and human activities. Potential adverse effects of global climate change include a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels, and changes to ecosystems and the natural environment.

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, city, and virtually every individual on Earth. A project’s GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

REGULATORY CONTEXT

The City of Merced has developed and approved a Climate Action Plan (October 1, 2012). The City of Merced Climate Action Plan provides strategies for reduction of GHG emissions. The SJVAPCD Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (December 17, 2009) provides guidance for addressing GHG analysis and implements a 29 percent reduction in project GHG emissions.

METHODOLOGY

The Proposed Project’s short-term construction-related GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The CalEEMod used default values for construction and operational emissions estimate.

SIGNIFICANCE CRITERIA

The Climate Action Plan provides strategies and actions for new developments in Part 4: Climate Action Plan Strategies and Actions. Consistency with the Climate action Plan strategies and action would show the project would not significantly increase GHG emissions in the future. The SJVAPCD criteria is to reduce GHG emission by 29 percent over business-as-usual.

Project’s GHG Emissions

The proposed project would result in the emission of GHGs during the construction and operational phases.

Construction GHG Emissions

Construction of the project would emit GHGs during the operation of heavy equipment. **Table 5** provides an estimate of project related GHG emissions per construction year. Detailed calculations are provided in **Appendix A**.

TABLE 5
CONSTRUCTION RELATED GHG EMISSIONS

Construction Year	CO ₂ e Emissions
	MT/year
2023	263.27
2024	110.15
Maximum Year Emissions	263.27

Operational GHG Emissions

Operation of the project would emit GHGs from area, energy, mobile, stationary, waste, and water sources. **Table 5** provides an estimate of project related GHG emissions per construction year. Detailed calculations are provided in **Appendix A**.

TABLE 5
ESTIMATION OF PROJECT RELATED GHG EMISSIONS

Operation	CO ₂ e Emissions
	MT/year
Total GHG Emissions	998.21

Project's Consistency with City's Climate Action Plan

The greatest source of GHG emissions emitted from the project is from mobile sources (refer to Appendix A). It is important that the project be consistent with reduced VMT and strategy provided in the Climate Action Plan.

Due to the location of the project to schools, shopping, employment, and transportation, it is reasonable to assume that implementation of the project would reduce VMT and therefore, reduce GHG emissions (refer to Vehicle Miles Traveled Section below). It is anticipated that the location of the project would reduce residential VMT by greater than 50 percent; however, to be conservative a 50 percent reduction in VMTs was used in the CalEEMod (refer to Appendix A). A reduction in VMT of 50 percent will not result in a 50 percent reduction in GHG emissions because the overall project GHG emissions includes, not only mobile emission, but area, energy, waste, and water GHG emission sources. Table 6 shows GHG emissions based on the reduction of VMT estimated in Vehicle Miles Traveled Section, as shown emissions are reduced by 44 percent, CalEEMod output files are provided in Appendix A.

TABLE 6
REDUCED VMT RELATED GHG EMISSIONS

Operation	CO ₂ e Emissions
	MT/year
Total GHG Emissions	555.60

The project is also consistent with the City's Climate Action Plan, Strategy EM 1.5 Mobility Development Review Policies due to the project's nearby transit stops on R Street (Route M2), and schools, shopping, employment centers, which would reduce mobile GHG emissions. The project would not create any significant new sources of GHG emissions and would comply with the City's Climate Action Plan and SJVAPCD emissions reduction requirements; therefore, the project would not contribute to adverse impacts associated with cumulative GHG emissions. **Less than Significant.**

VEHICLE MILES TRAVELED

Regulatory Context

Pursuant to Senate Bill 743 (passed in 2013), the metric for analyzing transportation impacts under the CEQA officially changed over on July 1, 2020 from level of service to VMT. The 2030 City of Merced General Plan identifies the improvement project and strategies that have and will assist the City of Merced in reducing its vehicles miles traveled.

Vehicle Miles Traveled Analysis

Calculation of VMT shown in the CalEEMod output files in Appendix A, Section 4.0 Operational Detail – Mobile, 4.2 Trip Summary Information shows that the project's annual VMT is 1,906,497 miles. This is unmitigated VMT and does not show reduction for proximity of the project to transportation, schools, employment centers, and shopping.

The project is located within 0.7 mile of the R Street and Pacific Drive bus stop (M2, Merced R Street Route). The project site is located within 0.9 miles from University of California at site and 1.2 miles from Rivera Intermediate and Elementary schools. Merino Park is located approximately 0.55 miles from the project site. The project is located within three miles of the city center where the majority of employers are located. Shopping centers and markets are located within two miles of the project site and throughout Merced.

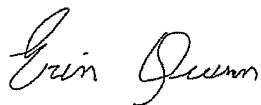
The CalEEMod trip generation (Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition) provides for trip lengths of for home to work as 10.8-mile, home to shop as 7.3-miles, and home to other (schools, recreation) as 7.5-miles. As shown above the distance to from home to work, home to shopping, and home to schools is less than half these default distance provided by the ITE; therefore, given the location of the project, it is expected to reduce VMT by more 50 percent, resulting in a project VMT of 953,518 miles or a 50 percent reduction in the project's VMT. **Less than Significant.**

Mr. Adrien Chen
November 14, 2022
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CONCLUSION

Implementation of the project would not result in a significant regional AQ impacts, a significant increase in GHG emissions, and would comply with VMT criteria within the City.

Sincerely,



Erin Quinn
Project Director
SCS Engineers



Patrick Sullivan
Senior Vice President
SCS Engineers

Attachments

ATTACHMENTS

CalEEMod Output Files

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Cardella Road - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Cardella Road
Merced County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	53.00	Dwelling Unit	6.50	95,400.00	152

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	49
Climate Zone	3			Operational Year	2024
Utility Company	Merced Irrigation District				
CO2 Intensity (lb/MWhr)	290.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per plans

Construction Phase -

Demolition -

Vehicle Trips - 50% Reduction due to location of schools, shopping, connectivity, and transportation.

Area Mitigation -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblLandUse	LotAcreage	17.21	6.50
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

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tblWoodstoves	NumberCatalytic	6.50	10.76
tblWoodstoves	NumberNoncatalytic	6.50	10.76

2.0 Emissions Summary

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Cardella Road - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1694	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2257	261.2257	0.0599	1.8600e-003	263.2763
2024	0.9587	0.5552	0.7239	1.2600e-003	0.0112	0.0253	0.0365	3.0000e-003	0.0238	0.0268	0.0000	109.3112	109.3112	0.0247	7.3000e-004	110.1454
Maximum	0.9587	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2257	261.2257	0.0599	1.8600e-003	263.2763

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1694	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2254	261.2254	0.0599	1.8600e-003	263.2760
2024	0.9587	0.5552	0.7239	1.2600e-003	0.0112	0.0253	0.0365	3.0000e-003	0.0238	0.0268	0.0000	109.3111	109.3111	0.0247	7.3000e-004	110.1453
Maximum	0.9587	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2254	261.2254	0.0599	1.8600e-003	263.2760

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2023	6-30-2023	0.6361	0.6361
2	7-1-2023	9-30-2023	0.5380	0.5380
3	10-1-2023	12-31-2023	0.5387	0.5387
4	1-1-2024	3-31-2024	0.4951	0.4951
5	4-1-2024	6-30-2024	1.0085	1.0085
		Highest	1.0085	1.0085

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6956	0.0568	2.3932	6.6400e-003		0.3287	0.3287		0.3287	0.3287	43.4997	23.6028	67.1025	0.2044	4.2000e-004	72.3382
Energy	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	123.7650	123.7650	7.6300e-003	2.0100e-003	124.5557
Mobile	0.2975	0.7712	3.0953	8.0800e-003	0.7177	8.4200e-003	0.7261	0.1925	7.9400e-003	0.2004	0.0000	750.2519	750.2519	0.0337	0.0487	765.6010
Waste						0.0000	0.0000		0.0000	0.0000	11.1077	0.0000	11.1077	0.6564	0.0000	27.5188
Water						0.0000	0.0000		0.0000	0.0000	1.0955	3.4718	4.5674	0.1129	2.7000e-003	8.1962
Total	1.0000	0.8867	5.5135	0.0151	0.7177	0.3418	1.0595	0.1925	0.3413	0.5338	55.7029	901.0915	956.7944	1.0151	0.0538	998.2099

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4740	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Energy	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	123.7650	123.7650	7.6300e-003	2.0100e-003	124.5557
Mobile	0.2975	0.7712	3.0953	8.0800e-003	0.7177	8.4200e-003	0.7261	0.1925	7.9400e-003	0.2004	0.0000	750.2519	750.2519	0.0337	0.0487	765.6010
Waste						0.0000	0.0000		0.0000	0.0000	11.1077	0.0000	11.1077	0.6564	0.0000	27.5188
Water						0.0000	0.0000		0.0000	0.0000	1.0955	3.4718	4.5674	0.1129	2.7000e-003	8.1962
Total	0.7783	0.8344	3.5137	8.4700e-003	0.7177	0.0154	0.7330	0.1925	0.0149	0.2074	12.2032	878.1315	890.3347	0.8113	0.0534	926.5299

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	22.16	5.90	36.27	43.87	0.00	95.51	30.81	0.00	95.64	61.16	78.09	2.55	6.95	20.08	0.78	7.18

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	

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4	Paving	Paving	3/30/2024	4/26/2024	5	20
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20

Acres of Grading (Site Preparation Phase): 15**Acres of Grading (Grading Phase): 20****Acres of Paving: 0****Residential Indoor: 193,185; Residential Outdoor: 64,395; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	19.00	6.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	0.0133	0.1376	0.0912	1.9000e-004	0.0983	6.3300e-003	0.1046	0.0505	5.8200e-003	0.0563	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Site Preparation - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243
Total	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	0.0133	0.1376	0.0912	1.9000e-004	0.0983	6.3300e-003	0.1046	0.0505	5.8200e-003	0.0563	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606

Cardella Road - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243
Total	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
Total	0.0171	0.1794	0.1475	3.0000e-004	0.0708	7.7500e-003	0.0786	0.0343	7.1300e-003	0.0414	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Grading - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406
Total	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
Total	0.0171	0.1794	0.1475	3.0000e-004	0.0708	7.7500e-003	0.0786	0.0343	7.1300e-003	0.0414	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406
Total	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406

3.4 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2389	191.2389	0.0455	0.0000	192.3762
Total	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2389	191.2389	0.0455	0.0000	192.3762

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0208	7.0000e-003	9.0000e-005	2.9600e-003	1.3000e-004	3.1000e-003	8.6000e-004	1.3000e-004	9.8000e-004	0.0000	8.8131	8.8131	3.0000e-005	1.3100e-003	9.2045
Worker	7.5200e-003	5.8300e-003	0.0689	1.7000e-004	0.0194	1.1000e-004	0.0196	5.1700e-003	1.0000e-004	5.2700e-003	0.0000	15.9462	15.9462	4.7000e-004	4.7000e-004	16.0988
Total	8.0800e-003	0.0266	0.0739	2.6000e-004	0.0224	2.4000e-004	0.0227	6.0300e-003	2.3000e-004	6.2500e-003	0.0000	24.7593	24.7593	5.0000e-004	1.7800e-003	25.3033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2387	191.2387	0.0455	0.0000	192.3760
Total	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2387	191.2387	0.0455	0.0000	192.3760

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2023****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0208	7.0000e-003	9.0000e-005	2.9600e-003	1.3000e-004	3.1000e-003	8.6000e-004	1.3000e-004	9.8000e-004	0.0000	8.8131	8.8131	3.0000e-005	1.3100e-003	9.2045
Worker	7.5200e-003	5.8300e-003	0.0669	1.7000e-004	0.0194	1.1000e-004	0.0196	5.1700e-003	1.0000e-004	5.2700e-003	0.0000	15.9462	15.9462	4.7000e-004	4.7000e-004	16.0988
Total	8.0800e-003	0.0266	0.0739	2.6000e-004	0.0224	2.4000e-004	0.0227	6.0300e-003	2.3000e-004	6.2500e-003	0.0000	24.7593	24.7593	5.0000e-004	1.7800e-003	25.3033

3.4 Building Construction - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964
Total	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2024****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.1800e-003	2.6700e-003	4.0000e-005	1.1700e-003	5.0000e-005	1.2200e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	3.4173	3.4173	1.0000e-005	5.1000e-004	3.5689
Worker	2.7200e-003	2.0000e-003	0.0240	7.0000e-005	7.6600e-003	4.0000e-005	7.7000e-003	2.0400e-003	4.0000e-005	2.0700e-003	0.0000	6.0895	6.0895	1.6000e-004	1.7000e-004	6.1442
Total	2.9300e-003	0.0102	0.0267	1.1000e-004	8.8300e-003	9.0000e-005	8.9200e-003	2.3800e-003	9.0000e-005	2.4600e-003	0.0000	9.5068	9.5068	1.7000e-004	6.8000e-004	9.7131

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963
Total	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.4 Building Construction - 2024****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.1800e-003	2.6700e-003	4.0000e-005	1.1700e-003	5.0000e-005	1.2200e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	3.4173	3.4173	1.0000e-005	5.1000e-004	3.5689
Worker	2.7200e-003	2.0000e-003	0.0240	7.0000e-005	7.6600e-003	4.0000e-005	7.7000e-003	2.0400e-003	4.0000e-005	2.0700e-003	0.0000	6.0895	6.0895	1.6000e-004	1.7000e-004	6.1442
Total	2.9300e-003	0.0102	0.0267	1.1000e-004	8.8300e-003	9.0000e-005	8.9200e-003	2.3800e-003	9.0000e-005	2.4600e-003	0.0000	9.5068	9.5068	1.7000e-004	6.8000e-004	9.7131

3.5 Paving - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Paving - 2024****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925
Total	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.5 Paving - 2024****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925
Total	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925

3.6 Architectural Coating - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8954					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	0.8972	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980
Total	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8954					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	0.8972	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.6 Architectural Coating - 2024****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980
Total	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2975	0.7712	3.0953	8.0800e-003	0.7177	8.4200e-003	0.7261	0.1925	7.9400e-003	0.2004	0.0000	750.2519	750.2519	0.0337	0.0487	765.6010
Unmitigated	0.2975	0.7712	3.0953	8.0800e-003	0.7177	8.4200e-003	0.7261	0.1925	7.9400e-003	0.2004	0.0000	750.2519	750.2519	0.0337	0.0487	765.6010

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	500.32	505.62	453.15	1,906,497	1,906,497
Total	500.32	505.62	453.15	1,906,497	1,906,497

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	16.80	7.10	7.90	46.90	17.40	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.515533	0.047958	0.156749	0.151796	0.029800	0.007258	0.013970	0.049021	0.000803	0.000458	0.021477	0.002201	0.002977

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.0 Energy Detail**

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.7800	55.7800	6.3300e-003	7.7000e-004	56.1667
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.7800	55.7800	6.3300e-003	7.7000e-004	56.1667
NaturalGas Mitigated	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890
NaturalGas Unmitigated	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890
Total		6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890
Total		6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890

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	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620	55.7800	6.3300e- 003	7.7000e- 004	56.1667
Total		55.7800	6.3300e- 003	7.7000e- 004	56.1667

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620	55.7800	6.3300e- 003	7.7000e- 004	56.1667
Total		55.7800	6.3300e- 003	7.7000e- 004	56.1667

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

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Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4740	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Unmitigated	0.6958	0.0568	2.3932	6.6400e-003		0.3287	0.3287		0.3287	0.3287	43.4997	23.6028	67.1025	0.2044	4.2000e-004	72.3382

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0895					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2216	0.0523	1.9999	6.6200e-003		0.3265	0.3265		0.3265	0.3265	43.4997	22.9600	66.4597	0.2038	4.2000e-004	71.6799
Landscaping	0.0118	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Total	0.6956	0.0568	2.3932	6.6400e-003		0.3287	0.3287		0.3287	0.3287	43.4997	23.6028	67.1025	0.2044	4.2000e-004	72.3382

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0895					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0118	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Total	0.4740	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.5674	0.1129	2.7000e-003	8.1962
Unmitigated	4.5674	0.1129	2.7000e-003	8.1962

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699	4.5674	0.1129	2.7000e-003	8.1962
Total		4.5674	0.1129	2.7000e-003	8.1962

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699	4.5674	0.1129	2.7000e-003	8.1962
Total		4.5674	0.1129	2.7000e-003	8.1962

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.1077	0.6564	0.0000	27.5188
Unmitigated	11.1077	0.6564	0.0000	27.5188

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72	11.1077	0.6564	0.0000	27.5188
Total		11.1077	0.6564	0.0000	27.5188

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72	11.1077	0.6564	0.0000	27.5188
Total		11.1077	0.6564	0.0000	27.5188

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	53.00	Dwelling Unit	6.50	95,400.00	152

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	49
Climate Zone	3			Operational Year	2024
Utility Company	Merced Irrigation District				
CO2 Intensity (lb/MW hr)	290.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per plans

Construction Phase -

Demolition -

Vehicle Trips - 50% Reduction due to location of schools, shopping, connectivity, and transportation.

Woodstoves -

Area Mitigation -

Stationary Sources - Process Boilers -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblLandUse	LotAcreage	17.21	6.50

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tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	HO_TL	7.90	3.95
tblVehicleTrips	HS_TL	7.10	3.55
tblVehicleTrips	HW_TL	16.80	8.40
tblWoodstoves	NumberCatalytic	6.50	0.00
tblWoodstoves	NumberNoncatalytic	6.50	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1694	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2257	261.2257	0.0599	1.8600e-003	263.2763
2024	0.9587	0.5552	0.7239	1.2600e-003	0.0112	0.0253	0.0365	3.0000e-003	0.0238	0.0268	0.0000	109.3112	109.3112	0.0247	7.3000e-004	110.1454
Maximum	0.9587	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2257	261.2257	0.0599	1.8600e-003	263.2763

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1694	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2254	261.2254	0.0599	1.8600e-003	263.2760
2024	0.9587	0.5552	0.7239	1.2600e-003	0.0112	0.0253	0.0365	3.0000e-003	0.0238	0.0268	0.0000	109.3111	109.3111	0.0247	7.3000e-004	110.1453
Maximum	0.9587	1.5312	1.6630	3.0000e-003	0.1945	0.0721	0.2666	0.0916	0.0675	0.1591	0.0000	261.2254	261.2254	0.0599	1.8600e-003	263.2760

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2023	6-30-2023	0.6361	0.6361
2	7-1-2023	9-30-2023	0.5380	0.5380
3	10-1-2023	12-31-2023	0.5387	0.5387
4	1-1-2024	3-31-2024	0.4951	0.4951
5	4-1-2024	6-30-2024	1.0085	1.0085
		Highest	1.0085	1.0085

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4763	0.0244	0.4018	1.5000e-004		3.7800e-003	3.7800e-003		3.7800e-003	3.7800e-003	0.0000	23.6028	23.6028	1.0600e-003	4.2000e-004	23.7547
Energy	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	123.7650	123.7650	7.6300e-003	2.0100e-003	124.5557
Mobile	0.2216	0.4543	1.8230	4.1600e-003	0.3589	4.4000e-003	0.3633	0.0963	4.1400e-003	0.1004	0.0000	385.8944	385.8944	0.0224	0.0276	394.6768
Waste						0.0000	0.0000		0.0000	0.0000	11.1077	0.0000	11.1077	0.6564	0.0000	27.5188
Water						0.0000	0.0000		0.0000	0.0000	1.0955	3.4718	4.5674	0.1129	2.7000e-003	8.1962
Total	0.7048	0.5373	2.2497	4.6800e-003	0.3589	0.0129	0.3719	0.0963	0.0127	0.1090	12.2032	536.7341	548.9373	0.8004	0.0327	578.7021

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4740	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Energy	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	123.7650	123.7650	7.6300e-003	2.0100e-003	124.5557
Mobile	0.2216	0.4543	1.8230	4.1600e-003	0.3589	4.4000e-003	0.3633	0.0963	4.1400e-003	0.1004	0.0000	385.8944	385.8944	0.0224	0.0276	394.6768
Waste						0.0000	0.0000		0.0000	0.0000	11.1077	0.0000	11.1077	0.6564	0.0000	27.5188
Water						0.0000	0.0000		0.0000	0.0000	1.0955	3.4718	4.5674	0.1129	2.7000e-003	8.1962
Total	0.7024	0.5175	2.2413	4.5500e-003	0.3589	0.0113	0.3703	0.0963	0.0111	0.1074	12.2032	513.7741	525.9773	0.8000	0.0323	555.6057

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.33	3.69	0.37	2.78	0.00	12.37	0.43	0.00	12.63	1.47	0.00	4.28	4.18	0.05	1.28	3.99

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	4/1/2023	4/14/2023	5	10	
2	Grading	Grading	4/15/2023	5/12/2023	5	20	
3	Building Construction	Building Construction	5/13/2023	3/29/2024	5	230	

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4	Paving	Paving	3/30/2024	4/26/2024	5	20
5	Architectural Coating	Architectural Coating	4/27/2024	5/24/2024	5	20

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 193,185; Residential Outdoor: 64,395; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0
(Architectural Coating – sqft)**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	19.00	6.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction**3.2 Site Preparation - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	0.0133	0.1376	0.0912	1.9000e-004	0.0983	6.3300e-003	0.1046	0.0505	5.8200e-003	0.0563	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.2 Site Preparation - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243
Total	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	0.0133	0.1376	0.0912	1.9000e-004	0.0983	6.3300e-003	0.1046	0.0505	5.8200e-003	0.0563	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243
Total	4.3000e-004	3.3000e-004	3.8400e-003	1.0000e-005	1.1200e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	0.9156	0.9156	3.0000e-005	3.0000e-005	0.9243

3.3 Grading - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
Total	0.0171	0.1794	0.1475	3.0000e-004	0.0708	7.7500e-003	0.0786	0.0343	7.1300e-003	0.0414	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.3 Grading - 2023****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406
Total	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
Total	0.0171	0.1794	0.1475	3.0000e-004	0.0708	7.7500e-003	0.0786	0.0343	7.1300e-003	0.0414	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406
Total	7.2000e-004	5.6000e-004	6.4000e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5260	1.5260	4.0000e-005	5.0000e-005	1.5406

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2389	191.2389	0.0455	0.0000	192.3762
Total	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2389	191.2389	0.0455	0.0000	192.3762

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0208	7.0000e-003	9.0000e-005	2.9800e-003	1.3000e-004	3.1000e-003	8.6000e-004	1.3000e-004	9.8000e-004	0.0000	8.8131	8.8131	3.0000e-005	1.3100e-003	9.2045
Worker	7.5200e-003	5.8300e-003	0.0669	1.7000e-004	0.0194	1.1000e-004	0.0196	5.1700e-003	1.0000e-004	5.2700e-003	0.0000	15.9462	15.9462	4.7000e-004	4.7000e-004	16.0988
Total	8.0800e-003	0.0266	0.0739	2.6000e-004	0.0224	2.4000e-004	0.0227	6.0300e-003	2.3000e-004	6.2500e-003	0.0000	24.7593	24.7593	5.0000e-004	1.7800e-003	25.3033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2387	191.2387	0.0455	0.0000	192.3760
Total	0.1298	1.1868	1.3401	2.2200e-003		0.0577	0.0577		0.0543	0.0543	0.0000	191.2387	191.2387	0.0455	0.0000	192.3760

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.6000e-004	0.0208	7.0000e-003	9.0000e-005	2.9600e-003	1.3000e-004	3.1000e-003	8.6000e-004	1.3000e-004	9.8000e-004	0.0000	8.8131	8.8131	3.0000e-005	1.3100e-003	9.2045
Worker	7.5200e-003	5.8300e-003	0.0669	1.7000e-004	0.0194	1.1000e-004	0.0196	5.1700e-003	1.0000e-004	5.2700e-003	0.0000	15.9462	15.9462	4.7000e-004	4.7000e-004	16.0988
Total	8.0800e-003	0.0266	0.0739	2.6000e-004	0.0224	2.4000e-004	0.0227	6.0300e-003	2.3000e-004	6.2500e-003	0.0000	24.7593	24.7593	5.0000e-004	1.7800e-003	25.3033

3.4 Building Construction - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964
Total	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3510	75.3510	0.0178	0.0000	75.7964

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.1800e-003	2.6700e-003	4.0000e-005	1.1700e-003	5.0000e-005	1.2200e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	3.4173	3.4173	1.0000e-005	5.1000e-004	3.5689
Worker	2.7200e-003	2.0000e-003	0.0240	7.0000e-005	7.6600e-003	4.0000e-005	7.7000e-003	2.0400e-003	4.0000e-005	2.0700e-003	0.0000	6.0895	6.0895	1.6000e-004	1.7000e-004	6.1442
Total	2.9300e-003	0.0102	0.0267	1.1000e-004	8.8300e-003	9.0000e-005	8.9200e-003	2.3800e-003	9.0000e-005	2.4600e-003	0.0000	9.5068	9.5068	1.7000e-004	6.8000e-004	9.7131

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963
Total	0.0478	0.4369	0.5254	8.8000e-004		0.0199	0.0199		0.0188	0.0188	0.0000	75.3509	75.3509	0.0178	0.0000	75.7963

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	8.1800e-003	2.6700e-003	4.0000e-005	1.1700e-003	5.0000e-005	1.2200e-003	3.4000e-004	5.0000e-005	3.9000e-004	0.0000	3.4173	3.4173	1.0000e-005	5.1000e-004	3.5689
Worker	2.7200e-003	2.0000e-003	0.0240	7.0000e-005	7.6600e-003	4.0000e-005	7.7000e-003	2.0400e-003	4.0000e-005	2.0700e-003	0.0000	6.0895	6.0895	1.6000e-004	1.7000e-004	6.1442
Total	2.9300e-003	0.0102	0.0267	1.1000e-004	8.8300e-003	9.0000e-005	8.9200e-003	2.3800e-003	9.0000e-005	2.4600e-003	0.0000	9.5068	9.5068	1.7000e-004	6.8000e-004	9.7131

3.5 Paving - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885

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3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925
Total	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925
Total	6.6000e-004	4.9000e-004	5.8300e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4792	1.4792	4.0000e-005	4.0000e-005	1.4925

3.6 Architectural Coating - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8954					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	0.8972	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980
Total	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8954					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	0.8972	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980
Total	1.8000e-004	1.3000e-004	1.5600e-003	0.0000	5.0000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3945	0.3945	1.0000e-005	1.0000e-005	0.3980

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2216	0.4543	1.8230	4.1600e-003	0.3589	4.4000e-003	0.3633	0.0963	4.1400e-003	0.1004	0.0000	385.8944	385.8944	0.0224	0.0276	394.6768
Unmitigated	0.2216	0.4543	1.8230	4.1600e-003	0.3589	4.4000e-003	0.3633	0.0963	4.1400e-003	0.1004	0.0000	385.8944	385.8944	0.0224	0.0276	394.6768

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	500.32	505.62	453.15	953,518	953,518
Total	500.32	505.62	453.15	953,518	953,518

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	8.40	3.55	3.95	46.90	17.40	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.515533	0.047958	0.156749	0.151796	0.029800	0.007258	0.013970	0.049021	0.000803	0.000458	0.021477	0.002201	0.002977

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.7800	55.7800	6.3300e-003	7.7000e-004	56.1667
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.7800	55.7800	6.3300e-003	7.7000e-004	56.1667
Natural Gas Mitigated	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890
Natural Gas Unmitigated	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890
Total		6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006	6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890
Total		6.8700e-003	0.0587	0.0250	3.7000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	67.9850	67.9850	1.3000e-003	1.2500e-003	68.3890

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	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620	55.7800	6.3300e-003	7.7000e-004	56.1667
Total		55.7800	6.3300e-003	7.7000e-004	56.1667

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620	55.7800	6.3300e-003	7.7000e-004	56.1667
Total		55.7800	6.3300e-003	7.7000e-004	56.1667

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4740	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Unmitigated	0.4763	0.0244	0.4018	1.5000e-004		3.7800e-003	3.7800e-003		3.7800e-003	3.7800e-003	0.0000	23.6028	23.6028	1.0600e-003	4.2000e-004	23.7547

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0895					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.3200e-003	0.0198	8.4400e-003	1.3000e-004		1.6000e-003	1.6000e-003		1.6000e-003	1.6000e-003	0.0000	22.9600	22.9600	4.4000e-004	4.2000e-004	23.0964
Landscaping	0.0118	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Total	0.4763	0.0244	0.4018	1.5000e-004		3.7800e-003	3.7800e-003		3.7800e-003	3.7800e-003	0.0000	23.6028	23.6028	1.0600e-003	4.2000e-004	23.7547

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0895					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3726					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0118	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583
Total	0.4740	4.5300e-003	0.3934	2.0000e-005		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	0.6428	0.6428	6.2000e-004	0.0000	0.6583

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.5674	0.1129	2.7000e-003	8.1962
Unmitigated	4.5674	0.1129	2.7000e-003	8.1962

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699	4.5674	0.1129	2.7000e-003	8.1962
Total		4.5674	0.1129	2.7000e-003	8.1962

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699	4.5674	0.1129	2.7000e-003	8.1962
Total		4.5674	0.1129	2.7000e-003	8.1962

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.1077	0.6564	0.0000	27.5188
Unmitigated	11.1077	0.6564	0.0000	27.5188

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72	11.1077	0.6564	0.0000	27.5188
Total		11.1077	0.6564	0.0000	27.5188

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72	11.1077	0.6564	0.0000	27.5188
Total		11.1077	0.6564	0.0000	27.5188

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation



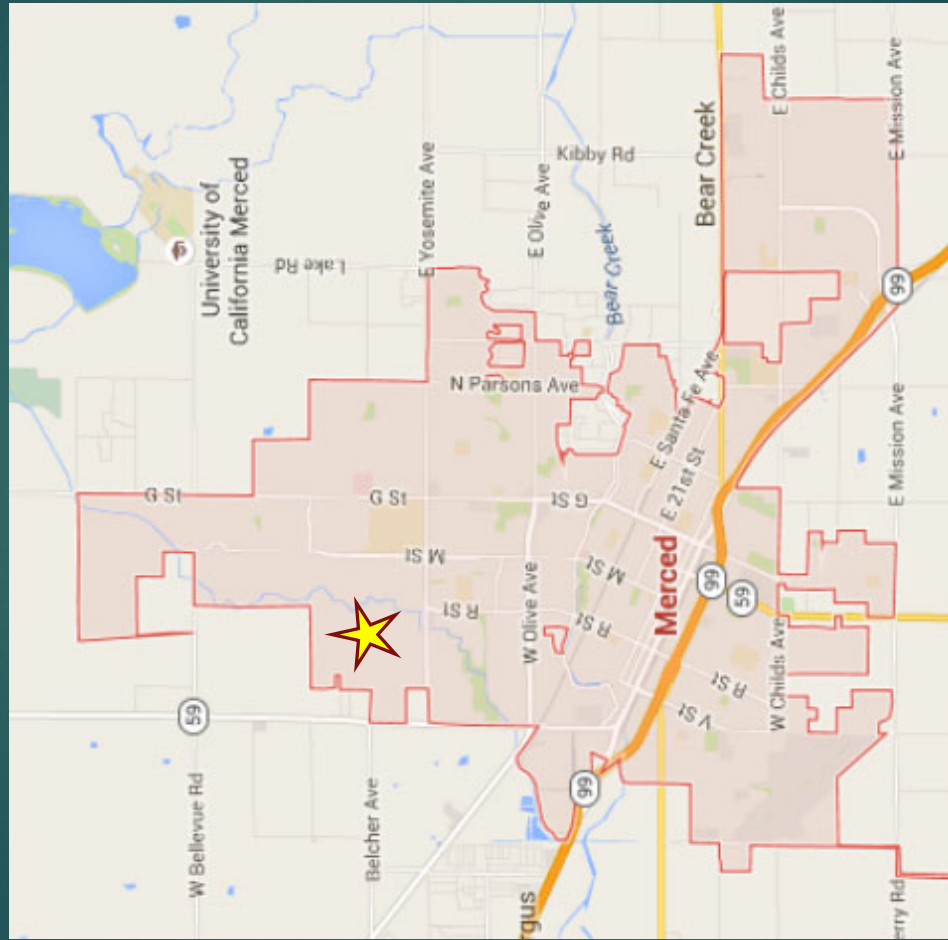
Lotus New Subdivision Single-Family Homes

ISEA INTERNATIONAL

GPA #22-05/FAHRENS CREEK SPECIFIC PLAN AMENDMENT
#5/ZC#432/ESTABLISHMENT OF RP-D #78/TSM #1326

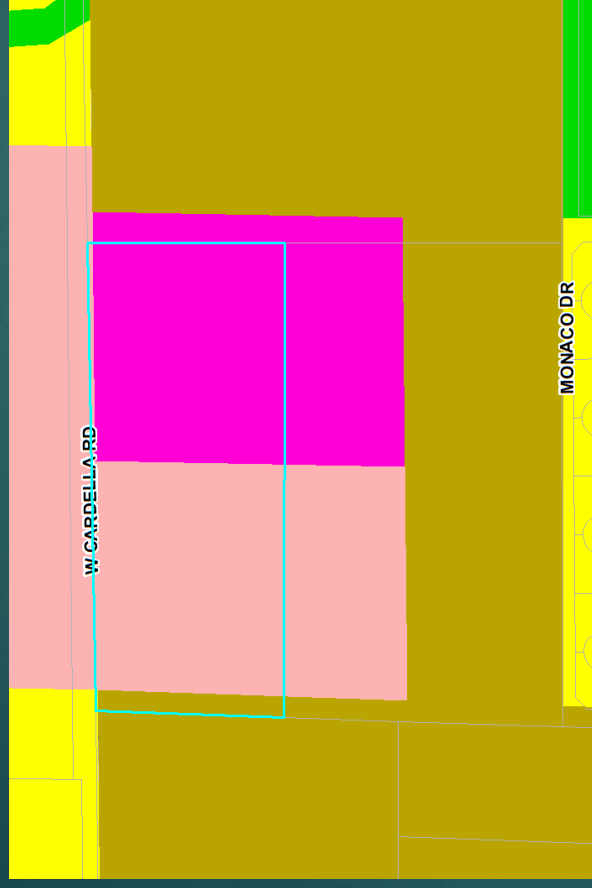
ATTACHMENT L

City-Wide Context



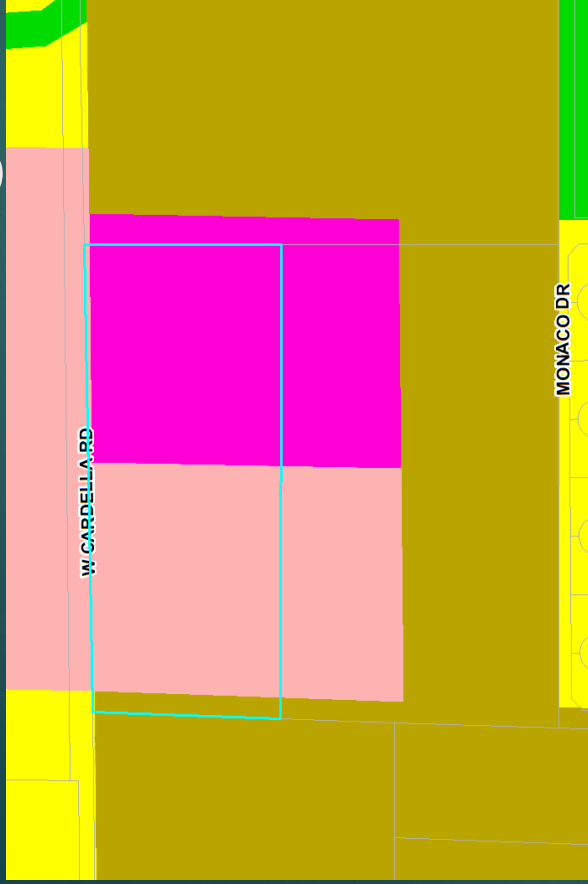


General Plan Designation



- ▲ Light Pink = Office Commercial designation
- ▲ Hot Pink = Neighborhood Commercial designation
- ▲ Mustard Yellow = Village Residential (10-36 du/ac)
- ▲ Bright Yellow=Low Density Residential (2-6 du/ac)

Land Use Changes



- ▲ General Plan Amendment from Office Commercial (CO)/Neighborhood Commercial (CN) to Low-Density Residential (LD)
- ▲ Fahrens Creek Specific Plan Amendment from Office Commercial/Neighborhood Commercial to Low-Density Residential
- ▲ Zone Change from Planned Development #50 to Residential Planned Development (RP-D) #78
- ▲ Tentative Subdivision Map #1326 for 53 single-family homes on 10.76 ac



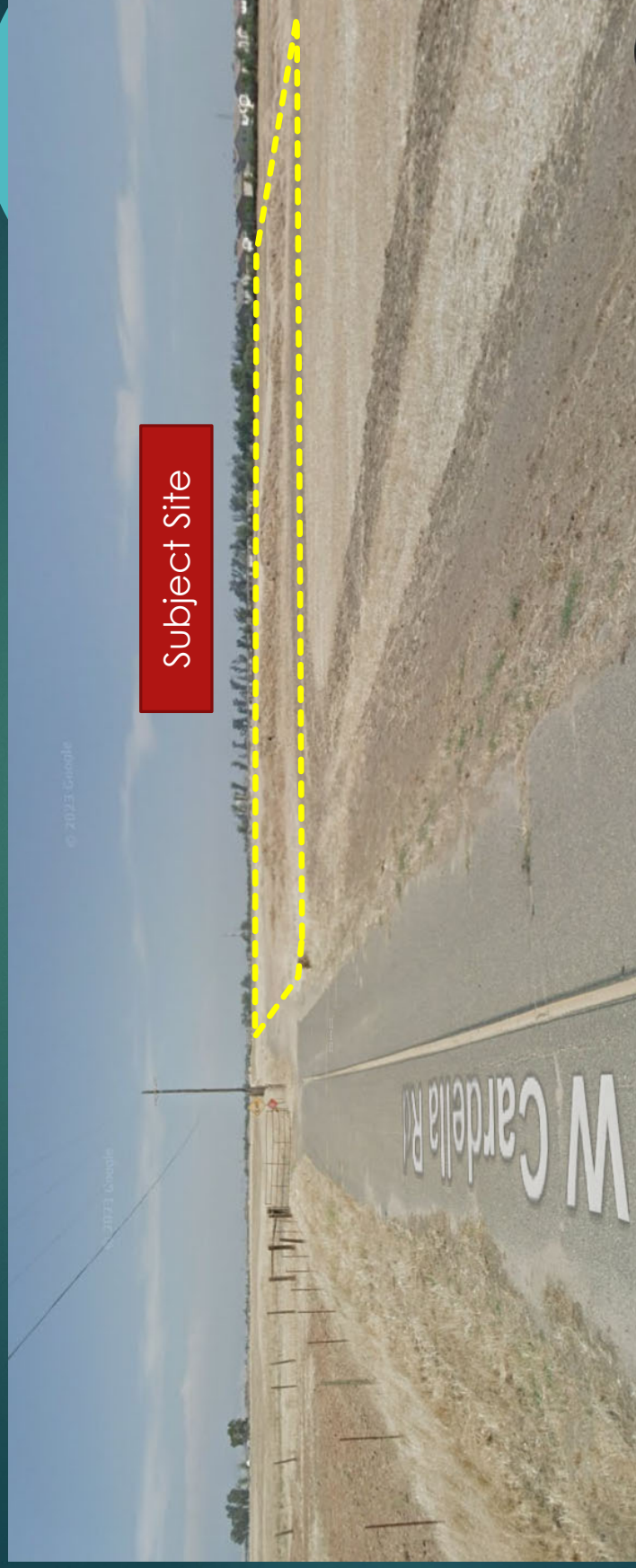
Entitled
Sage Creek Apartment
Complex
(248 units on 13 ac)

Subject Site
(10.76-Acres)

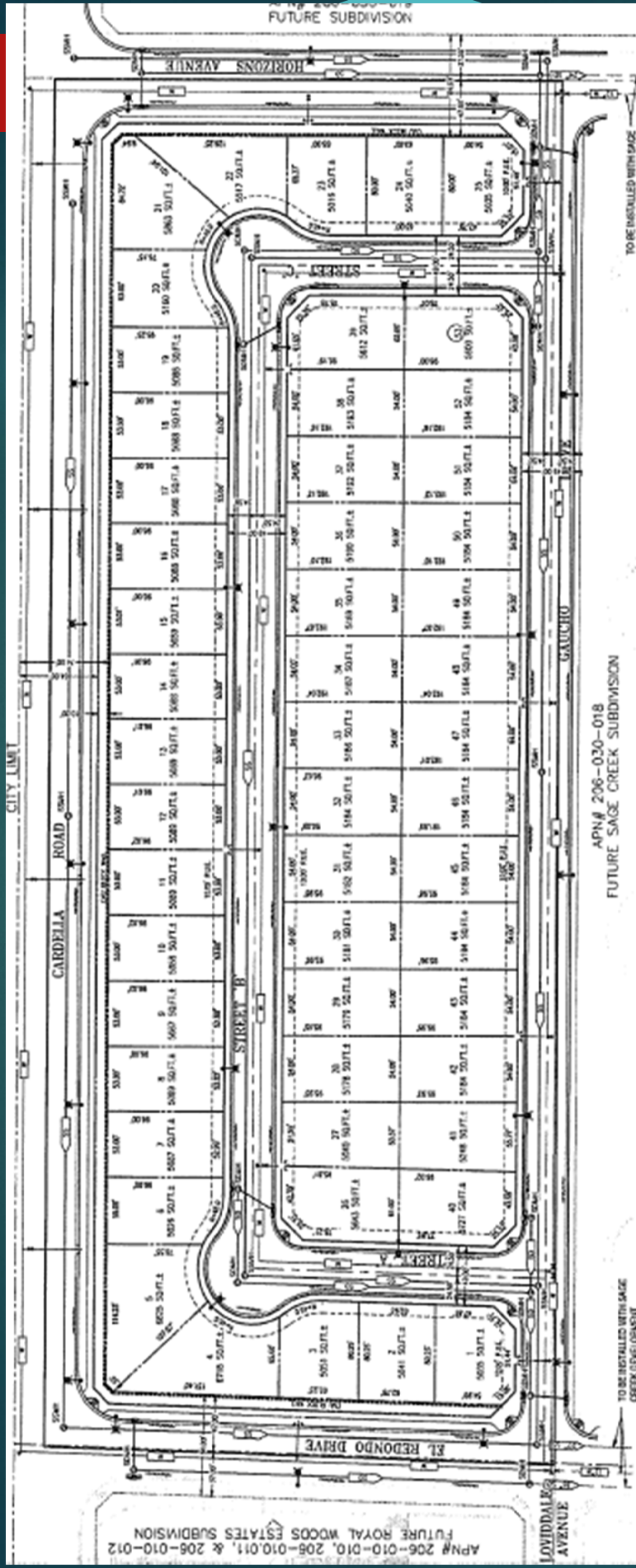
Under Construction
Sage Creek Subdivision
(103 sf lots on 16 ac)

Entitled
Royal Woods Estates
Subdivision
(113 sf lots on 16 ac)

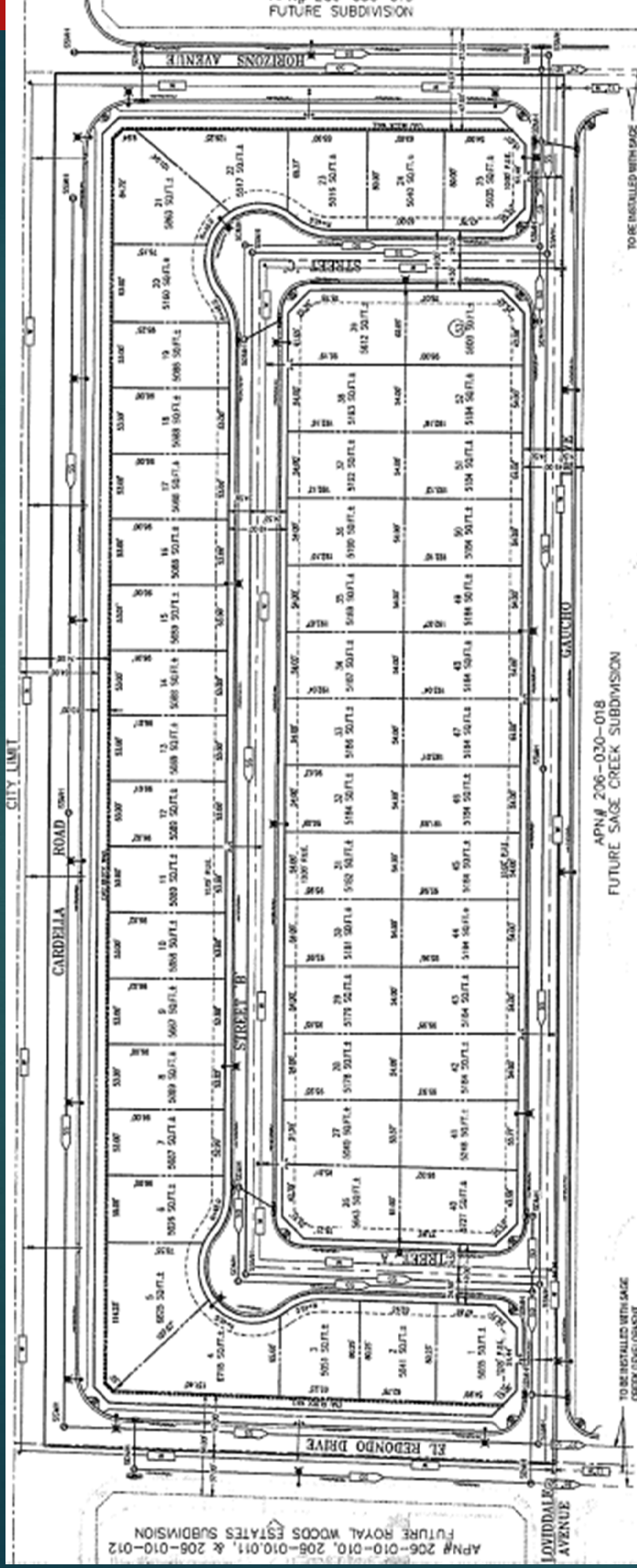
Street View (Existing Off-Site Condition)



- ▶ Missing improvements and overhead power lines. Full-Road, curb/gutter/sidewalk, street trees, streetlights required, and block walls



- ▲ 53 Residential Lots.
- ▲ Extension of El Redondo Drive and Horizons Avenue up to Cardella Road
- ▲ Improvements to be made along Gauchito Drive and Cardella Road frontages
- ▲ Creation of Streets A, B, and C (U-Shaped street network)



- ▲ Lots Range in size from 5,000 s.f. to 6,750 s.f.
- ▲ Lots minimum 50 feet wide, 80 feet deep, with at least 5,000-s.f.
- ▲ Improvements w/ 6-foot-tall CMU (Block Wall) along El Redondo Drive, Horizons Avenue, and Cardella Road
- ▲ 10-foot Public Utility Easement along frontage of parcels
- ▲ Main line utility connections from south (El Redondo Drive, Horizons Ave., Gaucha Drive)

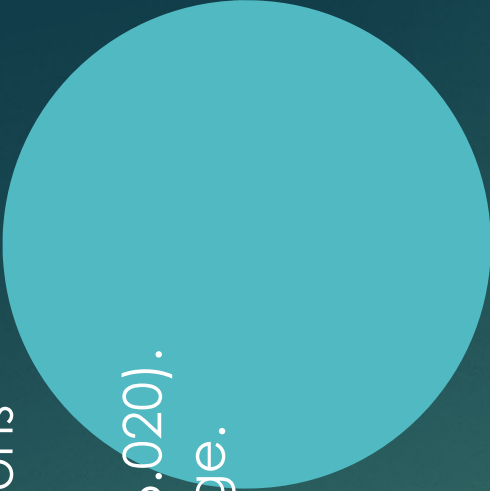
Development Standards

- ▶ Regular R-1-5 Development Standards to apply (as not a Planned Development):
 - ▶ Lot Coverage (45%), Setbacks (20', 10', 5'), Maximum Building Height (35'), parking requirements (1 stall), etc.

TABLE 20.08-2. DEVELOPMENT STANDARDS FOR SINGLE-FAMILY RESIDENTIAL ZONING DISTRICTS						
	Figure Label	Zoning District				
		R-R	R-1-20	R-1-10	R-1-6	R-1-5
Lot and Density Standards (Minimums)						
Lot Area		1 acre [4]	20,000 sq. ft.	10,000 sq. ft.	6,000 sq. ft.	5,000 sq. ft.
Lot Width [2]						
Interior Lots		125 ft.	85 ft.	70 ft.	60 ft.	50 ft.
Corner Lots		125 ft.	85 ft.	70 ft.	65 ft.	55 ft.
Lot Depth [3]		None	125 ft.	100 ft.	100 ft.	80 ft.
Lot Area per Dwelling Unit		1 acre [4]	20,000 sq. ft.	10,000 sq. ft.	6,000 sq. ft.	5,000 sq. ft.
Primary Structure Standards						
Setbacks (min.)						
Exterior Yards, Front	A	30 ft.	30 ft.	20 ft.	20 ft.	15 ft. [1]
Exterior Yards, Side (Corner Lots only) [5]	B	15 ft.	15 ft.	10 ft.	10 ft.	10 ft.
Exterior Yards, Cul-De-Sacs		30 ft.	30 ft. [1]	15 ft. [1]	15 ft. [1]	15 ft. [1]
One Interior Yard	C-D	15 ft.	15 ft.	10 ft.	10 ft.	10 ft.
All Other Interior Yards	E	25 ft.	10 ft.	7 ft.	5 ft.	5 ft.
Height (max.)						
Feet		35 ft.	35 ft.	35 ft.	35 ft.	35 ft.
Other Standards						
Accessory Structure Standards						
Driveway Length (min.)						
Lot Coverage (max.)		20 ft.	20 ft.	20 ft.	20 ft.	20 ft.
Off-Street Parking		25%	30%	40%	45%	50%
Projections Into Required Yards						
Separation Between Structures (min.)						
As required by the California Building Code						



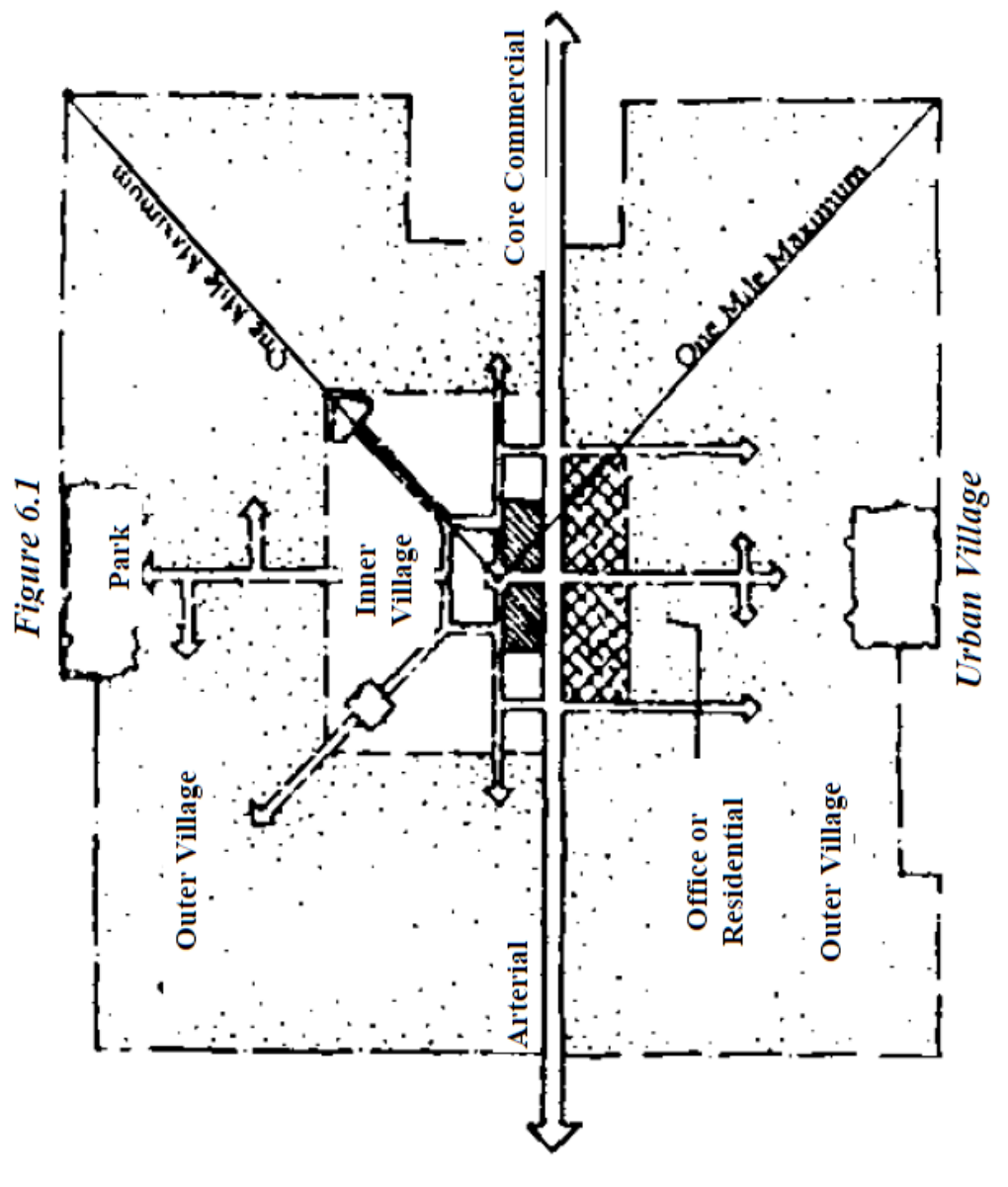
Elevations

- ▶ Applicant did not include floor plans or elevations
 - ▶ Elevations shall comply with Minimum Design Standards for Single-Family Homes (MMC 20.46.020). Would be reviewed during building permit stage.
- 

Urban Village Concept

- ▶ Urban Village Neighborhoods are intended to create vibrant walkable neighborhoods where residents can walk to commercial, entertainment, or work.
- ▶ 10-Acre commercial centers are at the center of these developments which are surrounded by an Inner Village (high density 10-36 dwelling units per acre), then by an Outer Village (4-12 dwelling units per acre)
- ▶ This results in transit-oriented development similar to Downtown Merced.





Subject Site Background

- ▲ The subject site (approximately 10.7 acres) was annexed into the City in 2003, as part of the Fahrens Creek North Annexation which incorporated approximately 152.19 acres into the City limits.
- ▲ This annexation followed the annexation of the Fahrens Creek II annexation, approved earlier in 2003.
- ▲ Both annexations were approved with a land use policy that would support the Urban Village concept with 10-acres of commercial

Goals and Policy's

- ▶ The proposed project, with conditions of approval, will help achieve the following General Plan land use policies:
- ▶ Policy L-1.5: Protect existing neighborhoods from incompatible developments.
- ▶ Policy L-1.6: Continue to pursue quality single-family residential development.
- ▶ Policy L-1.8: Create livable and identifiable residential neighborhoods.
- ▶ Policy L-9: Ensure connectivity between existing and planned urban areas.

Land Use Change

- ▶ The approval of this proposal would eliminate the site from fulfilling the Urban Village Neighborhood originally intended for this area, however it would result in more housing for the community.
- ▶ The developer has indicated that it has been extremely difficult to attract commercial development given the site's location on the edge of the City limits in an area with low traffic counts, missing infrastructure, and surrounding undeveloped parcels.

Housing Affordability Requirements

- ▲ In 2022, City Council approved Resolution #2022-15 regarding 12.5% affordability housing for new single-family residential projects if they require a legislative action agreement (due to Annexation, GPA, SUP Revision, Zone Change, etc.) and if the housing the project exceeds over 60 units.
- ▲ This project will not be required to provide affordable units, even though it requires a legislative action agreement it is under 60 units (at 53 units).

Public Comments

- ▶ Public Hearing Notices were mailed to surrounding properties (300 foot radius) and published in the Merced County Times 3 weeks prior to today's meeting. As of the date this presentation was prepared, no comments have been received from the public.

Conditions (TSM)

- ▲ Condition #6: Community Facility District annexation required.
- ▲ Condition #32: The TSM does not become affective until City Council approves the General Plan Amendment, Specific Plan Amendment, Zone Change, and Establishment of Residential Planned Development.
- ▲ Condition #36: The street corner ramps along the northern side of Gaucho Drive, shall match the design on the southern side currently being installed for the Sage Creek Subdivision.
- ▲ Condition #39: The proposal is subject to R-1-5 Zone development standards, and Design Standards for single-family homes under MMC Section 20.46.020.

Recommend to City Council

Approve/Disapprove/Modify:

- ▶ Environmental Review #22-50 (Negative Declaration)
- ▶ General Plan Amendment #22-05
- ▶ Fahren's Creek Specific Plan Amendment #5
- ▶ Zone Change #432 (Subject to the Conditions in the Staff Report)

Direct Action

Approval/Disapprove/Modify:

- ▶ Environmental Review #22-50 (Negative Declaration)
- ▶ Tentative Subdivision Map #1326
 - ▶ (approvals would be contingent upon CC approval of GPA, FCSPA, Establishment of RP-D#78, and ZC)