Initial Study
&
Mitigated Negative Declaration

FOR THE

CIMARRON COUNTRY ESTATES - MAJOR SUBDIVISION

Major Subdivision No. MAS21-002

January 2024

Prepared By:
Valeria Renteria, Planner I

Community and Economic Development Department
2222 'M' Street
Merced, CA 95340
(209) 385-7654 x 4587

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SECTION 1: INTRODUCTION

1.1 - Purpose

Pursuant to Section 15063 of the California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code Regulations, Sections 15000 et seq.), an Initial Study (IS) is a preliminary environmental analysis that is used by the Lead Agency as a basis for determining whether an Environmental Impact Report (EIR), a Mitigated Negative Declaration (MND), or a Negative Declaration (ND) is required for a project. The CEQA Guidelines require that an IS contains a project description, description of environmental setting, an identification of environmental effects by checklist or other similar form, an explanation of environmental effects, a discussion of mitigation for significant environmental effects, an evaluation of the project's consistency with existing applicable land use controls, and the names of persons who prepared the study.

The purpose of this IS is to identify the potential environmental impacts associated with the proposed Major Subdivision Project, also known as Major Subdivision No. MAS21-002, located in the Merced area of Merced County, California and to describe measures that would avoid or mitigate significant impacts. This IS includes information to substantiate the conclusions made regarding the potential of the proposed project to result in significant environmental effects and provides the basis for input from public agencies, organizations, and interested members of the public. Pursuant to Section 15367 of the California Environmental Quality Act (CEQA) Guidelines, Merced County is the Lead Agency for the proposed project, and as such, has primary responsibility for project approval or denial.

1.2 - Project Location & Setting

The project site is on an approximately 52.42-acres composed of three (3) parcels located near the southwest corner of North Leeds Road and East Olive Avenue in the Merced area of unincorporated Merced County (see *Figure 1*). The property is designated Merced Rural Residential Center and Agricultural- Residential land use in the 2030 Merced County General Plan and is zoned R-R (Rural Residential). The property is identified as Assessor's Parcel Numbers (APNs) 108-070-005, 238-020-001, and 238-020-007 located within Township 7 South, Range 14 East, Mount Diablo Base and Meridian in unincorporated Merced County.

Existing Conditions
The project site is currently a flat, open fallow field that shows evidence of being used for agriculture (likely alfalfa/hay production). Black Rascal Creek runs along the northwest corner of the site. South of the Creek, running along the northern and eastern boundary of the site is a irrigation ditch.

Surrounding Land Uses
The surrounding area is characterized by agricultural operations (orchards and row crops) and density residential and rural residential subdivisions.

Zoning and General Plan
The project site is currently zoned by the County of Merced (County) as R-R (Rural Residential), and in the 2030 Merced County General Plan is classified as Agricultural-Residential Land. 2,3 As outlined in Merced County Municipal Code Section 18.12.010 ("Purpose of Residential Zones"), the zoning district is to provide areas for rural residential development, hobby farming, and limited animal raising operations with less than a full range of urban services. It is intended that this zone typically serve as a transitional

area between denser urban communities and agricultural uses, allowing one to three dwelling units per acre. This zone implements the Agriculture Residential (AR) and Very Low Density Residential (VLDR) land use designations in the General Plan.

Table 1. Land Use Summary

Location	General Plan	Zoning	Land Use
On-Site	Agricultural-Residential (A-R)	Rural Residential (R-R)	Fallow Land
North	Agricultural-Residential (A-R) / City of Merced Limits	Rural Residential (R-R)/ City of Merced Limits	Orchard, Single-Family Homes
South	Agricultural-Residential (A-R)	Rural Residential (R-R)	Rural Residences, Orchards
East	Agricultural-Residential (A-R)	Rural Residential (R-R)	Rural residences, Orchards
West	Agricultural-Residential (A-R)	Rural Residential (R-R)	Rural Residences

Figure 1. Project Location Map

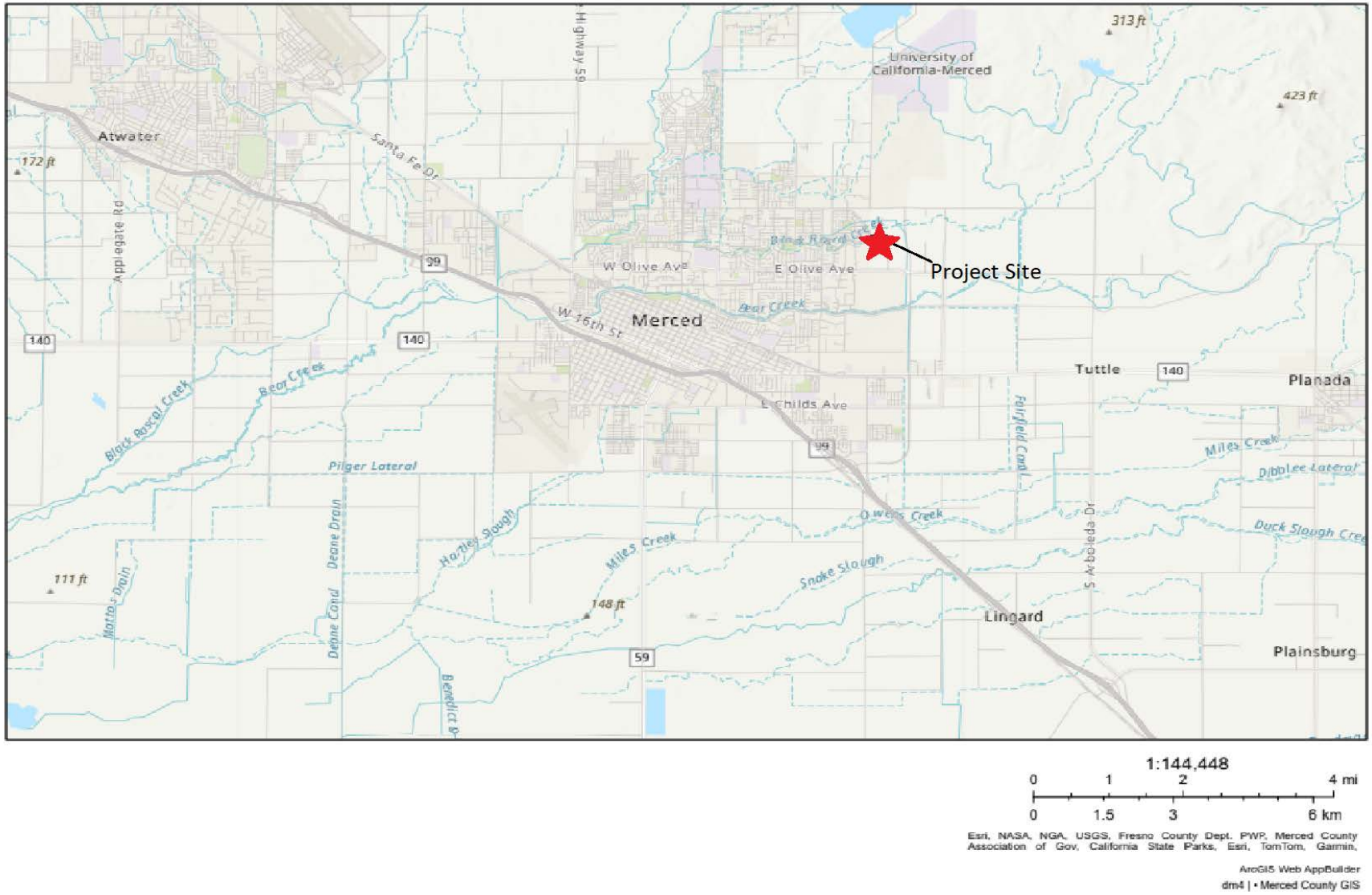


Figure 2. Project Site Map

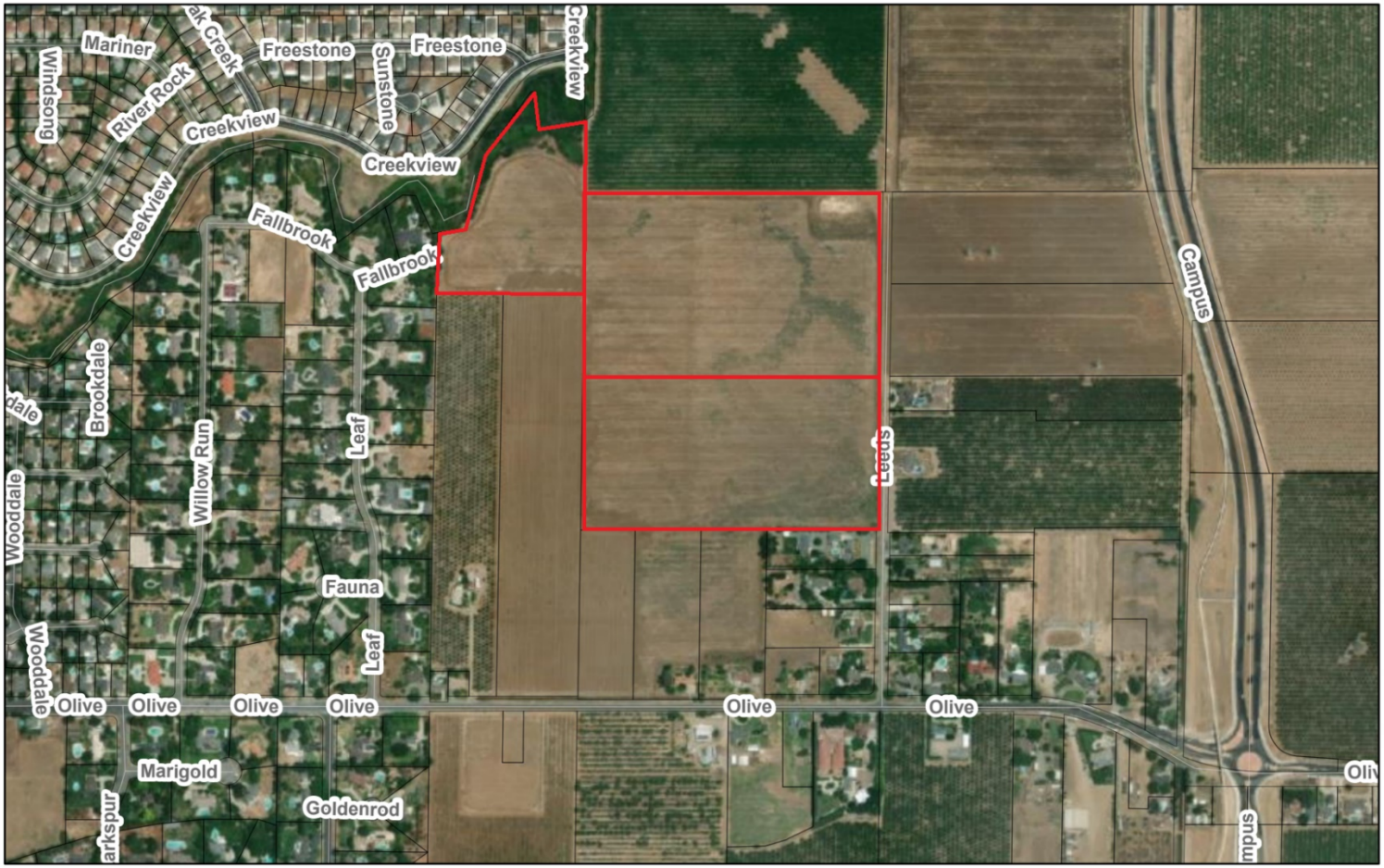
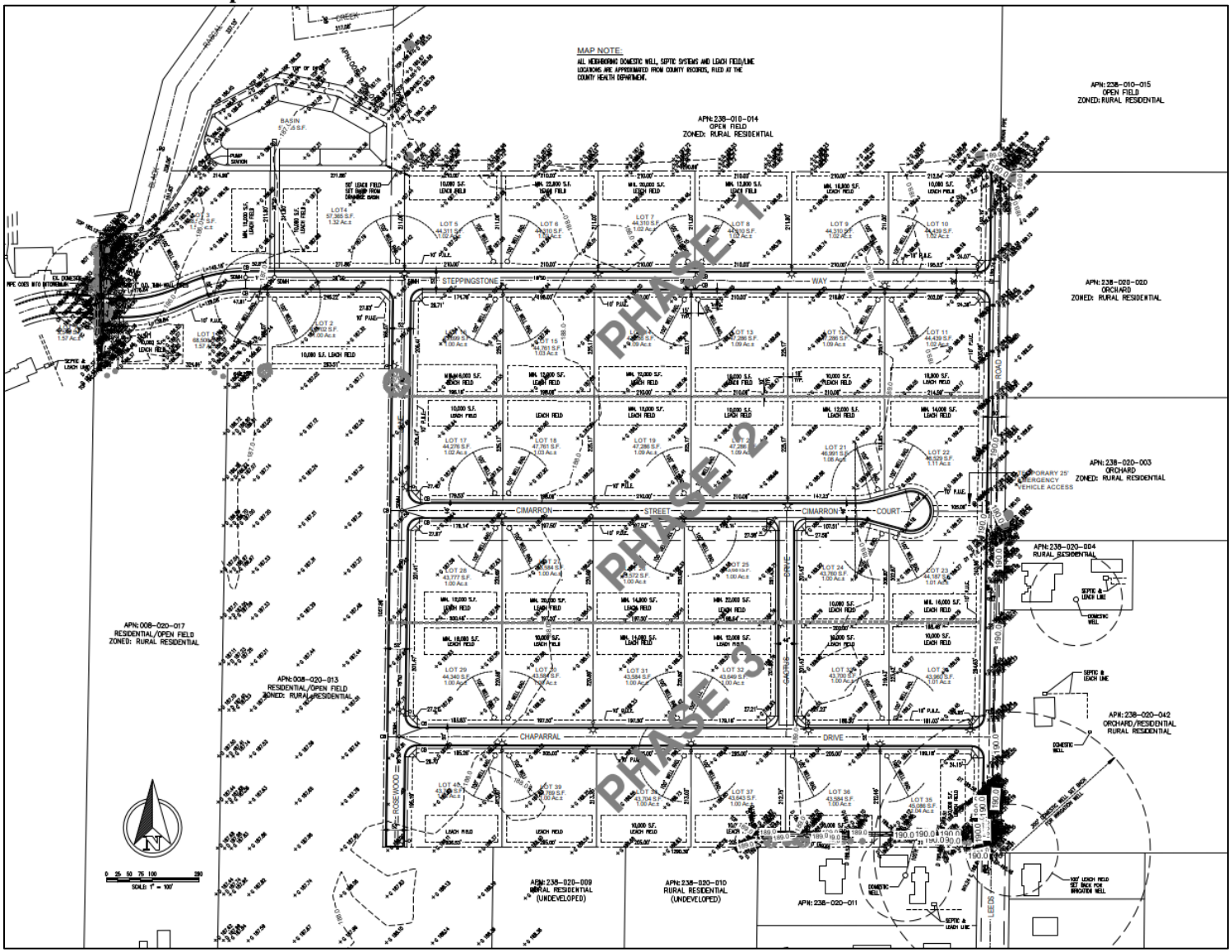


Figure 3. Tentative Subdivision Map



1.3 - Project Description

Major Subdivision No. MAS21-002 proposes to subdivide three (3) existing parcels, totaling 52.42 acres, into 40 residential lots, approximately one acre each. The subdivision would also involve construction of a cul-de-sac and internal roads which would connect to and provide access to Leeds Roads and Fallbrook Drive, and a drainage basin and pump station.

Development of each residential lot would require a domestic well and septic tank with an accompanying leach field.

Improvements would be constructed in phases as illustrated in Figure 3. Once each phase is completed and public improvements have been accepted by the County, the project would be sold for development in single, clusters, or all 40 at one time, and may be built out over time, phased, or all at once depending on market conditions.

1.4 – Required Approvals, Other Processes, and Consultations

Merced County

- Preparation and Approval of an Initial Study / Mitigated Negative Declaration - Merced County will act as the lead agency as defined by the California Environmental Quality Act (CEQA), and will have authority to determine if the IS/MND is adequate under CEQA.
- Approval of Major Subdivision Application No. MAS02-02 - Merced County will consider the proposed Cimarron Country Estates project under a "Major Subdivision Application." Major Subdivisions are discretionary permits for the division of any land into five or more parcels.
- Building Permit - Merced County Buildings & Safety Division will require a building permit for each of the proposed single-family residences. A soils report completed by a licensed geotechnical engineer must be submitted with the building permit applications.
- Well Construction Permits - The Merced County Division of Environmental Health (DEH) will review site plans and issue permits for the proposed domestic wells.
- On-Site Septic Systems – The Merced County Division of Environmental Health (DEH)will review site plans and issue permits for the proposed on-site waste disposal systems.
- Encroachment Permit – Merced County Department of Public Works will require encroachment permits for any work conducted on County roads and/or right-of-way.
- Storm Drainage – Plans and improvements for proposed storm drainage basin shall be reviewed by the Merced County Department of Public Works to ensure compliance with the County's MS4 Permit.

San Joaquin Valley Air Pollution Control District

- SJVAPCD Rules - The construction of the proposed project may be subject to SJVAPCD Rules and Regulations, including but not limited to, Regulation VIII (Fugitive PM10 Prohibitions), Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

State Water Resources Control Board

- General Construction Activity – The State Water Resources Control Board (SWRCB) has adopted a General Construction Activity Storm Water Permit for stormwater discharges

associated with any construction activity (including clearing, grading, excavation, reconstruction, and dredge and fill activities) that results in the disturbance of at least one acre of total land area, or projects that disturb less than one acre but are part of a large common plan of development that disturbs one or more acres. All dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ. This General Permit has developed specific Best Management Practices (BMP) and requires a Stormwater Pollution Prevention Plan (SWPPP). Following submittal of a Notice of Intent package and development of a SWPPP in accordance with the Construction General Permit, the applicant will receive a Waste Discharge Identification Number from the SWRCB. Because the proposed project would disturb more than one acre, the General Construction Activity Permit would be required.

- Report of Waste Discharge – The SWRCB has implemented a Water Control Policy for the Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS). The siting and installation of the six new OWTS would be subject to the Minimum OWTS Design and Construction Standards as outlined in the policy. In accordance with Section 3.0 of that policy, the Merced County DEH will review site plans for the proposed disposal systems to ensure compliance.

SECTION 2: ENVIRONMENTAL CHECKLIST

2.1 - Purpose and Legal Basis for the Initial Study

As a public disclosure document, this IS provides local decision makers and the public with information regarding the environmental impacts associated with the proposed project. According to Section 15063 of the *CEQA Guidelines*, the purpose of the IS is to:

1. Provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR), or a Negative Declaration (ND);
2. Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a Negative Declaration;
3. Assist in preparation of an EIR, if one is required, by:
    a. Focusing the EIR on the effect determined to be significant;
    b. Identifying the effects determined not to be significant;
    c. Explaining the reasons for determining that potentially significant effects would not be significant; and,
    d. Identifying whether a program EIR, tiering, or other appropriate process can be used for analysis of the project's effects.
4. Facilitate environmental assessment early in the design of a project;
5. Provide documentation of the factual basis for the finding in a Negative Declaration that the project will not have a significant effect on the environment;
6. Eliminate unnecessary EIRs;
7. Determine whether a previously prepared EIR could be used with the project.

This IS evaluates the potential for the proposed project to result in environmental impacts and evaluates the significance of those impacts. The information in this IS will be used by Merced County to determine if a Negative Declaration or an EIR is the appropriate level of CEQA documentation for the proposed project. This IS will also serve as a basis for soliciting comments and input from members of the public and public agencies.

2.2 - Checklist and Evaluation of Environmental Impacts

The Environmental Checklist in this Initial Study is consistent with the CEQA Environmental Checklist Form included as Appendix G of the CEQA Guidelines. A description of the environmental setting and an explanation for all checklist responses is included.

2.3 - Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” or “Less Than Significant Impact with Mitigation Incorporation” as indicated by the checklist on the following pages.

☐ Aesthetics	☒ Agriculture & Forestry Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology & Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☒ Hydrology & Water Quality	☐ Land Use & Planning	☐ Mineral Resources
☐ Noise	☐ Population & Housing	☐ Public Services
☐ Recreation	☐ Transportation & Circulation	☐ Tribal Cultural Resources
☐ Utilities & Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

2.4 – Environmental Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Valeria Renteria Date: 2/1/2024

Printed Name: Valeria Renteria
Title: Planner I

Community and Economic Development Department
Merced County

1. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒	1, 2
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒	1, 2
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐	1, 2
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐	1, 3

The proposed project is located in Merced County, known for its panoramic views of the Coast Range to the west and the Sierra Nevada to the east, mixed with open orchard lands and field crop areas, and seasonal contrasts of flourishing hillsides and wetlands. According to the 2030 Merced County General Plan, scenic vistas include the Coastal and Sierra Nevada mountain ranges, the Los Banos, Merced, San Joaquin, and Bear Creek river corridors with State Route 152 (SR-152) and Interstate 5 (I-5) as designated scenic routes. The proposed subdivision is located approximately 40 miles east of the I-5 and is not within the scenic vista designated corridor. The proposed homes will not be visible from the highway.

The project site is located in between agricultural and residential setting. Land uses in the immediate vicinity of the project site (west and southeast) include rural residences. Land uses in the immediate vicinity of the project site to the north, east and south include row crops, orchards and rural residences. Distant views of the Coastal mountain ranges can be seen from the site.

a. **No Impact.** As discussed above, lands surrounding the project site have been substantially disturbed and modified for residential use. As a result, the terrain is very flat, and most of the native trees and vegetation have been removed. Because of the flat terrain, views in the project vicinity are generally unobstructed surrounding the project site. There are no unique visual features or scenic vistas in the project area. No roadways in the project vicinity are designated as scenic under existing visual protection programs. Therefore, no impacts in this regard would result from project implementation.

b. **No Impact.** As mentioned above, there are no officially designated state scenic highways or routes in the project vicinity. Therefore, the proposed project would have no impact on scenic resources such as rock outcroppings, trees, or historic buildings within view from a scenic highway.

c. **Less Than Significant Impact.** The project site is currently flat, open fallow field that shows evidence of being used for row crops. Views in the project area largely consist of residential uses, with a few surrounding orchards. Residential and Agricultural land uses in the surrounding area contain visual elements such as overhead transmission lines, houses, and traffic signs. The proposed would be visible from East Olive Avenue and would be consistent with nearby structures and uses related to residential zones. Implementation of the proposed project would not substantially degrade the existing visual character or quality of public views of the site or its surroundings. The proposed project's impact is less than significant in this regard.

d. **Less Than Significant Impact.** New sources of nighttime lighting would be created in the form of exterior lights on each lot once developed. Lighting located at surrounding residences and properties also contribute to the area's nighttime lighting. Furthermore, any lighting proposed with the project would be required to meet the requirements of Section 18.41.060 of the Merced County Code, which requires the use of directional lighting and minimization of glare and reflections. Since similar lighting from other land uses already exist in the project vicinity, the project's contribution to existing sources of light would be minimal and impacts to existing nighttime views would be less than significant.

2. AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) 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-agricultural use?	☐	☐	☒	☐	2, 3, 4
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	2, 3
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒	2, 3
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	2
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐	2, 4

a. **Less Than Significant Impact with Mitigation.** The project site is designated Rural Residential Center and Agricultural Residential land use in the General Plan and zoned Rural Residential (R-R). Consequently, the County contemplates development of the project site for rural residential land uses.

Currently, the project site is vacant fallow land; however, the California Department of Conservation pursuant to the Farmland Mapping and Monitoring Program (FMMP), the parcel on which the project is located is mapped as containing "Prime Farmland Land," which is described as "includ[ing] farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds."

Merced County adopted an Agricultural Mitigation Ordinance identifies when conversion of productive agricultural land is considered a significant impact and identify mitigation for conversion. Section 9.30.030 ("Mitigation Required") states that mitigation is requested when:

1. A general plan amendment that changes the designation of any land from an agricultural designation to a non-agricultural land use designation.
2. Rezoning of land in an agricultural zone to any zone other than an agricultural zone.

3. Conversion to a non-agricultural or non-agricultural related use of any productive agricultural land with an agricultural designation or zoning as the result of approval of a discretionary application.
4. Conversion of agricultural land within the boundary of a community plan where the county previously required mitigation through a certified environmental impact report.

Because the General Plan contemplates development of the project site for residential use, the proposed project does not fall within the criteria for requiring mitigation, and the project site is located in an area transitioning from agricultural and rural residential land uses to more intensely developed urban land uses, the conversion of Prime Farmland would be considered less than significant.

b. **No Impact.** The project site is not under a Williamson Act contract.

c-d. **No Impact.** The project site has been disturbed by existing agricultural operations and is not considered forest land, timberland, and is not zoned Timberland Production. In addition, there are no forest lands adjacent to the project site. No impact to forest land or timberland would result from project implementation.

e. **Less Than Significant Impact.** The proposed project would not involve changes in the existing environment that could result in the conversion of existing agricultural or forest land. The offsite infrastructure needed to serve the project site would not require the expansion of any infrastructure or roadways that could lead to the indirect conversion of agricultural or forest lands. Therefore, the proposed project would not result in conversion of Farmland to non-agricultural uses or conversion of forest land to non-forest uses.

The proposed project involves the subdivision of three parcels totaling 52.42 acres in size into 40 lots ranging in size from 44,310 to 47,761 square feet for the purpose of building one house per lot. The project site is currently vacant and is used for agriculture purposes. The proposed land use is consistent with both the 2030 General Plan and the Merced County Zoning Code. The project site is designated Merced Rural Residential Center – Agricultural Residential in the 2030 General Plan and has been assessed to provide for single-family dwellings on large lots in a semi-rural environment. The project would not place pressure on adjacent land uses to convert to non-residential or agricultural use, nor would it conflict with nearby land uses. The impact of the proposed project would be less than significant in this regard.

3. AIR QUALITY

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	5
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐	5, 6, 7
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	5, 7
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐	3

This section is informed by an *Air Quality (AQ), Vehicle Miles Traveled (VMT), and Greenhouse Gas (GHG)* (Appendix A) prepared for the Project by SCS Engineers.

ENVIRONMENTAL SETTING

Ambient air quality is described in terms of compliance with state and national standards, and the levels of air pollutant concentrations considered safe to protect public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The U.S. EPA, the federal agency that administers the Federal Clean Air Act (CAA) of 1970, has established national ambient air quality standards (NAAQs) for seven air pollution constituents. As permitted by the CAA, California has adopted more stringent state ambient air quality standards (SAAQs), and expanded the number of air constituents regulated.

Merced County is located in the San Joaquin Valley Air Basin (SJVAB). Under both the federal and state CAAs, the San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates air quality in Merced County. The SJVAPCD has jurisdiction over all point and area sources of air emissions except for mobile sources (such as motor vehicles), consumer products, and pesticides. Furthermore, the SJVAPCD implements air quality management strategies and enforces its Rules and Regulations to improve the health and air quality for residents living in the SJVAB. The SJVAPCD and the California Air Resources Board (CARB) have joint responsibility for attaining and maintaining the NAAQs and SAAQs in the SJVAB.

The San Joaquin Valley is prone to one of the most challenging air quality problems in the nation, as it is home to over 4,000,000 residents and includes several major metropolitan areas, vast expanses of agricultural land, industrial sources, highways, and schools. Under the NAAQS, the SJVAB is designated as Nonattainment-Extreme for the 8-hour O3 standard, Maintenance-Serious for the PM_{10} standard, and Nonattainment-Moderate for the $PM_{2.5}$ standard. Under the CAAQS, the SJVAB is designated Nonattainment for the 1-hour O3 standard, 8-hour O3 standard, PM_{10} standards, and $PM_{2.5}$ standards.

The SJVAPCD has established air quality thresholds of significance for CO, nitrogen oxides (NOX), reactive organic gases (ROG), sulfur oxides (SOX), PM10, and PM2.5, as shown in Table 2.

Table 2 SJVAPCD Significance Thresholds – Criteria Pollutants

Pollutant/Precursor	**Threshold of Significance**		
	Construction Emissions *(tons/year)*	Operational Emissions	
		Permitted Equipment and Activities *(tons/year)*	**Non-Permitted Equipment and Activities** *(tons/year)*
Carbon Monoxide (CO)	100	100	100
Oxides of Nitrogen (NOX)	10	10	10
Reactive Organic Gases (ROG)	10	10	10
Sulfur Oxide (SOX)	27	27	27
PM10	15	15	15
PM2.5	15	15	15

Source: San Joaquin Valley Air Pollution Control District "Guidance for Assessing and Mitigating Air Quality Impacts" 2015

Criteria Air Pollutants

Ozone. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, at ground level, troposphere, or "bad," ozone is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up where it meets the second layer, the stratosphere. The stratospheric, or "good," ozone layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is what is known as a photochemical pollutant. It needs ROG, NOX, and sunlight to form. ROG and NOX are emitted from various sources throughout Merced County. Significant ozone formation generally requires an adequate number of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant. It is generated over a large area and transported and spread by the wind. As the primary constituent of smog, ozone is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically ROG and NOX. Sources of precursor gases number in the thousands and include common sources, such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Combustion emissions. Combustion emissions (ROG and NOX) are most significant when using large diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other heavy equipment. Emissions can vary substantially from day to day, depending on the level of activity and the specific type of operation. ROG and NOX are the critical pollutants caused by construction work because of the high output of these pollutants by the heavy diesel equipment normally used in grading operations.

Carbon Monoxide. CO, an odorless, colorless, poisonous gas that is highly reactive, is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is a byproduct of motor vehicle exhaust, which contributes more than 66% of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95% of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources, such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Sulfates. Sulfates (SO_4^{-2}) are particulate products that come from the combustion of sulfur-containing fossil fuels. When sulfur monoxide (SO) or SO_2 is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline, diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

Particulate Matter. Particulate matter (PM10 and PM2.5) pollution consists of very small liquid and solid particles floating in the air. Some particles are large and dark enough to be seen as soot or smoke, and others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals and can form when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. Particulate matter or airborne dusts are the small particles that remain suspended in the air for long periods of time. Particulates of concern are PM10 and PM2.5, which are small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, possibly leading to adverse health effects; PM2.5 is a subset of PM10.

The composition of PM10 and PM2.5 can vary greatly with time, location, the sources of the material, and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM10 and PM2.5. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO_2 and NOX in the atmosphere to create sulfates (SO_4) and nitrates (NO_3), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western United States, there are sources of PM10 in both urban and rural areas. PM10 and PM2.5 are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

Environmental Analysis

To streamline the process of assessing significance of criteria pollutant emissions from commonly encountered projects, the SJVAPCD has developed the screening tool, Small Project Analysis Level (SPAL). Using project type and size, the SJVAPCD has pre-quantified emissions and determined a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants. According to the SPAL requirements, no quantification of ozone precursor emissions is needed for projects less than or equal to the size thresholds, by vehicle trips and by

project type. If other emission factors such as toxic air contaminants, hazardous materials, asbestos, or odors are apparent, these emissions must be addressed.

The proposed project would involve the subdivision of an existing parcel into 40 lots for single-family residential units. the threshold for single-family residential projects as resulting in less than 155 dwelling units and less than 800 Average Daily One-Way Trips for all fleet types (except Heavy-Heavy Duty Trucks (HHDT) (SJVAPCD 2020). The proposed subdivision project would not exceed the SPAL threshold for this project type since there would be 40 residential lots and a maximum average daily trip rate of 377.60 on weekdays, and approximately 381.60 and 342.00 trips on Saturday and Sunday, respectively. Therefore, the project qualifies to complete the SPAL approach, and no quantification of ozone precursor emissions would be required. Project specific emissions of criteria pollutants are not expected to exceed District significance thresholds of 10 tons/year of NOX, 10 tons/year ROG, and 15 tons/year of PM10.

a-b. **Less Than Significant Impact.** The Proposed Project will result in air emissions during its construction phase and during its operational phase. Construction emissions would be generated by construction equipment used during the site preparation and infrastructure/home construction processes. Operational emissions would be generated primarily by resident vehicles and indirectly by use of electricity. As noted above, the Project is located within the San Joaquin Valley Air Basin (SJVAB) and air quality management under Federal and State clean air acts is the responsibility of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

The SJVPACD has published comprehensive guidance on evaluating, determining the significance of, and mitigating air quality impacts of projects and plans. As noted in the above discussion, the Air District's guidance is contained in its Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) and within the California Environmental Quality Act (CEQA) Guidelines. Because the Proposed Project is considered to a be relatively small (40 single-family residential lots), the analysis of air quality impacts focuses on whether the Proposed Project meets the air district screening criteria for projects having a less than significant impact.

As described in the GAMAQI and in the Small Project Analysis Level, if a project is below a threshold of 155 single-family residential units and less than 800 Average Daily One-Way Trips for all fleet types (except Heavy-Heavy Duty Trucks (HHDT)), the project's operational impacts for criteria pollutants would not be potentially significant and detailed air quality assessment is not needed. The Proposed Project does not exceed the threshold established by the Air District and therefore, will have a Less Than Significant Impact.

c. **Less Than Significant Impact.** The nearest existing residential structure that would be considered a sensitive receptor is approximately 100 feet of the project site on a nearby parcel. Construction equipment generates diesel particulate matter (DPM), identified as a carcinogen by the CARB. The State of California has determined that DPM from diesel-fueled engines poses a chronic health risk with chronic inhalation exposure.

Because of the relatively small project size, short duration of construction activities with potential to generate toxic air emissions, and the relatively distant and scattered locations of nearby sensitive receptors, it is highly unlikely that construction or operation of the proposed project would pose a toxic risk to any nearby sensitive receptors. In addition, the proposed facilities would not utilize fumigants or other potential toxic air contaminants that could impact sensitive receptors.

d. **Less Than Significant Impact.** The only potential odors associated with the project would be from diesel exhaust during the construction period. Given the use of heavy equipment during construction, the separation of residential home surrounding the project site, 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.

4. BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐	2, 8, 9, 21
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified 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, 8, 9
c) Have a substantial adverse effect on federally protected wetlands, (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?	☐	☐	☒	☐	2, 10
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐	2, 8, 9
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	2
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	☐	☐	☐	☒	2

This section is informed by a *Biological Resources Analysis* (BRA) (Appendix B) prepared for the Project by LSA Senior Biologist, John Kunna. The BRA is based on a desktop review and a reconnaissance-level field survey of the project site.

For the desktop review, a record search of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; CDFW 2023) for occurrences of special-status plant and wildlife species within a 5-mile radius of the project site was conducted. The National Wetlands Inventory (NWI) Wetlands Mapper(USFWS n.d.) was reviewed to determine if there were any known waters or wetlands on or near the site. Additionally, United States Fish and Wildlife Service (USFWS) critical habitat mapper was reviewed to identify designated critical habitat near the site and United States Department of Agriculture Web Soil Survey was reviewed to identify the soils on the site (USDA n.d.)

A reconnaissance-level survey of the project site and adjacent areas completed on February 15, 2023 by LSA Senior Biologist John Kunna to evaluate the potential occurrence of special-status species, wetlands, sensitive habitats, and other protected biological resources. The biologist surveyed by walking throughout the site and adjacent areas to search for biological resources, such as the presence of special-status plants, wildlife, and their habitats. The biologist also visited an upstream section of Black Rascal Creek and known vernal pools in the Merced area.

a. **Less Than Significant Impact with Mitigation**. The CNDDB search returned seven special-status plant species with occurrences within 5 miles of the site. All seven species are found in intact vernal pools. Due to its history of agriculture and tilling and the resulting colonization by nonnative plants, the project site does not provide suitable habitat for special-status plants.

The CNDDB query returned nine special-status wildlife species with occurrences within 5 miles of the site. Of the nine special-status species, three—Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp—are found only in vernal pools. Due to past land use there are no intact vernal pools on the site; therefore, these species have no potential to occur and are not discussed further.

Of the other six special-status species – California Tiger Salamander (*Ambystoma californiense*), Burrowing Owl (*Athene cunicularia*), Tricolored Blackbird (Athene cunicularia), Mountain Plover (*Charadrius montanus*), Swainson's Hawk (*Buteo swainsoni*), and San Joaquin Kit Fox (*Vulpes macrotis mutica*) – the BRA determined only Tricolored Blackbird and Swainson's Haw had the potential to occur on-site. Further, the evaluation stated that the project site could be considered suitable foraging habitat for Swainson's Hawk and nesting habitat for Tricolored Blackbird.

With the implementation of Mitigation Measures **MM BIO-1** through **MM BIO-2**, impacts to special-status wildlife would be less than significant with migration.

b-c. **Less Than Significant Impact with Mitigation.** A majority of the site consist sof soils mapped as Ryer clay loam, Wyman clay loam, and Bear Creek clay loam, none of which are classified as wet or hydric soils, or soils characteristic of wetlands.

Black Rascal Creek runs along the northwest corner of the site. The National Wetland Inventory maps the closest section of Black Rascal Creek as Riverine but the upstream portions of the site as Freshwater Emergent Wetland and Freshwater Forested/Shrub Wetland. The riparian corridor near the creek had willow trees (*Salix sp.*) and dense thickets of Himalayan blackberry (*Rubus armeniacus*), amongst other plants.

An irrigation ditch acts as a boundary between the currently disturbed areas of the project site and the Riverine and associated trees and shrubbery. The project proposes to construct a drainage basin and pump station south of this ditch which would provide a buffer from residential development and activity to riverine. The design of this stormwater drainage management system would be designed to comply with the County's MS4 Permit which prohibits discharge into waters of the United States; however, impacts to wetlands and waters under jurisdiction of the USACE, RWQCB and CDFW in the form of increased sedimentation and potential spills from construction equipment could be considered significant in the context of CEQA.

The project would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP),

which would prescribe best management practices (BMPs) to control sediment and other pollutants during construction from possibly entering stormwater. The SWPPP must address grading and erosion impacts, as well as non-point source pollution impacts from the proposed project, including post-construction operations. See **MM HYD-1**, which requires preparation of a SWPPP. These BMPs may include, but are not limited to, biodegradable straw wattles free from weed seed, silt fencing, hydroseeding, or biodegradable erosion control mats/blankets. Specific BMPs shall be defined prior to construction to protect the ditch, and spill kits shall be available to all workers on the site during construction activities.

Because project activities have the potential to impact wetlands, the impact would be less than significant with mitigation incorporated.

d. **Less than Significant Impact.** The project site is highly disturbed by historic agricultural activities. The majority of the site is regularly disked, with crops and vegetation in the project area consisting of non-native plant species.

While the , because the project site is already highly disturbed and would not significantly impact surrounding areas, there would not be a significant impact on sensitive species or sensitive species habitat.

The proposed subdivision would not have a substantial adverse effect on special status species, riparian habitat or other sensitive natural community, or protected wetlands. Furthermore, the proposed project would not substantially interfere with the movement of any native resident or migratory fish, wildlife species, or established native resident or migratory wildlife corridors. As a result, project implementation would have a Less Than Significant Impact on biological resources.

e. **Less than Significant Impact.** The Merced County General Plan contains an Open Space Action Plan (OSAP). The Open Space Development Review System (OSDRS) is one of the primary implementing tools of the County's Open Space Action Plan. Through such a review system, daily planning and permit approval decisions should reflect and implement the adopted policies and development standards of the 2030 General Plan. The system is intended for utilization both by developers in the design and building of projects, and by planners and decision makers in the review of projects for conformance with County policy. The system is basically a process for assessing the appropriateness of proposed developments, including their compatibility with surrounding environmental constraints and resources. This system of review is required of all projects for which a building permit or other entitlement is necessary such as a land division or use permit, as well as during policy and ordinance amendment. For the consistency of the proposed project with the OSDRS, see Table 3.

Table 3. Consistency with Merced County General Plan Open Space Development Review System

Question	Response	Discussion
Basic Land Use Category, Zone Code Consistency and Community Service Availability Determination	Yes	The proposed project is consistent with the Merced County Rural Residential Center and Agricultural-Residential land use designation of the General Plan, and the Rural Residential (R-R) zoning designation. As evaluated in this Initial Study, the project impact to public services and facilities has been found to be less than significant.

Open Space Inventory Map and Data Base Review	Yes	While the project site is currently fallow and qualifies as de facto open space, the project site has been designated and planned by Merced County for residential uses. Implementation of the project would not result in the loss of an identified or protected open space resource.
Demonstration by the permit applicant of consultation with the California Department of Fish and Wildlife, the Central Valley Regional Water Quality Control Board, the State Water Resources Control Board, the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and/or the Army Corps of Engineers, and any water purveyor serving the project area, as appropriate, to evaluate resources that could be affected by the proposed action; and proof of issuance of permits by these agencies, as required.	Yes	Through development of the CEQA and planning review processes, consultation with applicable agencies has been conducted on behalf of the project applicant. Where mitigation measures have been suggested by resource agencies, they have been included in the Initial Study.
Environmental Determination	Yes	With issuance of the Notice of Intent to Adopt a Mitigated Negative Declaration, an environmental determination was made that the proposed project would not have a significant effect on the environment. This Initial Study/Mitigated Negative Declaration represents the record supporting the determination
Land Use and Sensitive Resource Compatibility Determination	To be determined by the Planning Commission	The proposed project is located in an urbanizing area of Merced County. Adjacent land uses include residential and agricultural uses. The project would be consistent with the requirements of the Merced County Zoning Ordinance with implementation of mitigation measures. Impacts on adjacent residences from air quality, cultural resources, geology and soils, hydrology and water quality, and utilities were identified for the project. These impacts were found to be less than significant following mitigation. The Merced County Planning Commission will make the ultimate compatibility finding

As set forth in Table 5, the project would be consistent with the requirements of the OSDRS process, and there would be no conflict with local policies protecting biological resources. No significant impact would result, and no mitigation would be necessary.

f. **No Impact.** No approved Habitat Conservation Plans, Natural Community Conservation Plans, or other local, regional, or state habitat conservation plans that include the proposed project are in place. Therefore, the proposed project would not conflict with such plans. There would be no impact, and no mitigation measures would be required.

Mitigation Measures

MM BIO-1: Tricolored Blackbird and Nesting Bird Surveys. If demolition, site preparation, and/or construction activities are proposed during the typical nesting bird season (February 1–September 15), a nesting bird survey shall be conducted by a qualified biologist no more than 10 days prior to the start of demolition and/or ground disturbance activities to determine presence/absence of nesting birds. Surveys shall cover all areas

potentially affected by the project via direct impacts (e.g., nest destruction) or indirect impacts (e.g., noise, vibration, odors, movement of workers or equipment, etc.) and follow protocol in the *2015 CDFW Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields.* If absence of tricolored bird and nesting birds is verified, construction can proceed with submittal of the survey report to the Merced County Community and Economic Development Department. If nesting activity is detected, the following measures shall be implemented:

1. Buffer Establishment. If an active bird nest is observed during preconstruction surveys or during construction, a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors shall be implemented using high visibility markers or fencing. If an active tricolored blackbird nesting colony is found during preconstruction surveys, a 300-foot no-disturbance buffer shall be implemented. These buffers shall remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental car for survival.

2. Variance of Buffer Distances. Variance from the no-disturbance buffers described above may be allowable when there is a compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. Any variance from the no-disturbance buffers shall be advised and supported by a qualified biologist and CDFW shall be notified in advance of implementing a variance.

3. Nest Monitoring. If nest buffers are reduced, the biologist shall monitor any construction activities that take place within 250 feet of non-listed bird species nests, within 300 feet of an active tricolored blackbird nesting colony, and 500 feet of non-listed raptor nests. If nesting birds show any signs of disturbance, including changes in behavior, significantly reducing frequency of nests visits, or refusal to visit the nest, the biologist will stop work and increase the nest buffer. If appropriate on a case-by-case basis, as determined by the qualified biologist, nest monitoring may be reduced to weekly spot-check monitoring, at a minimum, if the biologist determines that the nesting birds have shown no signs of disturbance from construction activities and a continuation of the same types of construction activities are unlikely to disturb the nesting birds.

4. Nest Removal. Nests, eggs, or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code shall not be moved or disturbed until a qualified biologist has determined that the nest has become inactive or young have fledged and become independent of the nest.

5. Reporting. A qualified biologist shall document all active nests and submit a letter report to Merced County documenting project compliance with the Migratory Bird Treaty Act, California Fish and Game Code, and applicable project mitigation measures

MM BIO-2: Swainson's Hawk Surveys. To meet California Department of Fish and Wildlife recommendations for mitigation and protection of Swainson's hawk, surveys shall be conducted for a 0.5-mile radius around all project activities. Surveys shall be conducted

by a qualified biologist and follow the Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). At a minimum, a qualified biologist shall conduct 3 surveys during two of the three recommended survey periods (Survey Periods II, III and V) totaling a minimum of six surveys prior to project initiation as outlined in the Swainson's Hawk Technical Advisory Committee's (2000) recommended methodology. Surveys shall be completed in Survey Periods II (March 20–April 5), III (April 5–April 20), and V (June 10–July 30). Surveys shall not be conducted in Period IV (April 21– June 10). The survey periods are defined by the timing of migration, courtship, and nesting in a "typical" year for the majority of Swainson's hawk; however, the best times to survey will vary depending on seasonal factors. Known nest locations should be visited during surveys to verify nesting activity in the area. If Swainson's hawk absence is verified with 0.5 mile of the project site, project activities can proceed providing acceptance by the California Department of Fish and Wildlife of the survey results. Verification of acceptance of survey results by the California Department of Fish and Wildlife shall be submitted to Merced County prior to the start of construction.

5. CULTURAL RESOURCES

		Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:						
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☒	☐	1, 2, 11
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐	1, 2, 11
c)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐	1, 2

A cultural resources survey and assessment of Merced County was completed for the adopted 2030 Merced County General Plan meeting Section 15064.5 of the CEQA Guidelines. A detailed description of archival research and field survey methods can be found in the 2030 Merced County General Plan Background Report.

a-b. **Less Than Significant Impact**. The proposed project would involve the subdivision of three parcels totaling 52.42 acres into 40 lots for the purpose of future residential construction. No recorded significant historical or archaeological resources are located on the property and given the previously disturbed nature of the site from current and past agricultural use, the project would have a Less Than Significant Impact on historical or archaeological resources. However, should historical or archaeological resources be found, the project would then be subject to the conditions detailed in Merced County Planning Commission Resolution No. 97-01 pertaining to the discovery of cultural resources.

c. **Less Than Significant Impact**. No known human remains have been previously discovered on-site. Therefore, no impact is expected. However, in the event that human remains or unrecorded resources could be exposed, Section 7050.5 of the California Health and Safety Code will be implemented. Section 7050.5 requires that all construction and excavation be stopped until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission.

6. ENERGY

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐	12
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒	2

a. **Less Than Significant Impact.** Construction of the project is anticipated to occur over a 3-year duration, and would include site preparation, grading, building/infrastructure, paving and architectural coating. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation administered by the CARB. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to the CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. As another benefit of these restrictions, off-road diesel-powered vehicles would consume less fuel and combust fuel more efficiently.

In addition, technological innovations and more stringent standards are being researched, such as multifunction equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction in California, over the next few years. Therefore, temporary energy use during construction of the project would not result in a significant increase in peak or base demands on regional energy supplies or require additional capacity from local or regional energy supplies, and project construction activities would not result in a wasteful, inefficient, or unnecessary consumption of energy resources

The project would be subject to all relevant provisions of the most recent current standards of the Building Energy Efficiency Standards (Title 24) and the California Green Building Standards Code (CALGreen). Compliance with these standards would ensure that the building energy use associated with the project would not be wasteful, inefficient, or unnecessary. Thus, project impacts would be less than significant

b. **No Impact.** County has not adopted a Climate Action Plan (CAP) or energy plan. Merced County is in the process of preparing a CAP, with a currently unknown anticipated completion date. Development of a CAP would outline specific strategies to reduce GHG emissions and is required by the General Plan.

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three (3) years, and the 2019 Title 24 went into effect on January 1, 2020.

The California Green Buildings Standards Code (CALGreen) establishes mandatory green building standards for buildings in California. CALGreen was developed to reduce Greenhouse Gas (GHG) emission from buildings, promote environmentally responsible and healthier places to live and work, reduce energy and water consumption, and respond to environmental directives. The most recent update to CALGreen went into effect January 1, 2020, and covers five (5) categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

The Project will be required to comply with all California Green Building Code Standards, including Energy Efficient standards for residential buildings. Therefore, the project would not conflict with implementation of a local plan for renewable energy or energy efficiency, and there would be no impact.

7. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death, involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒	2
ii) Strong seismic ground shaking?	☐	☐	☐	☒	2
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒	2, 12
iv) Landslides?	☐	☐	☐	☒	2
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒	2
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☒	2, 12
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒	2, 13
e) 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?	☐	☐	☒	☐	3, 13
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒	2

a.i. **No Impact.** The nearest known faults to Merced County are: The San Andreas Fault approximately 15 miles west of the western border of the County, the Hayward, Greenville, and Calaveras Faults to the northwest, and the Bear Mountain Fault Zone about five miles east of and parallel to the eastern border of the County. Because there are no known faults that lie within Merced County that would affect the project site, no impacts related to the rupture of a known earthquake fault are expected.

a.ii. **No impact.** The aforementioned faults have been and will continue to be the principal sources of seismic activity affecting Merced County. There are no records of seismic activity originating from

Merced County, but there has been documented shaking from earthquake centers outside the County. Based on the very limited fault activity in Merced County and the limited external fault impacts that may impact the County, the impact of strong seismic ground shaking would be none on the proposed subdivision project.

a.iii. **No Impact.** According to the 2030 Merced County General Plan, no specific liquefaction hazard areas have been identified in the County. This potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high water table coincide. Soils in the north section of the County have a low potential for liquefaction because the groundwater table is low. Liquefaction is caused when soils subjected to ground shaking lose strength due to increased water pressure. In compliance with Section 1803 of the California Building Code, the applicant must submit a soils report prepared by a licensed soils engineer that addresses soil liquefaction when development occurs, since the proposed subdivision does not propose any development the project would have no impact as it relates seismic-related ground failure.

a.iv. **No Impact.** The project site is not expected to be subject to landslides. The project site and surrounding land are substantially flat with no substantial slopes nearby. Therefore, the proposed project would not result in impacts that would create landslides.

b. **No Impact.** The project site has been previously cleared and graded for farming and agricultural uses. Implementation of the proposed project would not result in temporary soil erosion or the loss of top soil because it does not propose any construction or change to the current use of the land.

c. **Less Than Significant Impact.** Soils in the project area are typically categorized as having a large amount of clay. The project site contains Ryer clay loam, Wyman clay loam, and Bear Creek clay loam. The surrounding areas are largely the same or similarly clay-dominated loamy soil types. In compliance with the California Building Code, a soils report must be prepared by a licensed soils engineer for any future construction to address any building limitations due to soils type.

According to the 2030 General Plan, the project site has not been identified as an area with subsidence. Subsidence is the settling or sinking of part of the earth's crust. Merced County is most affected by subsidence caused by hydro-compaction from groundwater withdrawal and earthquakes. Since the project site is not within a designated subsidence area, there is no anticipated threat from damage caused by subsidence.

In light of the above factors and by submitting a soils report pursuant to the California Building Code when any development occurs, potential impacts from landslides, lateral spreading, subsidence, or unstable soils would be less than significant, and no mitigation would be necessary.

d. **Less Than Significant Impact.** Expansive soils are soils that expand when water is added, and shrink when they dry out. Soil in the project area is characterized as Ryer clay loam, Wyman clay loam, and Bear Creek clay loam, which have some building limitations due to moderate shrink-swell potential. California Building Code requires a soils report for most non-residential structures within Merced County. Compliance with California Building Code requirements would reduce risks on the project site from shrink-swell potential to levels considered acceptable for the State, and risks from expansive soils would be considered less than significant.

e. **Less Than Significant Impact**. The project does not directly propose any new development that would require the creation of any septic systems. Any future septic systems are required to be reviewed by the Merced County Department of Public Health, Division of Environmental Health, which will determine the appropriate design standards in accordance with all applicable regulations.

Soil in the project area is characterized as Ryer clay loam, Wyman clay loam, and Bear Creek clay loam. Therefore, the impacts of any future septic tanks are anticipated to be less than significant. However, no septic tanks are being proposed with this project.

f. **No Impact.** The project site has already been disturbed by agricultural operations and there are no known paleontological resources, sites, or unique geologic features on the site. No impact is anticipated.

8. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	5, 14, 22
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	1, 5, 22

This section is informed by an *Air Quality (AQ), Vehicle Miles Traveled (VMT), and Greenhouse Gas (GHG)* (Appendix A) prepared for the Project by SCS Engineers.

a. **Less Than Significant Impact.** GHGs are compounds in the earth's atmosphere that play a critical role in determining the earth's surface temperature. Specifically, these gases allow high-frequency solar radiation to enter the earth's atmosphere but retain the low-frequency energy, which is radiated back from the earth to space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the earth's atmosphere are thought to be linked to global climate change, causing rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increasing frequency and magnitude of severe weather. GHGs include carbon dioxide (CO2), methane, ozone, water vapor, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Although CO2 is the most abundant GHG, other GHGs are less abundant but have higher global warming potential than CO2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO2, denoted as CO2e. GHGs are the result of natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

The SJVAPCD has not yet adopted updated significance thresholds for project-generated GHG emissions, an relied on the Bay Area Air Quality Management District (BAAQMD) threshold of 1,100 metric tons of CO2e per year. The project-related emissions of GHGs were calculated using CalEEMod, version 2020.4.0, and are summarized in Table 4and Table 5. Detailed assumptions and calculations, as well as CalEEMod outputs, are provided in Appendix A.

Because the Project does not exceed the threshold of 1,100 metric tons of CO2e per year, impacts related to GHG emissions would be less than significant.

Table 4. Construction-Related GHG Emissions Summary

Construction Year	CO_2e Emissions (*MT/year*)
2024	519.64
2025	376.17
2026	343.13
Maximum Year Emissions	519.64

Table 5. Operations-Related GHG Emissions Summary	
Operation	**CO_2e Emissions (*MT/year*)**
Total GHG Emissiosn	546.90

b. **Less Than Significant Impact.** Merced County has not adopted a Climate Action Plan or any greenhouse gas reduction measure other than enforcing the provisions of the California Green Building Code and Title 24 of the California Energy Code. Because transportation is the largest sector of greenhouse gas emissions in California, many reduction strategies and applicable transportation and land use plans focus on reducing vehicle miles traveled (VMT) and making transportation more efficient in order to reduce greenhouse gas emissions. As discussed later in this Initial Study, under the Transportation & Circulation section, the proposed subdivision would generate under the threshold of significance for Vehicle Miles Traveled (VMT); therefore, impacts to GHG emissions as they relate to transportation impacts would be less than significant.

9. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☐	☐	☐	☒	1, 3
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒	3
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	1, 2
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, create a significant hazard to the public or the environment?	☐	☐	☐	☒	2, 15
e) For a project located within an airport land use plan area, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒	2
f) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	2
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒	1

a-b. **No Impact**. No construction is proposed for this project and therefore would not create a hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Any future construction activities must be in compliance with California Occupational Safety and Health Administration (OSHA) regulations.

Pursuant to Section 18.40.040 of the Merced County Code, storage of hazardous materials on-site requires filing a Hazardous Materials Business Plan with the Merced County Department of Public Health, Division of Environmental Health. The project does not propose the storage of any hazardous material on-site and therefore does not require a Hazardous Materials Business Plan upon the Division of Environmental Health's review of the project. The absence of hazardous materials eliminates the risk of hazards to the public or environment, including those related to accident conditions.

c. **No Impact**. No schools are located within 0.25 miles of the project site. The closest school is Donn B Chenoweth Elementary School, located approximately 1.15 miles northwest of the project site. Based on the nature of the project and the distance from schools, it is reasonable to conclude that the project would not result in hazardous emissions or handle hazardous or acutely hazardous materials or substances that would have the potential to affect the nearby schools. No impacts are anticipated from the project.

d. **No Impact.** The California Department of Toxic Substances Control (DTSC) maintains a Hazardous Waste and Substances Sites List (Cortese List). The Cortese List tracks "Calsites," which are mitigation or brownfield sites subject to Annual Work plans. The project site is not included in the DTSC Cortese List, and there are no listed sites in the project vicinity. In addition, a Hazardous Waste and Substance Statement on file with the Merced County Community and Economic Development Department indicates that the site is not included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. Therefore, no impact would result from project implementation.

e. **No Impact.** The project site is located approximately 6 miles southwest of Merced Regional Airport and is not within any adopted airport land use plan or within an airport compatibility zone. The proposed project would have no impact on an airport land use plan area, and the project would not result in a safety hazard or excessive noise for people residing or working in the project area.

f. **Less Than Significant Impact.** The proposed project does include modifications of existing roadways and intersections including the extension of Leeds Road, an existing county-maintained road, and five new roads. The new roads are to be constructed to Merced County Roads standards to allow road access to all 40 lots. The new roads would allow more circulation for emergency response and evacuation. Therefore, the proposed project would result in a less than significant impact.

g. **No Impact**. The project site is bordered by agricultural and residential uses. Irrigated agricultural land is less susceptible to wildland fires than grazing lands. Orchards, field crops and developed parcels are considered to have minimal fire risk due to the moisture content of plants. There are no wildlands, as defined in the 2030 Merced County General Plan, adjacent to the project site. According to the 2030 General Plan, the project site is located in a Local Response Area that is serviced by Merced County Fire Department and in which Fire Hazards are reduced because of fire prevention measures. Therefore, the project would not expose people or structures to significant risks associated with wildland fire, and no impact would result.

10. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐	3, 16
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐	2, 3
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:					
i) result in substantial erosion or siltation on- or off-site	☐	☐	☒	☐	2, 3
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐	2, 3
iii) contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐	2, 3
iv) impede or redirect flood flows?	☐	☐	☐	☒	2
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒	2
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐	2

a. **Less Than Significant Impact.** The proposed project is not expected to violate any water quality standards or waste discharge requirements, or substantially degrade water quality. The majority of the project site has been previously graded and leveled, however, the proposed project would disturb more than one acre through the construction of improvements to serve the project. Consequently, the applicant would be required to obtain a General Construction Activity Storm Water Permit from the SWRCB for storm water discharges associated with construction activities, which would require the implementation of a SWPPP. The SWPPP must contain BMPs to reduce soil erosion and protect storm water runoff.

Because the project is proposing more than 5,000 square feet of new impervious surface, the applicant must also comply with the County's MS4 Storm Water Permit by implementing site design, source control, runoff reduction and storm water treatment. This is enforced by the Merced County Department of Public Works, Roads Division.

Conformance with the State's General Construction Permit, the County Stormwater Ordinance, and **MM HYD-1** would ensure the project would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade surface water or groundwater quality. Therefore, impacts would be less than significant with mitigation

b. **Less Than Significant Impact.** Water usage for the proposed project will not increase. The facility will be used for the processing and storage of cherries. Processing will be take place off-site. The proposed storage buildings, and associated paved areas, including the proposed driveway, would increase impermeable surface area on-site by approximately 60,050 square feet (73,000 square feet of new impervious surface and the removal of 12,950 square feet of impervious surface). This amount of impermeable surface area would not substantially interfere with groundwater recharge. In addition, the project proponent indicates in their project proposal that storm water would be directed to existing drains. Because the project would not substantially deplete groundwater supplies through extraction, and because the project proposes a design that would allow storm water would percolate into the groundwater system, the impact of the proposed project on groundwater would be less than significant.

c.i. **Less Than Significant Impact**. The project proposes to create approximately 60,050 square feet of net new impervious surface. During project construction, erosion and siltation of on-site soils could result. Projects which disturb more than one acre (i.e. 43,560 square feet) of soil are required to obtain a General Construction Activity Stormwater Permit from the SWRCB, which would require implementation of a Storm Water Pollution Prevention Plan (SWPPP). Obtaining a General Construction Activity Stormwater Permit for the proposed project would reduce erosion and siltation to a less than significant level, and no mitigation would be necessary.

c.ii. **Less Than Significant Impact**. The project proposes to create approximately 60,050 square feet of net new impervious surface. Because the project is proposing more than 5,000 square feet of new impervious surface, the applicant must comply with the County's MS4 Storm Water Permit by implementing site design, source control, runoff reduction and storm water treatment, which is enforced through the Merced County Department of Public Works, Roads Division. In complying with the County's MS4 Storm Water Permit requirements, surface runoff would be managed and flooding on- or offsite would not result, culminating in a Less Than Significant Impact on flooding.

c.iii. **Less Than Significant Impact**. The project proposes to create approximately 60,050 square feet of net new impervious surface. In complying with the County's MS4 Storm Water Permit and the requirements of the SWRCB, the proposed project would not exceed the capacity of the planned stormwater drainage systems, nor would it provide additional sources of polluted runoff. A Less Than Significant Impact on runoff would result from project implementation.

c.iv. **No Impact**. The project area is not located in an identified flood area and would therefore not be expected to impede or redirect any flood flows. Therefore, no impact on flood flows would result from project implementation.

d. **No Impact.** The proposed project is not located in a flood hazard, tsunami, or seiche zone. Therefore, there would be no risk of pollutants being released due to project inundation, and no impact would result.

e. **Less Than Significant Impact**. Considering the relatively small project size and Less Than Significant Impact on water resources, the proposed cherry-packing facility would not conflict with or obstruct the implementation of any applicable water quality control plan or sustainable groundwater management plan. A Less Than Significant Impact would result.

Mitigation Measures

MM HYD-1: Erosion and Sediment Control Plan or Stormwater Pollution Prevention Plan. Prior to issuance of a grading permit, the applicant shall submit an Erosion and Sediment Control Plan or SWPPP prepared by a registered professional engineer or Qualified SWPPP Developer (QSD) as an integral part of the grading plan. The plan shall be subject to review and approval of the County prior to the issuance of a grading permit. The plan shall include all erosion control measures and BMPs to be used during project construction and operation, including runoff control, sediment control, and pollution control measures for the entire site to prevent discharge of sediment and contaminants into the drainage system. Post-construction measures include maintenance of the bioretention areas and vegetative landscaping. The plan shall include the following measures, as applicable:

1. Throughout the construction process, ground disturbance shall be minimized, and existing vegetation shall be retained to the extent possible to reduce soil erosion. All construction and grading activities, including short-term needs (equipment staging areas, storage areas, and field office locations) shall minimize the amount of land area disturbed. Whenever possible, existing disturbed areas shall be used for such purposes.

2. All drainage ways, wetland areas, and stream areas shall be protected from silt and sediment in storm runoff using appropriate BMPs, such as silt fences, diversion berms, and check dams. Fill slopes shall be stabilized and covered when appropriate. All exposed surface areas shall be mulched and reseeded. All cut and fill slopes shall be protected with hay mulch and/or erosion control blankets, as appropriate.

3. During construction, all erosion control measures shall be installed according to the approved plans prior to the onset of the rainy season but no later than October 15. Construction erosion control measures shall remain in place until the end of the rainy season but may not be removed before April 15. The County shall be responsible for notifying construction contractors about erosion control requirements.

4. Example design standards for erosion and sediment control include, but are not limited to, the following: avoiding disturbance in especially erodible areas; minimizing disturbance on slopes; using berms, swales, ditches, vegetative filter strips, and catch basins to prevent the escape of sediment from the site; conducting development in increments; and planting bare soils to restore vegetative cover.

5. The County shall develop an inspection program to evaluate if there is any significant on-site erosion as a result of rainfall. If problems arise at the site after rainfall, the engineer or contractor shall enhance methods to manage onsite erosion.

11. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Physically divide an established community?	☐	☐	☐	☒	1, 2
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒	1, 3

a. **No Impact**. The proposed project would involve the subdivision of three parcels totaling 52.42 acres into 40 one-acre lots. The project vicinity currently consists of agricultural uses including row crops. Because the project is located east of City of Merced, the proposed subdivision would not divide an established community, and no impact would result from project implementation.

b. **No Impact.** The proposed project does not conflict with any land use plan, policy, or regulation adopted to avoid or mitigate environmental effects. The project site is designated Merced Rural Residential Center – Agricultural Residential land use in the 2030 Merced County General Plan and is zoned Rural Residential in the Merced County Zoning Code. The proposed complies with required lot sizes in the designated zone. The project does not propose a change in the land use. Therefore, the proposed subdivision does not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

12. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) 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?	☐	☐	☐	☒	1, 2, 17
b) 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?	☐	☐	☐	☒	2, 17

a-b. **No Impact**. Sand and gravel are the most valuable mineral resources in Merced County. The project site is not located within any sand and gravel resource identified in the Natural Resources Element of the 2030 Merced County General Plan or the State Mineral Resources Map. Furthermore, no mineral extraction activities exist on the project site, and mineral extraction is not included in project designs. No impact on mineral resources would result.

13. NOISE

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project result in:					
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	3
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	3
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or private use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	2

Potential noise impacts of the project can be categorized as those resulting from construction activities and those resulting from operational activities. Development of the proposed project would increase noise levels temporarily during construction. Operational noise associated with the cherry-packing facility would result throughout the lifetime of the project.

Some land uses are considered more sensitive to noise than other uses. Generally, sensitive land uses can include residences, schools, nursing homes, hospitals, and some public facilities such as libraries. Sensitive land uses may also include areas that contain threatened or endangered biological species known to be sensitive to noise.

a-b. **Less Than Significant Impact.** Short-term construction activities would periodically increase ambient, groundborne vibration or groundborne noise levels at the project site and vicinity, but would subside once construction is completed. Compliance with the County's noise standard would ensure

Per County Code Section 10.60.030 ("Sound Level Limitations"), the County sets limitations on noise levels at the property line of affected parcels and states the following: No person shall cause, suffer, allow, or permit the operation of any sound source on private property in such a manner as to create a sound level that results in any of the following, when measured at or within the real property line of the receiving property: Exceed the background sound level by at least ten (10) dBA during daytime hours (7:00 a.m. to 10:00 p.m.) and by at least five dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). The background sound level is not permitted to exceed 65 dBA Ldn on transient residential real property or 70 dBA Ldn on nonresidential real property; or exceed 75 dBA Lmax on transient residential real property or 80 dBA Lmax on nonresidential real property. Pile driving is proposed during construction and may exceed noise levels outlined in County Code Section 10.60.030 ("Sound Level Limitations").

County Code exempts several noise sources, including emergency signaling devices, exterior burglar alarms, domestic power tools, and construction activity between 7:00 a.m. and 6:00 p.m., if all construction equipment is properly muffled and maintained. Construction of the project would be limited to the period between 7:00 a.m. and 6:00 p.m; therefore, less than significant impact is anticipated.

c. **No Impact.** The project is not located within an airport land use plan area or in the vicinity of a public or private airstrip. The nearest airport, Merced Regional Airport, is located approximately 6 miles southwest of the project site. The project site is beyond the boundary of any Airport Plan. Therefore, implementation of the proposed project would neither impact an airstrip nor be affected by an airstrip. No further evaluation is required, and the project would have no impact in this respect.

14. POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☒	☐	2
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐	1

a. **Less Than Significant Impact**. The proposed subdivision would indirectly induce substantial population growth through the extension and creation of roads. Although the project does not directly propose new houses it does facilitate future development and an increase of population growth in that area. The project site is designated Merced Rural Residential Center and Agricultural-Residential land use in the 2030 Merced County General Plan in which impacts related to the increase in population in that area were addressed. The subdivision would have a less than significant impact since it does comply with the 2030 Merced County General Plan.

Implementation of the proposed project would result in the construction of 40 lots for single-family residential units. No existing public infrastructure or new infrastructure with the capacity to serve areas beyond the project site would be affected, constructed, or removed. The project would be constructed in three phases.

The population of Merced County between January 1, 2021 and January 1, 2023 was estimated to be 285,337 (DOF 2023). The proposed project would result in the construction of 40 single-family residences. Based on the DOF estimate household size of 3.20 persons per household, the project would potentially add approximately 128 residents, or induce approximately 0.04% increase in population. This would represent a minimal increase in the County's population and would not exceed population projections or result in any significant growth inducing effects. The proposed project would not be expected to result in substantial new growth in the project vicinity. Therefore, the proposed project would not result in substantial direct or indirect growth inducement, and a less than significant impact would occur.

b. **Less Than Significant Impact.** No dwelling units are located on the project site. Residences in the vicinity are characterized by single family residences on properties in active agricultural use. Implementation of the proposed project would not displace any existing people, and project-level impacts to existing population and housing would be less than significant.

15. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project 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?	☐	☐	☒	☐	2
b) Police protection?	☐	☐	☒	☐	2
c) Schools?	☐	☐	☒	☐	2
d) Parks?	☐	☐	☒	☐	2
e) Other public facilities?	☐	☐	☒	☐	2

a-b. **Less Than Significant Impact**. Implementation of the proposed project would result in the construction of 40 single-family residences. The Merced County Fire Code imposes requirements for new buildings constructed in Merced County, including plan checks, address identification, access requirements, and fire flow requirements (Merced County 2015). Compliance with the requirements as set forth by the Fire Department would be required as conditions of approval, and would reduce fire risk and hazard to levels found acceptable by the Merced County Fire Department. Therefore, there would be no increase or change in the demand for fire service that would require the provision of new or physically altered fire facilities. No feature of the project would result in the need for new or altered facilities for police protection, schools, parks, libraries, or health services. Because only 40 residences would be constructed, and needed employees would be drawn from the local labor pool, no substantial increase in population is expected to result from the proposed project. No feature of the proposed project would pose unusual police protection demands. Therefore, there would be no substantial increase in the demand for public services such as police facilities, schools, parks, libraries, or health services that would require the construction of new facilities or physically altered facilities. This would be a less than significant impact, and no mitigation would be necessary.

16. RECREATION

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐	1
b) 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

a-b. **Less Than Significant Impact**. No existing public recreational resources are located on the project site or in the vicinity, and no substantial increase in population would occur with implementation of the proposed project. There would be no substantial increase in the use of existing neighborhood or regional parks or other recreational facilities that would cause or accelerate the physical deterioration of such facilities. The proposed project does not include recreational facilities, nor does it require the construction or expansion of such facilities that might have an adverse physical effect on the environment. This would be a less-than-significant impact.

17. TRANSPORATION & CIRCULATION

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐	1, 18
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐	2, 23
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐	3
d) Result in inadequate emergency access?	☐	☐	☒	☐	2, 3

a. **Less Than Significant Impact**. The proposed project would not conflict with a program plan, ordinance or policy addressing the circulation system. There are no current or anticipated transit, roadway, bicycle or pedestrian facilities on the property where the project is proposed (Regional Transportation Plan). In light of these factors, the proposed project would have a less than significant impact with respect to plans, ordinances or policies addressing the circulation system.

b. **Less Than Significant Impact**. This section is informed by an *Air Quality (AQ), Vehicle Miles Traveled (VMT), and Greenhouse Gas (GHG)* (Appendix A) prepared for the Project by SCS Engineers. The analysis estimated the proposed Project would result in an estimated maximum 381.60 average daily trips (ADT) with a mitigated annual Vehicle Miles Traveled (VMT) of 1,086,690 as summarized in Table 6.

Table 6. Project Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	377.60	381.60	342.00	1,086,690	1,086,690
Total	377.60	381.60	342.00	1,086,690	1,086,690

Merced County adopted the Merced County Association of Governments (MCAG) VMT Thresholds and Implementation Guidelines (2022), which identifies the CEQA VMT metric, VMT screening criteria, and VMT analysis thresholds for jurisdictions within the MCAG. According to the MCAG VMT Thresholds and Implementation Guidelines, a project consistent with the jurisdiction's General Plan may be screened from VMT thresholds if the project would generate fewer than 1,000 average daily trips (ADT), while a project not consistent with the jurisdiction's General Plan may be screened if the project would generate fewer than 500 ADT. Because the project is consistent with the Rural Residential Center and Agricultural Residential land use designations and the project would result in less than 1,000 ADT, implementation of the project would result in a less than significant impact.

a. **Less Than Significant Impact**. The project does propose two new roads connected to Leeds Road and three more new roads to facilitate access to all parcels. All proposed roads are to be built in compliance to Merced County Roads standards to eliminate any potential hazards. The project does not propose any incompatible uses or large equipment that would substantially increase hazards. The proposed project would not substantially increase hazards due to geometric design features or incompatible uses, and a less than significant impact would result.

d. **Less Than Significant Impact**. According to the 2030 Merced County General Plan, freeways and major county roads would be used as primary evacuation routes. There may be some temporary blockage on Leeds Road as part of the construction process of the proposed new roads but Leeds Road is not considered a major county road. Compliance with County emergency access standards would ensure that there is adequate emergency access to the proposed cherry-packing facility, and the proposed project would have a less than significant impact on emergency access.

18. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒	1, 2
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒	1, 2, 11

a.i. **No Impact.** The project site is not located in an area that is listed or eligible for listing in the California Register of Historical Resources, nor is the project site located in a local register of historical resources. As a result, the project would have no impact on identified historical resources.

a.ii. **No Impact**. The project site has already been disturbed by past and present agricultural operations, and no tribal cultural resources have been found at the site. The 2030 Merced County General Plan, per Public Resources Code section 21074, does not identify any sacred place or object with cultural value to a California Native American tribe in the vicinity of the project site. Therefore, no impact is anticipated. However, should cultural resources be found during project construction, the project would be subject to the conditions detailed in Merced County Planning Commission Resolution No. 20-001 pertaining to the discovery of cultural resources.

19. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
Would the project:					
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐	2, 3
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐	3
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒	2
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐	2, 3
e) Comply with federal, state and local management and reduction statutes related to solid waste?	☐	☐	☒	☐	2

a, b, e. Less Than Significant Impact. The project would result in the construction of individual domestic wells for each of the 40 proposed residential lots. It is anticipated that each well would deliver two acre-feet per year or less for domestic use and therefore be considered de minimis. Ministerial construction permits and plans would be reviewed and issued by the Merced County Division of Environmental Health.

The proposed storm drainage basin would be constructed in compliance with the County's MS4 permit and reviewed and approved by the Department of Public Works.

Additionally, each of the 40 proposed residential lots within the project would be served by an individual OWTS located on each lot. Soils vary by location on the project and some soils are not optimal for successful operation of an OWTS because the site contains only soils that are only very limited. The proposed systems shall be reviewed by the Merced County Division of Environmental Health. All on-site sewage disposal systems to be constructed will be required to conform to Merced County DEH minimum design standards for on-site sewage disposal systems to ensure that each of the proposed OWTS would operate to avoid adverse effects to water quality.

b. **Less Than Significant Impact**. The proposed subdivision does not propose any development that would require water supply. Any future development on any of the 40 lots would have to be served

by private water well permitted and built to Merced County Division of Environmental Health standards. A less than significant impact on water supplies would result.

c. **No Impact.** The project site is not currently served by a wastewater treatment provider, nor is it planned to be served by a wastewater treatment provider in the future. No impact on a wastewater treatment provider would result from project implementation.

d. **Less Than Significant Impact**. The proposed subdivision does not propose any development that would generate any amount of solid waste. Any future development on any of the proposed 40 lots would be served by a private septic tank permitted by Merced County Environmental Health Department. In light of the aforementioned, the project would have a less than significant impact related to solid waste.

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20. WILDFIRE

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	19
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒	19
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒	19
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒	19

a-d. **No Impact.** The project site is not located in or near a state responsibility area or lands classified as very high fire hazard severity zones. Based on the project's location, the project would have no impact on an identified state responsibility area or very high fire hazard severity zone.

21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant Impact with Mitigation	Less Than Significant Impact	No Impact	Reference(s)
a) Does the project have the potential to substantially 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, substantially reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐	
b) Does the project 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 probable future projects.	☐	☐	☒	☐	1, 2, 20
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐	

a. **Less Than Significant Impact.** The project site contains habitat that was identified as potentially suitable for 2 special-status wildlife species. Impacts to special-status plant and wildlife species would be less than significant with implementation of **MM BIO-1** through **MM BIO-2** and **MM HYD-1**. Therefore, the project would have a less than significant impact on biological resources.

b. **Less Than Significant Impact**. When project impacts are considered along or in combination with other impacts, the project-related impacts may be significant. Construction and operation of the project would contribute to cumulative impacts related to agricultural resources, biological resources, and hydrology and water quality. Mitigation measures have been incorporated into the project to reduce project-related impacts to a less than significant level. Based on implementation of Mitigation Measures **MM BIO-1** through **MM BIO-2**, and **MM HYD-1**, the cumulative effects of the proposed project would be less than significant

c. **Less Than Significant Impact**. As discussed in Aesthetics, Air Quality, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire of this document, compliance with local, state, and federal regulations would pre-empt the potential for significant adverse effects on humans. Therefore, the proposed project would not result in a Mandatory Finding of Significance related to environmental effects that could cause substantial adverse effects on humans.

SECTION 4: REFERENCES

1. 2030 Merced County General Plan.
2. 2030 Merced County General Plan Background Report.
3. Merced County Code.
4. California Department of Conservation – Farmland Mapping and Monitoring Program (FMMP), 2016.
5. San Joaquin Valley Air Pollution Control District – Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI), March 19, 2015.
6. San Joaquin Valley Air Pollution Control District – Small Project Analysis Level (SPAL), June 2012.
7. Sharla Yang, San Joaquin Valley Air Pollution Control District Air Quality Specialist, Personal Communication, April 2019 through May 2019.
8. California Department of Fish and Wildlife – Threatened and Endangered Species Listing, August 2018.
9. California Department of Fish and Wildlife – California Natural Diversity Database (CNDDB).
10. U.S. Fish & Wildlife Service – National Wetlands Inventory.
11. Merced County Planning Commission Resolution No. 97-01.
12. California Building Code.
13. Natural Resources Conservation Service (NRCS) – Web Soil Survey.
14. A&L Western Agricultural Laboratories – Organic Fertilizer Report, Provided by Applicant.
15. Department of Toxic Substances Control (DTSC) – Cortese List.
16. State Water Resources Control Board (SWRCB) – Storm Water Program.
17. California Department of Conservation – State Mineral Resources Map.
18. Merced County Association of Governments – 2018 Regional Transportation Plan.
19. CAL FIRE – State Responsibility Area Map.
20. 2030 Merced County General Plan EIR

21. California State University Stanislaus Department of Biological Science – Endangered Species Recovery Program - *Thamnophis gigas*
22. California Governor's Office of Planning and Research –Technical Advisory on Evaluating Transportation Impacts in CEQA
23. Merced County Association of Government (MCAG) – VMT Thresholds and Implementation Guidelines