PUBLIC REVIEW DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

copper trails

SPECIFIC PLAN AND ANNEXATION PROJECT

November 2024

Prepared for:

City of Ceres
Community Development Department
2220 Magnolia Street
Ceres, CA 95307

Prepared by:

BaseCamp Environmental, Inc.
802 W. Lodi Avenue
Lodi, CA 95240

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ACRONYMS AND ABBREVIATIONS USED IN THIS DOCUMENT

AB	Assembly Bill
ACE	Altamont Corridor Express
ALUCP	Airport Land Use Compatibility Plan
APN	Assessor's Parcel Number
ARB	California Air Resources Board
BERD	Built Environment Resource Directory
BMP	Best Management Practice
BTU	British thermal unit
CalEEMod	California Emissions Estimator Model
CalEnviroScreen	California Communities Environmental Health Screening Tool
Cal Fire	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recovery and Recycling
Caltrans	California Department of Transportation
CCIC	Central California Information Center
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CMP	Congestion Management Process
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	U.S. Army Corps of Engineers
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CTSP	Copper Trails Specific Plan
CUSD	Ceres Unified School District
DA	Development Agreement
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
DUC	Disadvantaged Unincorporated Community
DWR	California Department of Water Resources

EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ETRIP	Employer Trip Reduction Implementation Plan
FEMA	Federal Emergency Management Agency
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
GPEIR	Ceres General Plan 2035 EIR
HCD	California Department of Housing and Community Development
kWh	kilowatt-hour
LAFCo	Local Agency Formation Commission
L_{dn}	Day-Night Average Noise Level
L_{eq}	Equivalent Noise Level
LOS	Level of Service
mgd	million gallons per day
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
NAHC	Native American Heritage Commission
NO_x	nitrogen oxide
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OPR	Governor's Office of Planning and Research
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	particulate matter less than 2.5 micrometers in diameter
PM_{10}	particulate matter less than 10 micrometers in diameter
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Assessment
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SGMA	Sustainable Groundwater Management Act
SJVAPCD	San Joaquin Valley Air Pollution Control District
SR	State Route
SRRF	Stanislaus Resource Recovery Facility
StanCOG	Stanislaus Council of Governments
StanRTA	Stanislaus Regional Transit Authority

SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TID	Turlock Irrigation District
UPRR	Union Pacific Railroad
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VOC	volatile organic compound
VMT	vehicle miles traveled
WSA	Water Supply Assessment
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

This document is an Environmental Impact Report (EIR) that describes the potential environmental effects of adoption and implementation of the proposed Copper Trails Specific Plan (CTSP) and Annexation Project (project). The annexation project includes a total of 680.7 acres in 244 existing parcels; the annexation area is comprised of the 534.6-acre CTSP area and an adjacent 146.1-acre area lying between the CTSP and the existing City of Ceres boundary (Figures 1-1 through 1-4). This EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA). CEQA and its requirements are described in more detail in Section 1.3, below. For CEQA purposes, the City of Ceres (City) is the Lead Agency for this project.

The Copper Trails Specific Plan would guide the future development of new urban land uses on 68 undeveloped or under-developed parcels located within the 534.6-acre CTSP Area, which is adjacent to and southwest of Ceres in unincorporated Stanislaus County (Figures 1-1 through 1-4); the CTSP area would be annexed to the City in conjunction with approval of the specific plan. The CTSP proposes a mix of commercial, public, park, and low- to high-density residential land uses. Total potential development pursuant to the CTSP would include 2,392 new single- and multi-family residential units and 1,169,586 square feet of new regional commercial development. It also would include approximately 42.3 acres of new parks and open space and 3.4 acres of new public space to add to an existing 74.1 acres of public space (schools) within the CTSP Area. The CTSP establishes locations and provides for the construction of streets and other public facilities that would meet basic urban service needs and encourage use of alternate modes of transportation, such as walking and bicycling. Utilities and other supporting infrastructure would be installed in conjunction with planned new development. Additional project details are provided in Chapter 3.0, Project Description.

In addition to annexation of the 68 parcels within the CTSP Area, the project would also include annexation of another 176 parcels totaling146.1 acres of other unincorporated but largely developed lands between the CTSP area and the existing City boundary to the north and east; this area is hereinafter referred to as the "Pocket Area." The total proposed annexation area would amount to 680.7 acres. The Pocket Area would be pre-zoned in conjunction with annexation consistent with the existing Ceres General Plan designations. Annexation of the CTSP Area without the Pocket Area would create an unincorporated island within the City limits, which is contrary to LAFCo annexation policy. Approval of the CTSP and of subsequent development would consist of several interrelated City approvals and other actions. Annexation of the CTSP Area and other unincorporated lands would require the approval of the Stanislaus Local Agency Formation Commission (LAFCo).

1.2 PROJECT BACKGROUND

The overall project site, including both the CTSP Area and the Pocket Area, is presently within the planning jurisdiction of Stanislaus County. The CTSP Area is approximately bounded by Mitchell Road to the east, Service Road to the north, Blaker Road to the west, and the Turlock Irrigation District (TID) Lower Lateral 2 to the south. Agricultural fields of orchards, livestock grazing and row crops and occupy the majority of the CTSP Area. However, substantial residential, light industrial, and institutional development has also occurred. The most prominent developed features in the CTSP Area are Central Valley High School, adjacent to the intersection of Service Road and Central Avenue, Ceres Adult School, adjacent to and south of Central Valley High School, and Hidahl Elementary School, located along Redwood Road, east of Central Avenue.

The Pocket Area is bounded on the south by Service Road and by existing development within the existing City boundaries on the west and east. Land uses within this area consist of a mix of residential, commercial and industrial lands developed under County jurisdiction intermixed with vacant lands.

The overall annexation area, including the CTSP and Pocket Area, is within the Sphere of Influence of the City of Ceres and within the Planning Area of the Ceres General Plan 2035, which was adopted on May 14, 2018 (see Figure 13-1 in Chapter 13.0, Land Use). Ceres has a relatively compact urban form, with large areas of agricultural land surrounding the City to the east, south, and west. The City of Modesto and its urban area is immediately north of Ceres. Due to a gridded pattern of main thoroughfares, the City is generally composed of large square areas of development, each a square mile (640 acres) in size, that are defined by transportation arterials running north/south or east/west, such as Hatch Road, Mitchell Road, Central Avenue, Service Road, Morgan Road, and Whitmore Avenue (City of Ceres 2018a).

A specific plan systematically implements a general plan of a local jurisdiction in a particular geographical area of that jurisdiction. Authority for the preparation of specific plans is found in California Government Code Sections 65450-65457. State law requires that a specific plan includes text and diagrams that specify the distribution and extent of land uses in the plan area, the standards and criteria by which development will proceed in the area, and a program of implementation measures necessary to carry out the plan, among other items. The specific plan also must include a statement of the relationship between the specific plan and the general plan of the local jurisdiction. The specific plan must be consistent with the general plan, and it must further the objectives and policies of the general plan and not obstruct their attainment. The procedures for adopting a specific plan are essentially the same as for a general plan, except that a specific plan may be adopted by either ordinance or resolution, and it can be amended as often as necessary. The Ceres City Council has approval authority for specific plans related to the City.

In 2003, the City received a request to prepare what became known as the Copper Trails Neighborhood Master Plan. The Master Plan covered an area southwest of Ceres of approximately 175 acres, considerably smaller than the CTSP Area. The Master Plan area was bounded by Central Avenue, Service Road, Blaker Road, and TID Lower Lateral 2

(City of Ceres 2007a). The Master Plan was released for public review in 2006, along with an EIR. After public comments were received, the Master Plan and the EIR were revised. Public hearings by the Ceres Planning Commission on the Master Plan were scheduled in the fall of 2007, but these hearings were continued due to inconsistencies and unclear items in the Master Plan that City staff identified (City of Ceres 2007b). After discussions between the City and the project applicant regarding these items, further activities related to the Master Plan were discontinued in 2008. The Master Plan was not adopted by the City, and a proposed annexation of the Master Plan area was not pursued.

In 2016, the City adopted the latest version of the Housing Element to its General Plan. The Housing Element identifies the City's housing needs for a specified time period, which for the current element is 2014-2023. It states the City's goals and objectives regarding housing production, rehabilitation, and conservation to meet those needs, and it defines the policies and programs that the community will implement to achieve the stated goals and objectives. Housing needs in part are determined by a Regional Housing Needs Allocation developed by the Stanislaus Council of Governments (StanCOG) and allocated to member jurisdictions. For the planning period covered by the Housing Element, the City's share of the regional housing need is 2,571 units, divided into smaller shares based on household incomes (City of Ceres 2016b). It is expected that the proposed residential development under the CTSP would address the housing need described in the Housing Element. As discussed in Chapter 13.0, Land Use, the Housing Element is in the process of being updated.

1.3 EIR REQUIREMENTS AND INTENDED USES

The purpose of an EIR is to document existing environmental conditions on a project site, describe the potential environmental effects of approving and implementing a project, consider and recommend mitigation measures that could avoid or substantially reduce significant environmental effects if they are identified, analyze alternatives to a proposed project, and meet other applicable CEQA requirements. The EIR is an informational document that does not, in and of itself, determine whether the project should be or will be approved; rather, the EIR will provide information in support of the City's decision-making process.

This EIR has been prepared in accordance with the requirements of CEQA (Public Resources Code Section 21000 *et seq*.) and the State CEQA Guidelines (California Administrative Code Section 15000 *et seq.*). Enacted in 1970, CEQA is intended to ensure that state and local agencies consider the environmental effects of actions for which they propose to undertake, finance, or issue discretionary permits. The State CEQA Guidelines elaborate upon and apply these requirements to both development projects and to local land use plans. This EIR generally follows the analysis sequence of the latest version of the CEQA Environmental Checklist shown in CEQA Guidelines Appendix G.

The EIR includes all the areas of content required by CEQA, including a project description, analysis of environmental effects, and mitigation measures in each of the issue areas identified in the CEQA Guidelines Appendix G. It also includes an analysis of cumulative impacts and alternatives, and a summary of environmental impacts. Each of the

technical sections of the EIR reports on the environmental setting of the project, the project's environmental effects, and mitigation measures that could reduce potential effects to a less than significant level. The general scope and content of the EIR are outlined below.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire
- Cumulative Impacts
- Alternatives
- Other CEQA Issues
- Appendices

CEQA requires the designation of a Lead Agency for a project. As defined in the CEQA Guidelines, the Lead Agency is the public agency that carries out a project or that has the greatest responsibility for supervising or approving a project. As the City of Ceres has approval authority over the CTSP and subsequent development of projects within the CTSP Area and the annexation area, the City is the Lead Agency for the proposed project.

The Stanislaus LAFCo would be designated a Responsible Agency for CEQA purposes. A Responsible Agency is a public agency, other than a Lead Agency, that has discretionary approval authority over a project. Under CEQA Guidelines Section 15096, a Responsible Agency complies with CEQA by considering the CEQA document prepared by the Lead Agency and by reaching its own conclusions on whether and how to approve the project involved. CEQA Guidelines Section 15041 states that a Responsible Agency has more limited authority than a Lead Agency in requiring changes to a project; only changes that lessen or avoid the effects of that part of a project which the agency will be called on to carry out or approve are allowed. This EIR includes analyses of issues that would be considered by the Stanislaus LAFCo during its decision-making process on the proposed annexation, and the LAFCo will have the opportunity to comment on the EIR and its

content during the public review period. The Stanislaus LAFCo submitted comments during the Notice of Preparation review period, as shown in Table 1-1.

Other potential Responsible Agencies may include the California Department of Fish and Wildlife (CDFW), the Central Valley Flood Protection Board (CVFPB), and the Central Valley Regional Water Quality Control Board (RWQCB). These, and perhaps other agencies, would not be directly involved in review and approval of the CTSP but may be involved in permit review for individual development projects if and when the agencies' regulatory requirements are triggered. Issues pertaining to these and other agencies are likewise addressed in this EIR.

After the current environmental review process for the CTSP is concluded, it is anticipated that project development plans for portions of the CTSP Area would be generated and submitted to the City for site plan and design review approval. The subsequent applications may require consideration under CEQA, including if the potential environmental effects of the project are adequately addressed by this EIR and/or which of the mitigation measures or other requirements described in this EIR apply to the project.

1.4 CEQA PROCEDURES FOR THE EIR

1.2.2 Notice of Preparation and Scoping

At the time the specific plan application process was initiated, the City of Ceres determined that an EIR would be required for the CTSP. In accordance with CEQA Guidelines Section 15060(d), no Initial Study was prepared. Instead, a Notice of Preparation (NOP) was distributed to potential responsible and trustee agencies on September 27, 2023 for a 30-day agency review and comment period. The purpose of the NOP was to provide notification that an EIR for the project was being prepared and to solicit guidance on the scope and content of the document. In addition, the NOP was published in the Ceres Courier, a newspaper of general circulation, to notify the public of an opportunity to provide comments on issues that should be addressed in the EIR or other pertinent content.

A copy of the NOP and all comments received on the NOP are included in Appendix A. Written NOP comments from agencies and the public, and the EIR section(s) where the commenter's issues and concerns are addressed, are summarized in Table 1-1.

TABLE 1-1
SUMMARY OF NOP COMMENT LETTERS

#	Date	Commenter	Concerns	Where Comment Addressed in EIR
1	10/4/23	Native American Heritage Commission	Lead Agency should initiate consultation with tribes pursuant to AB 52 and SB 18. Recommends CHRIS records search and NAHC Sacred Lands File search, and an archaeological survey if required,	Ch. 8.0, Cultural Resources and Tribal Cultural Resources

#	Date	Commenter	Concerns	Where Comment Addressed in EIR
			along with mitigation that covers encounters with tribal cultural resources.	
2	10/6/23	Stanislaus County Department of Environmental Resources, Environmental Health Division	None – project will not have a significant impact on the environment relative to agency's field of expertise.	Ch. 17.0, Utilities and Energy
3	10/17/23	Stanislaus Local Agency Formation Commission	Address impacts on agricultural resources, including impacts on Williamson Act contract lands. Show that Specific Plan area would have adequate public services. Consider impacts on special districts.	Ch. 5.0, Agricultural Resources; Ch. 15.0, Public Services; Ch. 17.0, Utilities and Energy
4	10/17/23	California Department of Conservation	Conversion of agricultural land and mitigation of such conversion. Impacts on lands under Williamson Act contract.	Ch. 5.0, Agricultural Resources
5	10/26/23	Central Valley Regional Water Quality Control Board	Provided information on regulatory setting and permit requirements related to water quality. No project-specific comments.	Ch. 12.0, Hydrology and Water Quality
6	10/26/23	Turlock Irrigation District	Potential impacts on Ceres Main Canal and Lower Lateral 2. Recommended improvements to some existing irrigation facilities and removal of others. Use of canals for storm drainage requires TID approval. Consistency with TID easement and front building setback requirements. Understand electric infrastructure requirements, including for solar and EV charging, and use of natural gas.	Ch. 12.0, Hydrology and Water Quality; Ch. 17.0, Utilities and Energy
7	10/30/23	California Department of Fish and Wildlife	Special-status species, including Swainson's hawk. Nesting birds that may be protected. Potential alteration to TID laterals. Cumulative impacts on biological resources.	Ch. 7.0, Biological Resources

In addition to circulating the NOP, the City scheduled an in-person scoping meeting during the NOP circulation period; the scoping meeting was held before the Ceres Planning Commission on October 16, 2023. Oral comments and concerns were provided by 7-8 persons in attendance, primarily landowners within the CTSP area.

Community development concerns spoken to during the meeting included affordable housing needs; infrastructure timing should precede development; how street, pedestrian and other urban improvement needs in the Pocket Area will be met; desire for complete future parks rather than linear landscaping strips; and the timing of planned improvements to the SR 99 / Service Road interchange. Potential environmental concerns associated with the project included the general impacts of urban expansion on "the environment," desirability of developing of infill lands, existing traffic congestion during school arrival and departure hours, development impacts on public services and concerns regarding how the costs of services will be met, and safe routes to schools. General environmental concerns are addressed throughout this EIR; traffic and transportation concerns are addressed in Chapter 16.0 Transportation; development impacts on services are addressed in Chapter 15.0 Public Services; and potential service costs associated with the project are addressed in a fiscal impact study being prepared in conjunction with the CTSP and the EIR.

The CTSP and EIR documents were prepared concurrently. This process provided the opportunity for the environmental consultants to recommend mitigation measures for otherwise potentially significant adverse effects - measures that were subsequently incorporated within the CSTP. To the extent that this occurred, the CTSP is a "mitigated plan," or a specific plan that contains environmental mitigations within its text and regulatory scope.

Regulatory agencies and members of the public have the opportunity to comment on the EIR and its adequacy in fulfilling the purposes of CEQA during a 45-day review period. This document is the Public Review Draft EIR (Draft EIR) for the project, which will be available for review and comment from November 6, 2024 to December 20, 2024. Any comments or questions regarding this EIR should be submitted to the lead agency at the following address before the close of the review period.

City of Ceres
2220 Magnolia Street
Ceres, CA 95307
Attention: Lea Simvoulakis,
Community Development Director

After the close of the public review period, the City will provide written responses to each of the comments received. Those responses will be published in a Final EIR, which must be considered by the City and any other agencies with jurisdiction over the project, prior to project approval.

Before the City decides on the project, it first must certify that the Final EIR complies with the provisions of CEQA, that the City has reviewed and considered the information in the Final EIR, and that the Final EIR reflects the independent judgment of the City as to the environmental impacts of the project. The City is also required to make specific findings related to each of the significant effects identified in the EIR. If the project involves any significant and unavoidable environmental effects, the adopted CEQA findings must include findings related to the alternatives described in the EIR and a Statement of Overriding Considerations should the City in spite of any significant and unavoidable

effects decide to approve the project. Mitigation measures described in the Final EIR will be incorporated into a Mitigation Monitoring and Reporting Program that will be adopted by the City in conjunction with project approval to ensure the mitigation measures are implemented.

1.5 INTENDED USES OF THE EIR

This EIR addresses the project's environmental effects consistent with the level of definition of the CTSP and its components. The EIR is intended to provide "project"-level coverage for certain development types anticipated by the CTSP and may be found sufficient for such purposes by City staff and decision-makers, based on case-by-case review. Other projects may involve impacts that are not addressed in this EIR. All subsequent discretionary projects require consideration under CEQA. The level of CEQA review that would be required for individual future projects within the CTSP Area will be determined by the City on a case-by-case basis.

To the degree that a subsequent project's environmental effects are adequately addressed by the EIR, environmental review can be reduced or avoided altogether. The City intends to use the EIR to simplify environmental processing for development projects within the CTSP Area. This would be accomplished in part by "tiering" off this EIR. Tiering is a CEQA streamlining tool that allows Lead Agencies to use previous analyses of larger-scale environmental issues in the review of individual development projects, when these issues are addressed in previously certified EIRs. CEQA Guidelines Section 15152 provides that lead agencies should limit environmental review documents on later projects to impacts that either 1) were not examined as significant effects on the environment in the prior EIR, or 2) are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.

The EIR has identified and analyzed potential environmental impacts and defined required mitigation measures for planned development to the extent feasible. To the degree that the EIR effectively addresses the potential environmental effects of future development, the amount and time required for CEQA review of this development can be reduced; project-specific environmental documents could be tiered off this EIR and focused on issues not previously addressed.

New residential projects in the CTSP Area also may be eligible for CEQA exemptions, as provided in CEQA Guidelines Section 15182, which states:

> Where a public agency has prepared an EIR on a specific plan after January 1, 1980, no EIR or negative declaration need be prepared for a residential project undertaken pursuant to and in conformity to that specific plan if the project meets the requirements of this section.

In addition, CEQA Guidelines Section 15183 provides that projects consistent with the development density established by existing zoning, community plan, or general plan for which an EIR was certified shall not require additional environmental review, except as

might be necessary to examine whether there are significant impacts peculiar to the project or its site.

Many of the potential environmental effects of the proposed CTSP have also been considered on a programmatic level in the Ceres General Plan, adopted in 2018, and its associated EIR, certified the same year. The General Plan EIR addressed the potential environmental effects of urban development authorized by the General Plan, including development of the CTSP Area. The General Plan and EIR, cited below, are incorporated into this Draft EIR by reference:

- City of Ceres. 2018. Ceres General Plan 2035. Adopted May 14, 2018.
- City of Ceres. 2018. Ceres General Plan 2035 Draft Environmental Impact Report. February 7, 2018.
- City of Ceres. 2018. Ceres General Plan 2035 Final Environmental Impact Report. April 24, 2018.

Copies of these documents are available for review at the Ceres City Hall, 2220 Magnolia Street, Ceres, CA 95307. They are also available for download from the City of Ceres website at https://www.ci.ceres.ca.us/193/Planning-Division.

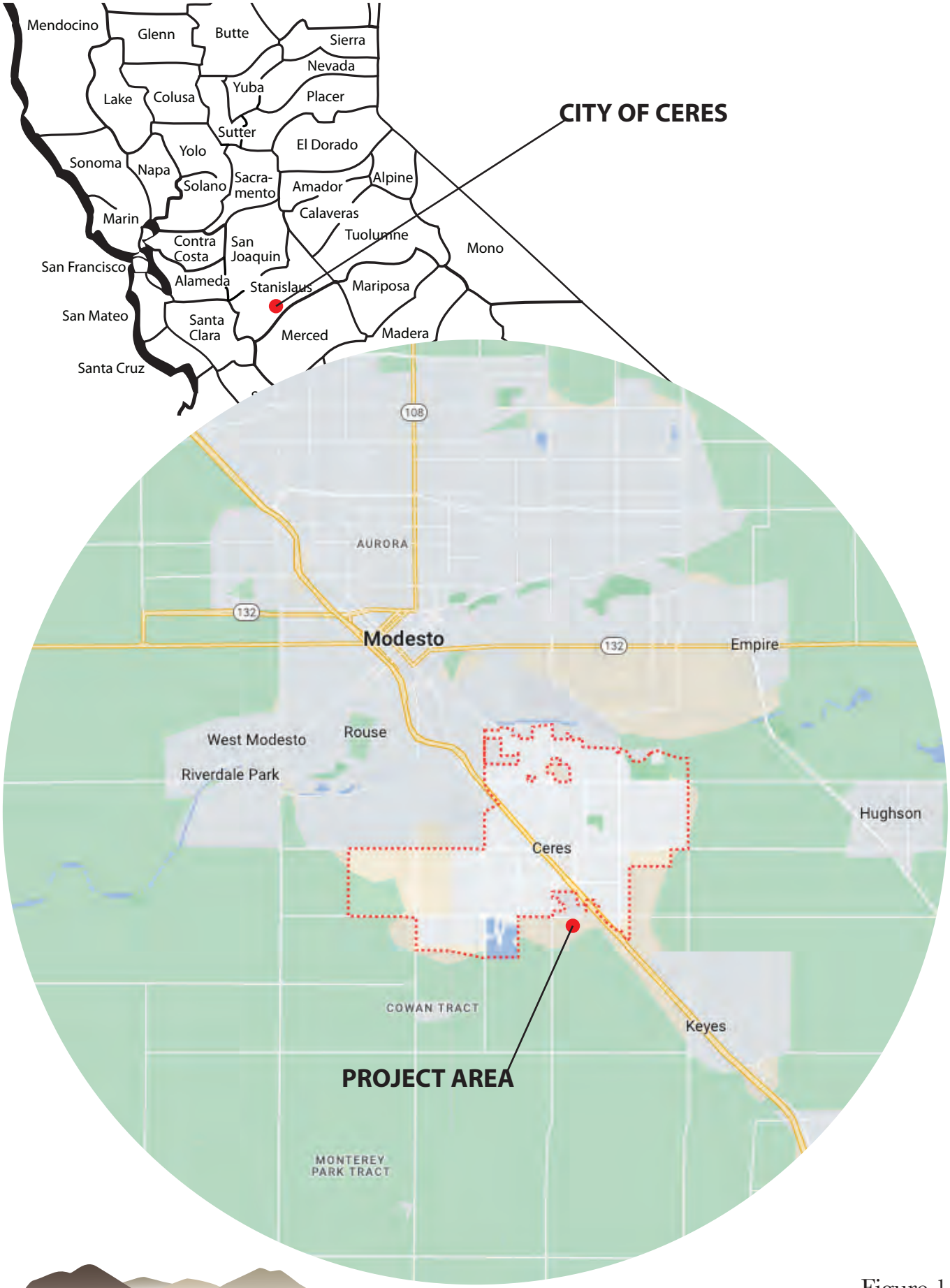

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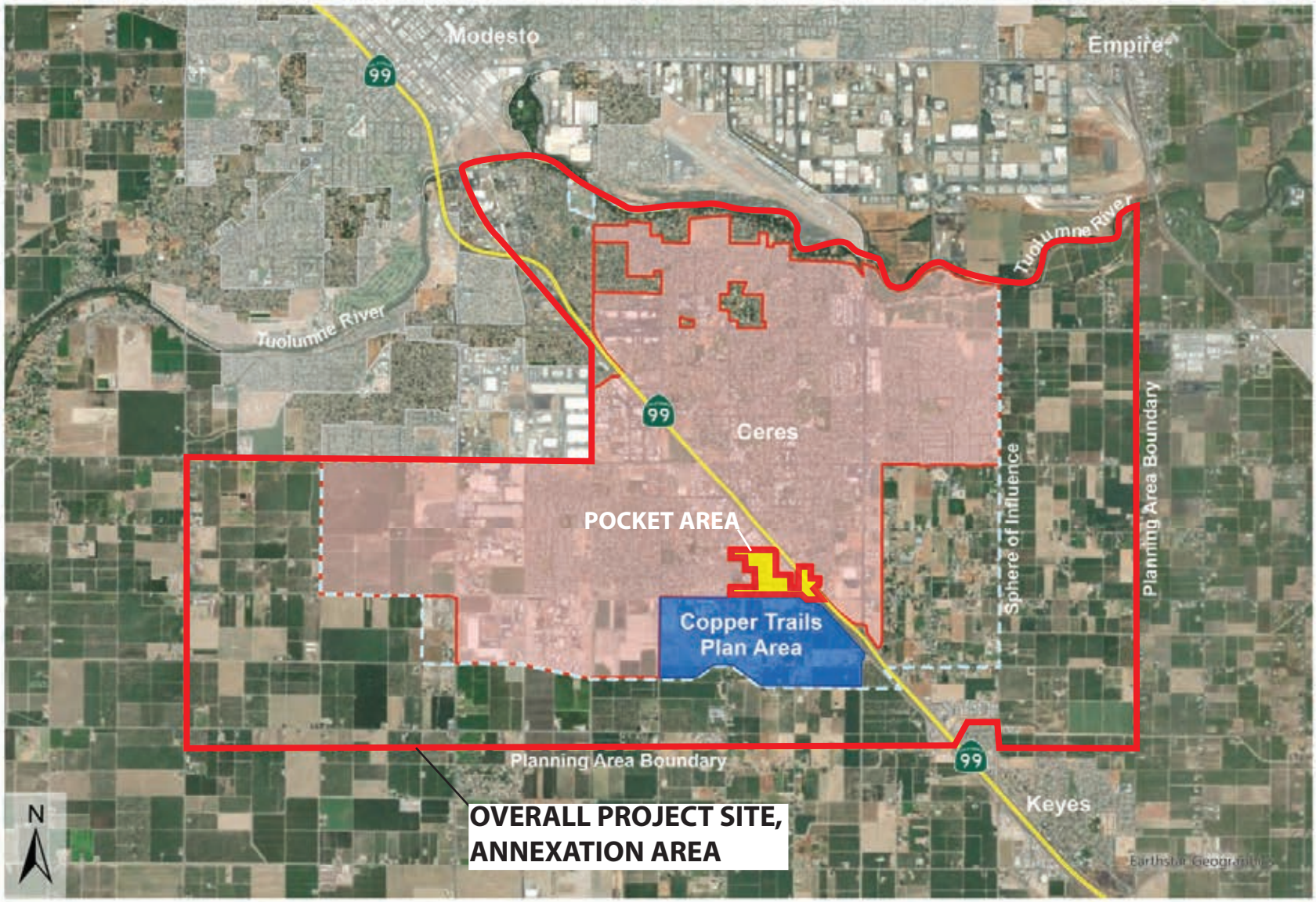
Figure 1-1
REGIONAL LOCATION MAP



SOURCE: Wood Rodgers

Figure 1-2
PROJECT LOCATION

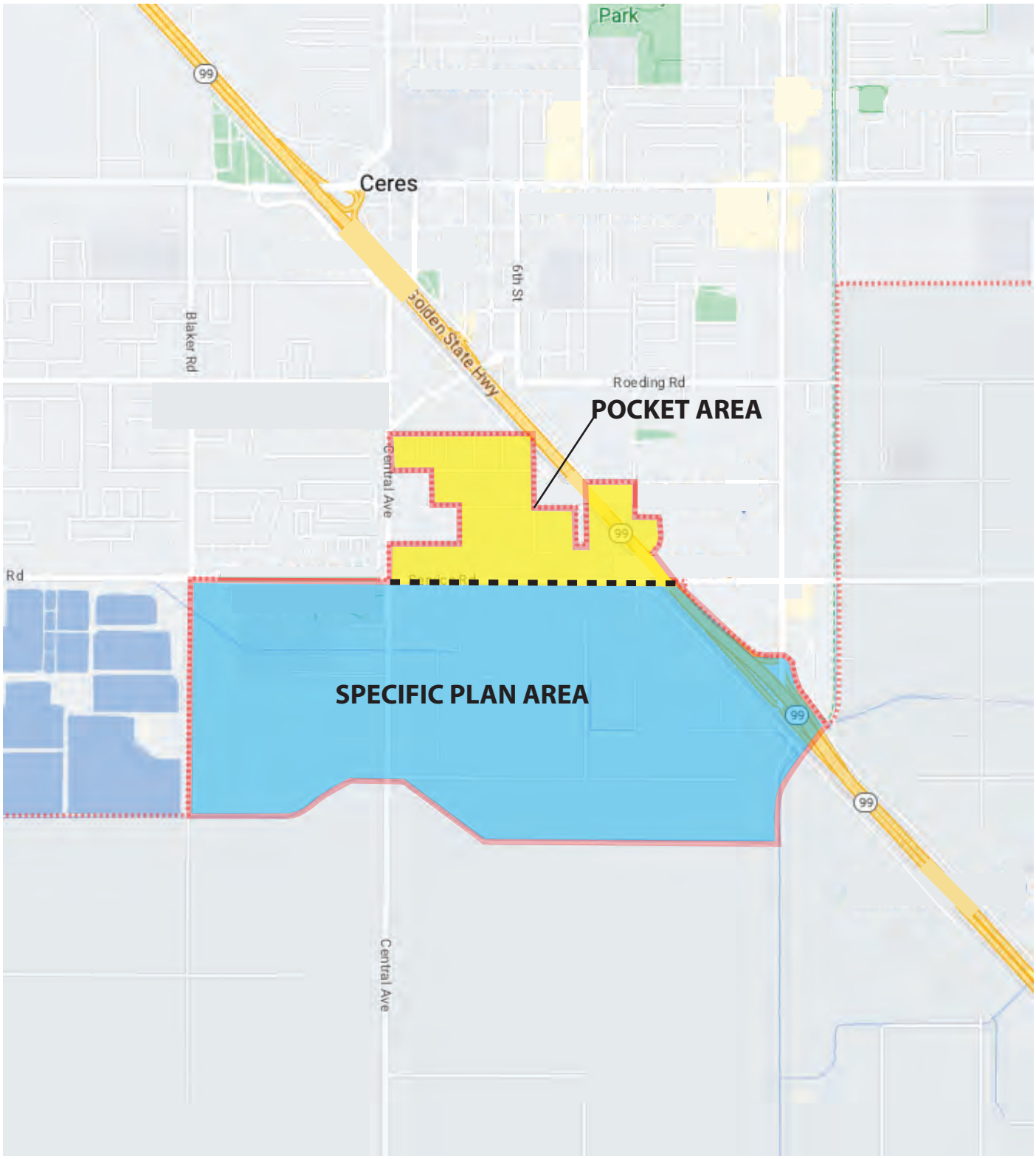


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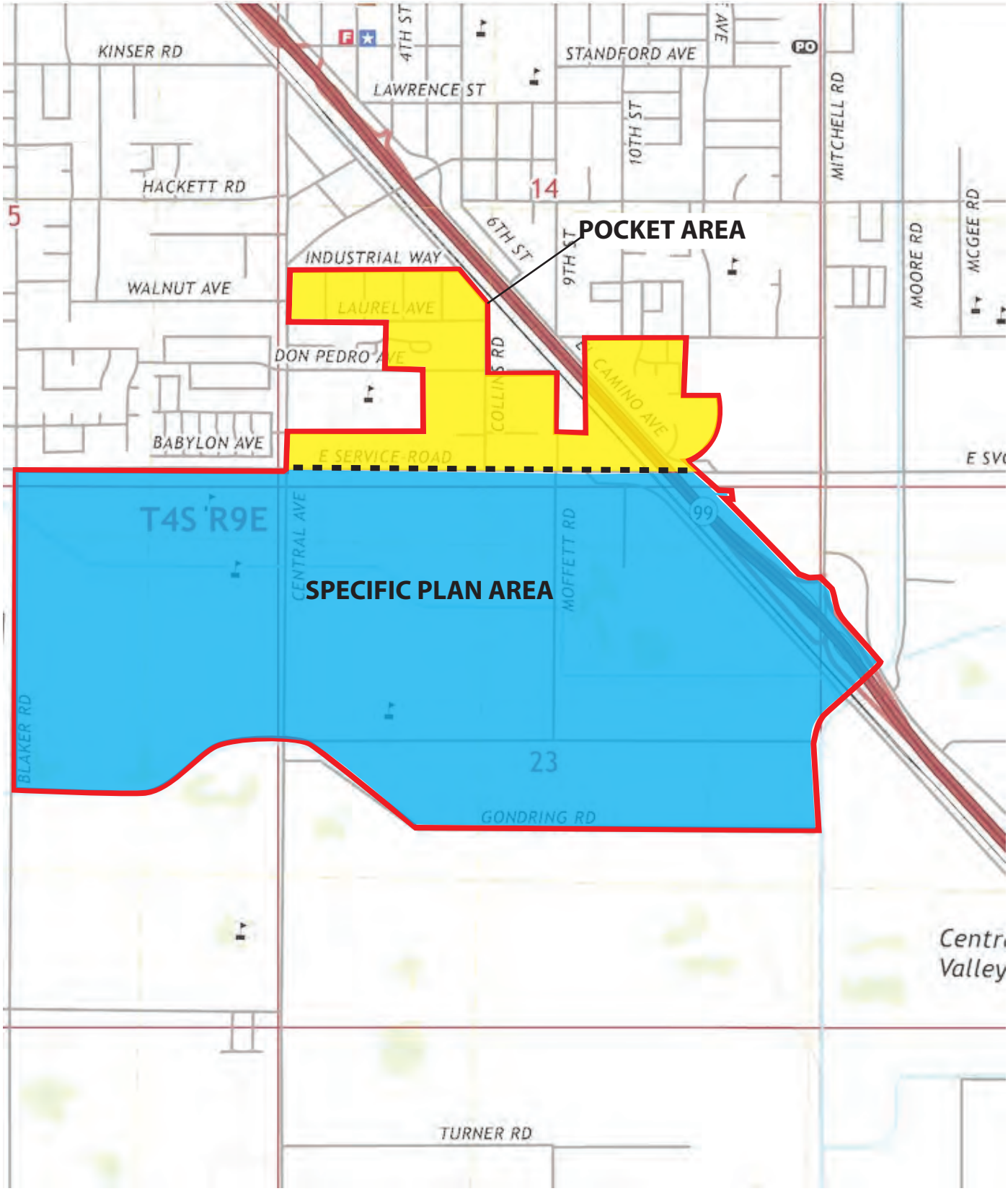
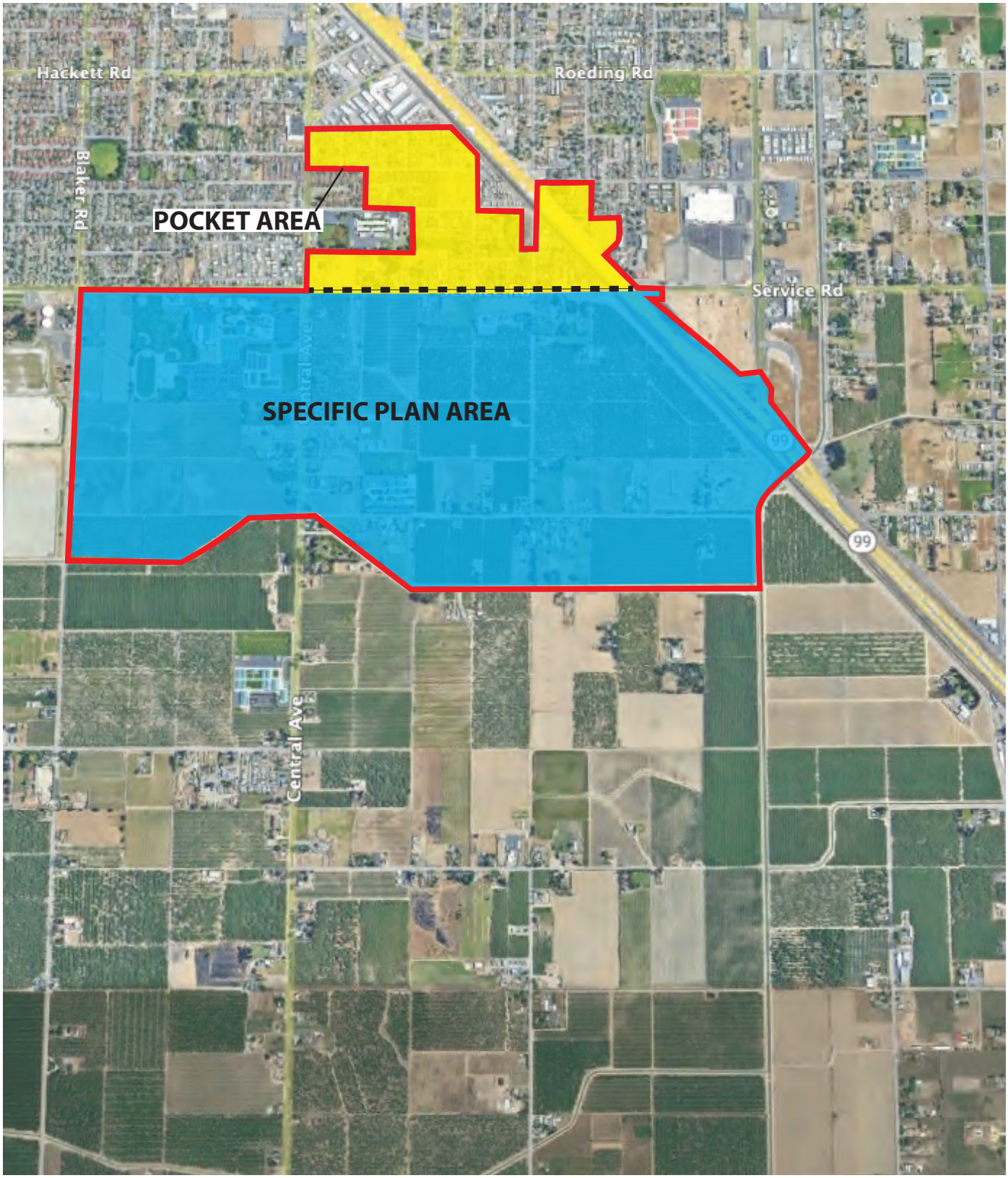
Figure 1-3
ANNEXATION AREA WITH POCKET AREA



SOURCE: USGS Quadrangle Map, Ceres, CA 2021.



SOURCE: Google Earth

Figure 1-5
AERIAL PHOTO

2.0 SUMMARY

2.1 SUMMARY OF PROJECT DESCRIPTION

This Environmental Impact Report (EIR) describes the potential environmental effects that would result from the approval of the Copper Trails Specific Plan (CTSP) and Annexation Project, including related permits and approvals. The CTSP establishes a plan for, and would result in, development of residential, commercial, and other urban land uses within the approximately 534.6-acre CTSP area south and west of Ceres. The project also proposes the annexation and pre-zoning of an additional 146.1 acres of currently unincorporated land outside and north of the CTSP Area, referred to as the Pocket Area; future development within the Pocket Area, which has already been largely developed under County jurisdiction, would likely be limited to remaining undeveloped or vacant parcels. The project area as a whole includes approximately 680.7 acres.

CTSP approval and annexation would result in the potential for development of approximately 260.3 acres of low-, medium-, medium high-, and high-density residential units within the CTSP Area – up to a total of 2,392 units. Another approximately 107.4 acres is proposed for Regional Commercial development, with up to 1,169,586 square feet of building space. The CTSP also proposes approximately 42.3 acres of parks and open space, including street landscapes, and 3.4 acres for new public uses that would be in addition to the 74.1 acres already occupied by the existing Central Valley High School, Ceres Adult School and Hidahl Elementary School.

The CTSP proposes a circulation system that would utilize and improve existing roads and add new roads and streets. It also would provide for the development of new bicycle and pedestrian trails and open space linkages that would and between the planned residential neighborhoods, commercial areas, schools, and parks. The CTSP is proposed to be developed in four phases, with streets and utilities to be installed during each phase in accordance with an Infrastructure Plan. Specific development standards and community design themes for planned land uses are defined in Chapter 3 of the CTSP. It can be anticipated that future development of the CTSP Area would be similar to existing development patterns seen in the City's newer residential and commercial areas.

Annexation of the Pocket Area would include pre-zoning of the area consistent with the Ceres General Plan, extending the availability of City utilities and services to this largely developed unincorporated area. The Pocket Area includes some non-contiguous tracts of undeveloped land with new development potential. Potential development of the Pocket Area would be subject to the applicable provisions of the City's existing zoning regulations. Proposed pre-zoning of this area is shown on Figure 3-1B.

2.2 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The potentially significant environmental effects of the proposed project, and the mitigation measures needed to minimize these effects, are listed in Table 2-1 at the end of this chapter. The table identifies the level to which the proposed mitigation measures would reduce environmental effects. “Significant and unavoidable” impacts are those that remain significant or potentially significant after mitigation measures are applied.

2.3 SUMMARY OF ALTERNATIVES

Chapter 19.0 identifies and discusses a range of reasonable alternatives to the proposed project, including the "no project" alternative. Several alternatives were considered but not analyzed in detail as they were inconsistent with project objectives, were not feasible or did not offer an opportunity to reduce environmental effects. The alternatives addressed in detail include:

Alternative No. 1: No Project/No Development

Alternative No. 2: 2007 Copper Trails Specific Plan

Alternative No. 3: Current General Plan Map

The No Project alternative involves no action by the City with respect to the project or related development entitlement actions, including the proposed annexations. Under this alternative, existing County General Plan land use designations and zoning on the project site would remain in place, as would existing public roads and other urban infrastructure in the area. The County General Plan currently designates the entire project site as Urban Transition, but the CTSP Area is currently zoned General Agriculture. The continuation of existing uses would not result in any substantial change to the existing environment within or near the CTSP Area. However, the No Project alternative is not consistent with the project objectives nor with the proposed development in the City’s General Plan. Also, the City may be required to pursue alternative residential development, either through more intensive development, development on currently open space lands, or a combination of the two. This could result in new or more severe environmental impacts.

Under the 2007 CTSP Alternative, the CTSP as published for a public hearing in 2007 would be adopted. The 2007 CTSP covered approximately 175 acres, as opposed to the 534.6 acres covered by the proposed CTSP. It allowed for the development of up to 411 dwelling units of varying densities, along with parks and open space, but no commercial or other non-residential development. This alternative would reduce the proposed project’s direct physical environmental effects because of the reduced acreage involved. However, the 2007 CTSP Alternative would not meet all the objectives of the proposed project; specifically, the development of commercial uses and providing a balance of residential and non-residential land uses. Also, the City is unlikely to achieve its housing obligations under this alternative, which could lead to more housing development elsewhere, with attendant environmental impacts.

Under the Current Ceres General Plan Map Alternative, the project site would be developed in accordance with the current land use designations of the Ceres General Plan. The Ceres General Plan designates the CTSP Area for primarily medium and high-density residential, business park, and community recreation land uses. It allows for the development of up to 2,461 dwelling units. This alternative would meet the CTSP objectives of providing diversity in housing and in meeting housing targets, and the environmental impacts in general would be similar to those of the proposed project. However, this alternative may lead to more severe impacts on air quality, GHG emissions, noise, and traffic, due to more traffic being generated by the additional housing units that would be made available and to the introduction of more trucks. In addition, development of the Business Park area may introduce more hazardous materials to the area through transportation and storage.

Of these three alternatives, the No Project Alternative is considered the environmentally superior alternative. The 2007 CTSP Alternative would involve less severe environmental effects than the proposed project and therefore could be considered the Environmentally Superior Alternative behind the No Project Alternative.

2.4 OTHER PROJECT CONSIDERATIONS

CEQA Guidelines Section 15126(d) requires that an EIR shall consider the growth-inducing impacts of a proposed project. The project would inherently have a growth-inducing impact in that it would promote the urban development of the CTSP Area. The proposed CTSP has the potential to promote or stimulate future development of lands adjacent to the CTSP Area, mainly to the south and west. However, lands to the west are already substantially developed, and the Ceres General Plan has designated these lands for urban development. The agricultural lands south of the CTSP Area are not within either the Ceres General Plan Planning Area or the City's Sphere of Influence; moreover, they would be separated from the proposed development by TID Lower Lateral 2, which would act as a barrier.

CEQA Guidelines Section 15126(c) requires that an EIR address significant irreversible environmental changes that would be involved in the proposed project if it were implemented. Urban development promoted by the CTSP would involve the irreversible commitment of non-renewable materials and energy consumption to construction of proposed urban infrastructure, residential and non-residential areas and related development. The CTSP would involve significant irreversible environmental changes in the loss of agricultural land, involving the conversion of approximately 319.5 acres of Important Farmland (see Chapter 5.0, Agricultural Resources) from the present agricultural and open space uses to urban residential, commercial, and other urban uses. Development of the CTSP Area would involve an essentially irreversible reduction in groundwater recharge that would otherwise occur on the undeveloped soils of the area.

The State of California has recently emphasized the incorporation of environmental justice concerns in land use and environmental planning. Low-income residents, communities of color, tribal nations, and immigrant communities have historically experienced disproportionate environmental burdens with their related health problems, in part due to inappropriate zoning and incomplete land use planning. In recognition of this, and in

accordance with applicable legislation, this EIR evaluated the presence of the project site in a Census tract defined as a disadvantaged community. It was determined that the project site is not within a disadvantaged community.

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
4.0 AESTHETICS AND VISUAL RESOURCES			
Impact AES-1: Scenic Vistas. Views of scenic vistas already limited; project would not contribute substantially to limiting views.	LS	None required.	-
Impact AES-2: Scenic Resources. There are no distinctive scenic resources on the project site. No scenic highways are in the area.	LS	None required.	-
Impact AES-3: Visual Character and Quality. Urban development would replace existing open space areas. New structures, site improvements, and landscaping would be designed and constructed to meet the aesthetic standards of the CTSP and be consistent with General Plan policies.	LS	None required.	-
Impact AES-4: Light and Glare. Lighting would be installed on properties that currently have none. Compliance with City and CTSP standards would minimize light and glare impacts.	LS	None required.	-
5.0 AGRICULTURAL RESOURCES			
Impact AG-1: Conversion of Farmland. The CTSP would convert 319.5 acres of Farmland as defined by CEQA Guidelines Appendix G. The City's Plan for Agricultural Preservation would compensate for impacts on Farmland but not avoid conversion. [This issue was analyzed in the Ceres General Plan EIR and was determined to be significant and unavoidable even with mitigating General Plan policies.]	S	Prior to the approval of improvement plans, building permits, or recordation of a final map, applicants for projects in the Specific Plan Area shall offset the loss of Prime Farmland. This shall be done in coordination with the City, through the acquisition of conservation easements in Stanislaus County at a 1:1 ratio (i.e., one acre on which easements are acquired to one acre of Prime Farmland removed from agricultural use) that provide in-kind or similar resource value protection; payment of in-lieu fees to an established, qualified, mitigation program to fully fund the acquisition and maintenance of agricultural land or easements; or compliance with the City's Plan for Agricultural Preservation, as adopted by Stanislaus LAFCO in accordance with LAFCO Policy 22. (Previously addressed in Ceres General Plan EIR.)	SU

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Impact AG-2: Conflict Between Agricultural and Urban Land Uses. Intensive agricultural operations adjacent or close to urban development can result in use conflicts. General Plan policies and existing physical buffers would minimize potential conflicts.	LS	None required.	-
Impact AG-3: Agricultural Zoning and Williamson Act. The CTSP Area is mostly zoned General Agriculture, while three parcels within the project site are under a Williamson Act contract. The project would rezone the CTSP Area to be consistent with proposed urban development, and the Williamson Act contracts would be cancelled or not renewed.	PS	AG-2: Project applicants for urban development of lands with a surviving Williamson Act contract shall apply to the City for approval of immediate cancellation of the contract. The application shall be processed pursuant to the requirements of Sections 51282 and 51284 of the Government Code, including detailed findings specified in the law, and review and comment by the California Department of Conservation: 1. That the cancellation is consistent with the purposes of this chapter, and 2. That cancellation is in the public interest. Provided that required findings can be made, immediate cancellation of remaining Williamson Act contracts will reduce potential conflicts to a less than significant level.	LS
Impact AG-4: Indirect Agricultural Land Conversion. The project may indirectly convert other agricultural land in the vicinity to non-agricultural uses, even with implementation of policies to reduce conversion pressures.	SU	None feasible.	-
6.0 AIR QUALITY			
Impact AIR-1: Air Quality Plans and Standards – Construction Emissions. Project construction emissions would not exceed SJVAPCD significance thresholds in a maximum development year, thereby being consistent with adopted air quality plans. Dust emissions would be reduced through the required implementation of SJVAPCD Regulation VIII and the Indirect Source Rule.	LS	None required due to existing APCD rules and regulations Recommended Air Quality Measures: AIR-1: Prior to the issuance of a Grading Permit for each phase of the Project, the Project Proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section	-

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		6.3, for the review and approval of the APCD Air Pollution Control Officer. AIR-2: During all construction activities, the Project Proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules. AIR-3: During all construction activities, the Project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2016). a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover. b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking. d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust	

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SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		emissions, or at least six inches of freeboard space from the top of the container shall be maintained. e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden. f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. g. Limit traffic speeds on unpaved roads to 5 mph. h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. AIR-4: Asphalt paving shall be applied in accordance with APCD Rule 4641, the purpose of which is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations. The Applicant shall coordinate with the APCD and provide the City with evidence of consultation with the APCD, including confirmation of compliance with APCD Rule 4641.	
Impact AIR-2: Air Quality Plans and Standards – Operational Emissions. the project would not contribute new or more severe air quality impacts than those	LS	None required.	-

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
analyzed in the GPEIR, and it may reduce some of these impacts. Individual projects would be subject to CEQA review and potential mitigation measures if necessary.			
Impact AIR-3: Exposure of Sensitive Receptors to Criteria Pollutants. Potentially significant CO effects could result from the CTSP if it would result in high traffic congestion. However, the transportation analysis indicates that intersections would not reach congestion levels causing elevated CO concentrations that may present a health risk.	LS	None required.	-
Impact AIR-4: Exposure of Sensitive Receptors to Toxic Air Contaminants. Development in the project site is unlikely to generate or be exposed to TACs at a level that can present a risk to human health. Projects that could generate potentially significant amounts of TACs would be subject to City review.	PS	AIR-5: For service station projects, as part of the Conditional Use Permit evaluation process, the Gasoline Service Station Industrywide Risk Assessment Look-up Tool shall be used to screen service stations for their cancer and non-cancer chronic and acute risks. If the results of the Look-up Tool indicate that the proposed service station would not exceed the significance thresholds for cancer and non-cancer chronic and acute risks, as set by the San Joaquin Valley Air Pollution Control District (SJVAPCD), then no further action need be taken. However, if the service station project exceeds one or more of these thresholds, particularly the cancer risk threshold, then the project shall be required to prepare a Health Risk Assessment. The Health Risk Assessment shall quantify the health risks associated with the project and identify project or design changes sufficient to reduce these risks to levels below their respective significance thresholds. These recommendations shall be incorporated as conditions of approval for the Conditional Use Permit and shall be implemented upon permit approval.	LS
Impact AIR-5: Odor Emissions. The project would not allow or promote development of significant odor sources.	LS	None required.	-
7.0 BIOLOGICAL RESOURCES			
Impact BIO-1: Special-Status Species and Habitats. Project development would involve the potential for impacts on	PS	BIO-1: If ground-disturbing activities would take place on sites where suitable nesting habitat may exist, a survey for nesting Swainson's hawks shall be conducted by a qualified wildlife	LS

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
foraging habitat for Swainson's hawk and shrub habitat for valley elderberry longhorn beetle.		biologist, following survey methods developed by the Swainson's Hawk Technical Advisory Committee (2000) prior to undertaking any ground-disturbing activities. The survey shall include recommended mitigation measures for any potential impacts from the project. If ground disturbing activities would take place during the nesting season (March 1 through August 31) and Swainson's hawk nests are found to be present, a no-disturbance buffer of a minimum of 0.5 miles shall be established around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged. BIO-2: Prior to the start of construction activities for an approved development project, a survey shall be conducted by a qualified biologist for blue elderberry (*Sambucus mexicana*) shrubs. Should such shrubs be discovered by the survey, the development project shall avoid removal of these shrubs to the extent feasible. If avoidance is not feasible, then the biologist shall recommend actions to be taken to minimize or to compensate for any impacts on blue elderberry shrubs in accordance with the applicable state or federal regulations.	
Impact BIO-2: Riparian and Other Sensitive Habitats. There are no riparian or other sensitive habitats on the project site.	NI	None required.	-
Impact BIO-3: State and Federally Protected Wetlands. No wetlands have been identified on the project site. Potential impacts on TID canals would be covered under the Section 404 permitting process.	LS	None required.	-
Impact BIO-4: Migratory Fish and Wildlife Habitats. Existing trees and grassy areas could be used by protected migratory bird species for nesting.	PS	BIO-3: If construction of a development project commences during the general avian nesting season (March 1 through July 31), a pre-construction survey for all species of nesting birds shall be conducted. If active nests for any bird species are found, work in the vicinity of the nests shall be delayed until the young	LS

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		have fledged. No survey shall be required if construction occurs outside the general avian nesting season.	
Impact BIO-5: Local Biological Requirements. Development on the project site would be consistent with Ceres General Plan policies on biological resources, with implementation of Mitigation Measure BIO-1. No local ordinances protecting biological resources have been enacted.	PS	Mitigation Measure BIO-1.	LS
Impact BIO-6: Habitat Conservation Plans. No habitat conservation plans apply to the area.	NI	None required.	-
8.0 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES			
Impact CULT-1: Historical Resources. No historical resources have been recorded on the project site. However, buildings of at least 50 years of age may exist.	PS	CULT-1: Based on a determination of potential historical value by the Community Development Director, prior to issuance of a development permit for a site within the Copper Trails Specific Plan area, existing buildings or other structures on the site that are 50 years of age or older shall be evaluated by a qualified architectural historian to determine if they are eligible for listing on the National Register of Historic Places and/or the California Register of Historical Resources. Should any buildings be found eligible for such designation(s), then the architectural historian shall make recommendations concerning the disposition of the identified buildings, which shall be implemented by the project developer. Recommendations may include, but are not limited to, preservation of the existing structure or reuse of the structure in accordance with historic property standards of the U.S. Secretary of the Interior.	LS
Impact CULT-2: Archaeological Resources. No archaeological resources have been recorded on the project site. However, it is possible that currently unknown cultural resources may be uncovered during project construction.	PS	CULT-2: If any subsurface cultural resources are encountered during project construction that occurs within the Copper Trails Specific Plan area, the City of Ceres Community Development Department shall be immediately notified of the discovery, and all construction activity within 50 feet of the find shall be halted. A qualified archaeologist shall examine the find and determine	LS

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SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		its significance. If the find is determined to be significant, then the archaeologist shall recommend further mitigation measures that would reduce potential effects on the find to a level that is less than significant. Recommended measures may include, but are not limited to, 1) avoidance and preservation in place, or 2) excavation, recovery, and curation by qualified professionals. Construction activities in the area of the find shall not resume until the mitigation measures are in place. The project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Development Services Department, consistent with the requirements of the CEQA Guidelines.	
Impact CULT-3: Tribal Cultural Resources. No tribal cultural resources have been identified on the project site. However, it is possible that currently unknown tribal cultural resources may be disturbed during project construction.	PS	CULT-3: If any human burials and/or associated funerary objects are encountered during construction, all construction activities within a 50-foot radius of the encounter shall be halted until the County Coroner and the City have been notified, If the Coroner determines that the remains are Native American in origin, then the Coroner must contact the Native American Heritage Commission within 24 hours and take other steps as required by California Health and Safety Code Section 7050.5. A qualified archaeologist shall be retained by the contractor to examine the materials, evaluate their significance. and, in consultation with a tribal representative if needed, recommend mitigation measures needed to reduce potential effects to a level that is less than significant in a written report to the City. Construction activities in the area of the find shall not resume until the mitigation measures are established. The contractor shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in written reports to the City.	LS

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SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
9.0 GEOLOGY, SOILS, AND MINERAL RESOURCES			
Impact GEO-1: Fault Rupture, Seismic Shaking, and Seismically Induced Failure. There are no active or potentially active faults located on or in the vicinity of the project site. Routine implementation and enforcement of the California Building Code would minimize seismicity impacts on new development.	LS	None required.	-
Impact GEO-2: Soil Erosion. Project construction activities would loosen the soil, leaving it exposed to potential water and wind erosion. Project would be required to obtain a Construction General Permit, which has conditions that would reduce soil erosion impact, and would comply with the City's Storm Water Management Program.	LS	None required.	-
Impact GEO-3: Exposure to or Effects on Unstable Geologic Units or Soils. The potential hazards of unstable soil or geologic units would be addressed largely through the integration of geotechnical information in the planning and design process for projects, in accordance with standard industry practices and state-provided requirements.	LS	None required.	-
Impact GEO-4: Expansive Soils. Project site soils have low shrink-swell potential.	LS	None required.	-
Impact GEO-5: Adequacy of Soils for On-Site Wastewater Disposal Systems. Future development within the project site would be served by the City of Ceres wastewater collection and treatment system.	NI	None required.	-
Impact GEO-6: Paleontological Resources and Unique Geological Features. The project site does not contain unique geological features or any known paleontological resources; however, project construction could unearth	PS	GEO-1: If paleontological resources are encountered during project construction, the City of Ceres shall be immediately notified of the discovery, and construction activity within 50 feet of the encounter shall cease until a qualified paleontologist examines the materials, determines their significance under	LS

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SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
previously unknown paleontological materials of significance.		CEQA, and recommends mitigation measures that would be necessary to reduce potentially significant effects to a level that is less than significant. The developer or its contractor shall be responsible for retaining a qualified paleontologist and for implementing recommended mitigation measures. Construction activities in the area of the find shall not resume until the mitigation measures are in place.	
Impact GEO-7: Mineral and Energy Resources. There are no identified mineral resource areas, including oil and gas fields, on the project site.	NI	None required.	-
10.0 GREENHOUSE GAS EMISSIONS			
Impact GHG-1: GHG Emissions from Construction Activities. GHG emissions from a maximum construction year would not exceed a quantitative threshold used to determine significance of impact.	LS	None required.	-
Impact GHG-2: GHG Emissions from Project Operations. Unmitigated operational GHG emissions would be reduced by project features, but impacts would remain significant and unavoidable.	SU	None feasible.	-
Impact GHG-3: Consistency with Applicable GHG Plans and Policies. Project reductions would be consistent with targets of SB 32 and the implementing Scoping Plan.	LS	None required.	-
11.0 HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-1: Hazardous Material Transportation. Compliance with applicable local, state, and federal regulations would minimize impacts.	LS	None required.	-
Impact HAZ-2: Hazardous Material Storage and Use. Compliance with applicable local, state, and federal regulations would minimize impacts. Also, agricultural	LS	None required.	-

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Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
chemicals currently in use in CTSP Area would be eliminated.			
Impact HAZ-2: Hazardous Material Releases. Compliance with applicable local, state, and federal regulations would minimize potential releases. Schools located within the CTSP Area would not be exposed to any releases.	LS	None required.	-
Impact HAZ-3: Hazardous Material Sites. No active hazardous material sites were identified on the project site. Past agricultural activities within the CTSP Area have the potential of leaving hazardous materials that could be released. Also, demolition of older buildings could release asbestos and lead-based paints into the environment.	PS	HAZ-1: Prior to approval of a site plan or a tentative subdivision map for future development, a Phase I Environmental Site Assessment shall be conducted and submitted to the City Community Development Department. The Phase I Assessment shall evaluate the site for potential contamination, including residues of agricultural chemicals on sites of previous agricultural land use. If the Phase I Assessment determines the potential presence of any hazardous material contamination, then a Phase II Environmental Site assessment shall be conducted to identify the type and extent of hazardous material contamination. If necessary, the Phase II report shall include remediation measures. Project approval shall include requirements for completion of any Phase II remediation needed to permit the proposed land use under existing applicable regulations. HAZ-2: If evidence of unusual odors or soil discoloration is noted during construction, construction shall be halted and the City shall be notified. The property owner or responsible party shall contact a qualified environmental professional to evaluate the situation and take action as required by applicable environmental regulations. Construction work at the identified site shall not resume until the site is either remediated or found to pose no risk to worker health. HAZ-3: Demolition permits shall be obtained from the City for structures to be removed from development sites. Demolition would occur in accordance with the conditions of the City Demolition Permit, which shall include a Demolition Plan that is reviewed and approved by the Building Official. The Demolition	LS

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SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		Plan shall include the required qualifications of demolition contractors, demolition procedures, safety requirements, testing for hazardous materials that shall include asbestos-containing material and lead-based paint, waste disposal worker and public health, and environmental protections. Permit applications for uses regulated shall include a Demolition Permit Release Form from the SJVAPCD.	
Impact HAZ-4: Airport Hazards. A portion of the project site is within the Airport Influence Area established for the Modesto City-County Airport.	PS	HAZ-4: For projects located within the Airport Influence Area of the Modesto City-County Airport, as delineated within the Stanislaus County Airport Land Use Compatibility Plan, site plan and design review submittals for the project shall be referred to the Stanislaus County Airport Land Use Commission for its review and recommendations. Implementation of applicable recommendations of the Airport Land Use Commission shall be made a condition of City approval unless the City overrides any recommendation in accordance with State law.	LS
Impact HAZ-5: Interference with Emergency Vehicle Access and Evacuations. The project would also include improvements to existing roadways that could potentially interfere with emergency vehicle access and evacuations in the area.	PS	HAZ-5: Encroachment permits for work within the public right-of-way shall be obtained from the City of Ceres. As a condition of the permit, and prior to the start of project construction, the permittee shall prepare and implement a Traffic Control Plan, which shall include such items as traffic control requirements, resident notification of access closure, and daily access restoration. The contractor shall specify dates and times of road closures or restrictions, if any, and shall ensure that adequate access will be provided for emergency vehicles. The Traffic Control Plan shall be reviewed and approved by the City Department of Public Works and shall be coordinated with the Ceres Police Department and the applicable firefighting agency if construction will require road closures or lane restrictions.	LS
Impact HAZ-6: Wildfire Hazards. Project is in an urbanizing area and has not been designated a fire hazard area by Cal Fire.	LS	None required.	-

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Impact HAZ-7: Waterway Hazards. Residential development adjacent to TID Lower Lateral 2 could lead to trespassing that could endanger trespassers.	PS	HAZ-6: Prior to the start of development within the Copper Trails Specific Plan area, design plans for any trails along Turlock Irrigation District (TID) canals shall be submitted to TID for its review and approval. TID approval shall be obtained for any trail construction along the TID canals.	LS
Impact HAZ-8: Railroad Hazards. Although project site is adjacent to UPRR tracks, it is unlikely that pedestrian or vehicle accidents at the tracks would increase in the area.	LS	None required.	-
12.0 HYDROLOGY AND WATER QUALITY			
Impact HYDRO-1: Surface Water Features and Quality. There are no existing natural surface waters within the project site. Surface runoff may contain urban pollutants, along with sediments, that could degrade surface water quality. Compliance with the City's Storm Water Management Program, the Construction General Permit, and other regulations would minimize this impact.	LS	None required.	-
Impact HYDRO-2: Groundwater Resources and Quality. Project would be served by the City's water system, which relies in part on groundwater. Project can be accommodated from City's existing groundwater supplies. Project may reduce groundwater recharge through increased impervious surfaces, but the impact is not considered substantial. Existing groundwater wells would need to be plugged over course of development.	PS	HYDRO-1: Prior to the start of development within any portion of the Copper Trails Specific Plan area, any remaining existing groundwater wells shall be plugged and abandoned in accordance with the requirements of the Stanislaus County Department of Environmental Resources and the provisions of California Water Code Section 13751. HYDRO-2: For areas containing a shallow groundwater table, a dewatering permit shall be obtained from the RWQCB prior to the start of construction activities. Dewatering shall be done in accordance with the conditions of the permit.	LS
Impact HYDRO-3: Exposure to Flooding Hazards. The project site is not within a designated 100-year flood zone nor a potential dam failure inundation zone.	LS	None required.	-
Impact HYDRO-4: Conflict with Water Plans. The project would comply with applicable water quality plans and be	LS	None required.	-

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consistent with the Groundwater Sustainability Plan for the Turlock Groundwater Subbasin.			
13.0 LAND USE, POPULATION, AND HOUSING			
Impact LUP-1: Division of Established Communities. The CTSP Area is mostly agricultural uses with school development. This does not constitute a community that could be divided by the project. The Pocket Area would be annexed to the City of Ceres.	NI	None required.	-
Impact LUP-2: Conflict with Land Use Plans, Policies, and Regulations. With adoption of the required General Plan Amendments, the designations within the proposed CTSP Area would be consistent with the Ceres General Plan. Potential conflicts with General Plan policies designed to avoid or minimize environmental effects would be resolved. Project may conflict with LAFCo policies preserving agricultural land, but project would be subject to the Agricultural Preservation Policy. Project would not substantially conflict with Modesto Airport ALUCP.	LS	None required.	-
Impact LUP-3: Unplanned Population Growth. The project would not induce population growth beyond that anticipated in the Ceres General Plan.	LS	None required.	-
Impact LUP-4: Displacement of Housing and People. The project site has single-family residences that would likely be demolished. However, the housing stock in the Ceres area would increase, and plans to vacate and demolish existing residences would be subject to agreements and negotiations between developers and owners, or owners and tenants.	LS	None required.	-
14.0 NOISE			

Notes: S = Significant, PS = Potentially Significant, LS = Less than Significant, NI = No Impact, SU = Significant and Unavoidable (SU impacts addressed in the Ceres General Plan EIR).

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Impact NOISE-1: Increase in Noise Levels in Excess of Standards-Traffic. Traffic generated under Near Term Plus Project conditions would increase traffic noise levels along East Service Road by an amount exceeding applicable significance thresholds. Mitigation would reduce this impact.	S	NOISE-1: To reduce traffic noise increases under Near-Term Plus Project conditions to less than +1.5 dB, widening or new improvements to the segment of East Service Road north of the Copper Trails Specific Plan boundary shall be paved with quiet pavement, or another equivalent mitigation shall be provided, with approval from a qualified noise consultant and City staff. The pavement would be required for any portion of the roadway passing a noise-sensitive use, and for a distance of 100 feet on either side of the sensitive use.	LS
Impact NOISE-2: Increase in Noise Levels in Excess of Standards-Other Project Noise. Noise from commercial operations were determined to not significantly affect nearby sensitive land uses, mainly residences. However, specific land uses could adversely affect nearby residences if placed too closely.	PS	NOISE-2: Proposed commercial and active sports recreational projects shall be subject to a preliminary review by Community Development staff for potentially significant noise impacts. Where potential noise impacts may be significant, an acoustical analysis shall be performed by a qualified acoustical consultant as to the project's consistency with exceed the City's noise level standards and mitigation measures needed to bring the proposed source into compliance with City standards.	LS
Impact NOISE-3: Increase in Noise Levels in Excess of Standards-Construction. Construction activities may potentially increase ambient noise above City standards at nearby sensitive receptors.	PS	NOISE-3: The City shall establish the following as conditions of approval for any permit that results in the use of construction equipment: • Construction shall be limited to 7:00 a.m. to 8:00 p.m. unless allowed by special permit issued by the Building Inspector or City Engineer. • All construction equipment powered by internal combustion engines shall be properly muffled and maintained. • Quiet construction equipment, particularly air compressors, are to be selected whenever possible. • All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the project contractor shall place such stationary construction	LS

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
		equipment so that emitted noise is directed away from sensitive receptors closest to the project site. • Unnecessary idling of internal combustion engines is prohibited. In accordance with State regulations, idling shall be limited to no more than five minutes. • The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.	
Impact NOISE-4: Groundborne Vibrations. Project construction activities would not generate groundborne vibrations at a level that would disturb people or risk damage to buildings.	LS	None required.	-
Impact NOISE-5: Airport and Airstrip Noise. The project site is outside noise contours established by the Modesto City-County Airport ALUCP. No private airstrips are in the vicinity.	NI	None required.	-
15.0 PUBLIC SERVICES AND RECREATION			
Impact PSR-1: Fire Protection Service. New or expanded facilities may be required in the future, but project has set aside land for a future fire station. Public Facility Fees will be paid, and the impacts of future development of a public facility are analyzed in this EIR.	LS	None required.	-
Impact PSR-2: Police Protection Services. New or expanded facilities may be required in the future, but project has set aside land for a future police station. Public Facility Fees will be paid, and the impacts of future development of a public facility are analyzed in this EIR.	LS	None required.	-

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Impact PSR-3: Schools. The project would generate new students requiring services from the Ceres Unified School District. New development would be responsible for the payment of school impact fees, the payment of which is considered mitigation of impacts by State law.	LS	None required.	-
Impact PSR-4: Parks and Recreational Services. The CTSP would provide parkland at a population ratio that exceeds City standards.	LS	None required.	-
Impact PSR-5: Other Public Facilities. The project would not generate additional demand for library, hospital, and courthouse services, and therefore would not require new or expanded facilities.	LS	None required.	-
16.0 TRANSPORTATION			
Impact TRANS-1: Conflict with Circulation Plans – Motor Vehicle. None of the roadway segments studied would have LOS that would be unacceptable by City standards. As such, the CTSP would be consistent with Ceres General Plan policies applicable to LOS. The CTSP is not expected to interfere with the implementation of 2022 RTP projects, including the SR 99/Mitchell Road/Service Road interchange project.	LS	None required.	-
Impact TRANS-2: Conflict with Circulation Plans Non-Motor Vehicle. The CTSP would not impact existing or proposed public transit, pedestrian or bicycle facilities in a way that would discourage their use. Therefore, it would not conflict with plans intended to promote the use of these alternative modes of transportation.	LS	None required.	-
Impact TRANS-3: Vehicle Miles Traveled. Based on thresholds developed for the project, the project would have a potentially significant impact on VMT. Mitigation	S	None available	SU

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TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
has the potential to reduce but not demonstrably avoid this impact.			
Impact TRANS-4: Traffic Hazards - Collisions. Project traffic would use interchanges with below-average collision rates. Construction of planned Service Road interchange would further reduce rates.	LS	None required.	-
Impact TRANS-5: Traffic Hazards - Queuing. Project would lead to excessive queuing at off-ramp and on-ramp at Service Road interchange. No feasible mitigation can be identified at this time.	S	None available	SU
Impact TRANS-6: Emergency Access. Adequate emergency access would be provided to the entire project site.	LS	None required.	-
17.0 UTILITIES AND ENERGY			
Impact UTIL-1: Relocation and Construction of Infrastructure Facilities. Pocket Area served by existing infrastructure. The CTSP Area would require new infrastructure, which would be provided in accordance with City and State requirements and standards. Project may require removal or relocation of TID facilities.	PS	UTIL-1: Prior to the start of development that impacts TID irrigation facilities, the project shall design one or more method acceptable to the City and TID that will minimize or avoid the impacts of development on the continued operation of existing TID irrigation facilities. The agreed-upon methods shall be incorporated as applicable into the design and construction of future development.	LS
Impact UTIL-2: Availability of Adequate Domestic Water Supply. City has adequate water supplies for project, even during multiple dry years.	LS	None required.	-
Impact UTIL-3: Wastewater System Capacity. City has adequate capacity at its treatment plant to accommodate project.	LS	None required.	-
Impact UTIL-4: Storm Drainage Services. Project would connect to City's drainage system in accordance with applicable City standards, specifications, and plans.	LS	None required.	-

Notes: S = Significant, PS = Potentially Significant, LS = Less than Significant, NI = No Impact, SU = Significant and Unavoidable (SU impacts addressed in the Ceres General Plan EIR).

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Potential Impact	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Impact UTIL-5: Irrigation Water Systems. Demand for TID irrigation water would decrease with CTSP development. Storm drainage discharges to TID canals, if any, would be subject to the provisions of the Master Storm Drain Agreement between TID and the City.	LS	None required.	-
Impact UTIL-6: Solid Waste. Fink Road Landfill in the County would have adequate capacity to accommodate project solid waste. The project would comply with applicable federal, state, and local statutes and regulations related to solid waste.	LS	None required.	-
Impact UTIL-7: Energy Consumption. The project would not consume energy in a manner that is wasteful, inefficient, or unnecessary due to compliance with California Energy Code and CALGreen.	LS	None required.	-

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3.0 PROJECT DESCRIPTION

3.1 Project Overview

The proposed project consists of the annexation of a 680.7-acre area south and west of the City of Ceres, hereinafter referred to as the "project site." The project "site" includes two components, which are referred to for convenience as the "CTSP Area" and the "Pocket Area," both of which are proposed for annexation and future development.

The CTSP Area is linked with the proposed City adoption of the CTSP, approval of related permits and other approvals. The CTSP establishes a plan for, and would result in, development of residential, commercial, and other urban land uses on 68 existing parcels within the approximately 534.6-acre CTSP Area. Planned urban development within the CTSP would require City approvals of the CTSP, the proposed annexation, and pre-zoning of the CTSP Area. Future development within the CTSP Area is expected to require one or more development agreements and Tentative Map application submittals.

The project also proposes the annexation of the "Pocket Area," comprised of 176 parcels totaling 146.1 acres of unincorporated land outside and north of the CTSP Area. The "Pocket Area," is located between the existing City boundary and the CTSP area (Figures 1-1, 1-2 and 1-3). If the CTSP Area were annexed without the Pocket Area, the Pocket Area lands would become an unincorporated "island," which is contrary to State statute and local annexation policies. Both the CTSP and Pocket Area annexations would require approval from the City and from the Stanislaus LAFCo.

CTSP approval and annexation would result in the potential for development of approximately 260.3 acres of low-, medium-, medium high-, and high-density residential units. A total of approximately 107.4 acres within the CTSP is proposed for Regional Commercial development. The CTSP also proposes approximately 42.3 acres of parks and open space, including street landscapes, and 3.4 acres for new public uses that would be in addition to the 74.1 acres already occupied by the Central Valley High School, Ceres Adult School, and Hidahl Elementary School, all operated by the Ceres Unified School District (CUSD). The planned circulation system within the CTSP Area would utilize and improve existing roads and add new roads and streets and would provide for development of new bicycle and pedestrian trails and open space linkages that would and between the planned residential neighborhoods, commercial areas, schools, and parks.

Annexation of the Pocket Area would include pre-zoning of the 146.1-acre Pocket Area consistent with existing Ceres General Plan designations; annexation of this area would make City utilities and services available to this largely developed unincorporated area. The Pocket Area includes approximately 25 scattered acres comprising some 25 non-contiguous parcels of undeveloped land with some new development potential. The largest of these parcels, approximately 5.7 acres in size, would be pre-zoned for Neighborhood Commercial development in conjunction with the proposed annexation. Approximately 4.5 in two parcels acres would be available for Medium High Density Residential

development, and 12 parcels totaling 17 acres would be available for Medium Density Residential development The Pocket Area includes several scattered parcels that would be available for Community Commercial or Industrial use. There are, however, no known plans for development of these lands.

3.2 Project Location

The project site is in unincorporated Stanislaus County south and west of the existing Ceres incorporated area (see Figures 1-1 through 1-5). The CTSP Area is bounded by SR 99 and Mitchell Road on the east, Service Road on the north, Blaker Road on the west, and TID Lower Lateral 2 on the south.

The Pocket Area is located north and east of the CTSP Area and south of the existing City limits. This area is separated into western and eastern portions by SR 99. The western portion is approximately bounded by Service Road to the south, Central Avenue to the west, Industrial Way to the north, and SR 99 to the east. The eastern portion consists of the mainline SR 99 and associated State Highway right-of-way between 9th Street on the northwest and Moore Road to the southeast. An additional area is located between the SR 99 right-of-way and the existing City limits to the northeast.

The project site is shown on the Ceres, California, 7.5-minute series quadrangle map as being within Sections 22 and 23, Township 4 South, Range 9 East, MDBM (Figure 1-3). The latitude of the approximate center of the CTSP Area is 37˚ 34' 33" North, and the longitude is 120˚ 57' 08" West.

3.3 Project Objectives

3.3.1 Overall Project Objectives

The objective of the annexation of the CTSP Area is the development of the residential, commercial, and recreational uses shown on the CTSP Proposed Land Use Plan (Figure 3-1A). The objective of the annexation of the Pocket Area is to avoid creating an unincorporated island within the Ceres city limits.

3.3.2 Planning Objectives of the Copper Trails Specific Plan

The development plan for the CTSP, as discussed in more detail below, is intended to achieve the following objectives:

- *General Plan Implementation*: Implement the General Plan by directing new development to the City's Sphere of Influence (SOI), consistent with City-adopted policies and regulations defined in the General Plan, Zoning Ordinance, Improvement Standards, and other applicable plans, documents, and programs.
- *Comprehensive Planning*: Prepare a Specific Plan and associated regulatory documents that create a comprehensive development plan for the orderly expansion of the City within The CTSP Sphere of Influence (SOI), consistent with the

preliminary land uses identified on the adopted General Plan Land Use Diagram and as directed by General Plan policy that prioritizes growth in the City's SOI.

- *Balanced Land Use Mix*: Create a development plan with a mix of land uses that results in a balance of jobs and housing by accommodating approximately 2,300 residential units and 1.2-million square feet of non-residential, employment-generating uses, which are in town supported by neighborhood parks, open space areas, and various public/quasi-public uses.

- *Housing Diversity*: Designate areas for construction of a diverse array of housing types that provide housing choices in varying densities for all market segments, including opportunities for single-family homes in conventional and compact development patterns, townhomes, apartments, as well as opportunities for rental units and affordable housing consistent with the City's General Plan.

- *Regional Housing Needs Allocation*: Aid the City in achieving its fair share obligation to accommodate a percentage of the region's forecasted population growth, as mandated by the California Department of Housing and Community Development and as directed by StanCOG.

- *Land Use and Transportation Integration*: Provide a mixture of land uses along the Service Road transportation corridor to take advantage of higher-intensity uses in proximity to State Route 99.

- *Regional Roadway Planning*: Establish a corridor for the future widening of Service Road, including land area for a planned interchange at State Route 99 and realignment of Lucas Road.

- *Bicycle and Pedestrian Facilities*: Develop a system of multi-use trails and Class II bikeway facilities that create alternative transportation modes within the CTSP Area and allow for connections to existing/planned bicycle/pedestrian facilities in the City.

- *Backbone Infrastructure*: Create a development plan that can be implemented in a phased manner and provides utility services via existing and planned infrastructure, which facilitates the logical, orderly expansion of the City adjacent to existing, urbanized areas.

- *Economic Viability*: Implement a public facility financing plan with logical development phases that enables the CTSP Area to develop in an economically feasible manner.

- *Fiscal Responsibility*: Create a development plan that can be implemented in a fiscally responsible manner, with neutral or positive fiscal impacts to the City and with identified revenue sources for the long-term maintenance of park facilities, open space areas, trails, landscape corridors, public services, and infrastructure.

3.4 PROJECT ENTITLEMENTS

3.4.1 Annexation

The proposed project would involve annexation of a total of 680.7 acres into the City of Ceres (Figure 3-2). The annexation area would include the approximately 534.6-acre CTSP Area, along with the 146.1-acre Pocket Area located to the north and east. A total of 244 parcels would be annexed, 68 of which are in the CTSP Area; the remaining 176 parcels are in the Pocket Area.

The proposed annexation area is contiguous to the existing southern boundary of the City of Ceres. It includes the existing Central Valley High School, Ceres Adult School, and Hidahl Elementary School sites, which are all within the CTSP Area. A comprehensive list of parcels and acreages proposed for annexation is provided in Appendix B of this EIR.

3.4.2 General Plan Amendments

As described in the CTSP, the specific plan is consistent with the planned land uses and requirements of the Ceres General Plan and has been prepared to achieve that consistency. The adopted CTSP would include a range of graphic and text amendments to the Ceres General Plan. The CTSP's proposed land uses generally conform to the existing Ceres General Plan Land Use/Circulation Diagram. However, the CTSP would modify existing designations to reflect more specific land use proposals. These changes would include the replacement of the existing Business Park designation and its replacement with a reconfigured Regional Commercial area adjacent to SR 99, elimination of a Neighborhood Commercial area, the more-specific locations of planned Medium- and High-Density Residential areas and the specific locations of new circulation routes, parks, trails, and open spaces. The Pocket Area would not require General Plan Amendments.

3.4.3 Pre-zoning

Ordinarily LAFCo policy requires that municipal annexations be pre-zoned by the City prior to annexation. The CTSP Area and the Pocket Area to be annexed are both within the planning jurisdiction of, and zoned by, Stanislaus County. Upon annexation, the City will assume planning jurisdiction for both areas. Table 3-1 shows the proposed pre-zoning of the annexation area and the acreages involved. Figure 3-1B shows the locations of the proposed land uses.

TABLE 3-1
PROPOSED PRE-ZONING

Land Use	**Zone**	**Acres**
Copper Trails Development Area		
Planned Community	P-C	521.1
Right-of-Way	-	13.5

	Subtotal	**534.6**
Pocket Area		
Single-Family Residential	R-1	13.2
Medium Density Residential	R-3	51.6
Medium-High Density Residential	R-4	5.5
Neighborhood Commercial	C-1	6.2
Community Commercial	C-2	5.8
Light Industrial	M-1	9.0
Right-of-Way	-	15.4
SR 99/UPRR	-	39.4
	Subtotal	**146.2**
TOTAL		**680.7**

As shown in Table 3-1, the CTSP Area would be pre-zoned P-C, Planned Community. Consistent with the regulations as outlined in Chapter 13 of the City's Zoning Ordinance (Title 18 of the Ceres Municipal Code), the P-C zone allows the CTSP to function as the primary zoning tool and regulatory mechanism to implement the Copper Trails development plan. Pre-zoning would include modification of the Ceres Zoning Ordinance and zoning map to reflect the adoption of the CTSP and reference the CTSP's Land Use Plan, detailed land use descriptions, and the allowable land uses and development standards as described in the CTSP. The Pocket Area, more conventionally, would be pre-zoned consistent with existing Ceres General Plan land use designations and the adopted Zoning Ordinance; development in this area would be subject to existing Ceres zoning requirements.

3.4.4 Copper Trails Specific Plan

The primary element of the proposed project is City approval of the CTSP. Figure 3-1B shows the boundaries of the CTSP Area and proposed land uses. Proposed development of the CTSP Area approval would involve completion of a series of related actions, including annexation of the CTSP Area, amendment of the Ceres General Plan to reconcile differences between the existing plan and the approved CTSP, and other actions that may be required to maintain consistency with the City's adopted land use planning documents and implementing ordinances. Development standards for the CTSP area will be provided by the Specific Plan itself, in lieu of the Ceres Zoning Ordinance, which will apply to the CTSP area upon annexation. These actions are described in subsequent sections of this chapter.

The land use designations, improvement plans, guidelines and standards, and other provisions of the CTSP, which are described later in this chapter, will be the primary basis for City review and consideration of future development within the CTSP Area. These future actions would include review and approval of any tentative maps, site plan

approvals, design review or other discretionary and non-discretionary approvals that would follow approval of the CTSP. The CTSP establishes the location, allowable types of development and the range of allowable development quantities for the CTSP Area. It is anticipated that the CTSP, if approved, will be adopted by City ordinance.

The potential environmental effects and mitigation measures needed to address the CTSP's significant effects, and alternatives to the CTSP under CEQA, are reviewed in this EIR. CEQA Guidelines Section 15182 provides an exemption for residential projects that conform to an adopted specific plan if that plan was the subject of an EIR. Pursuant to Section 15182, future residential projects that are consistent with the CTSP, and whose potential environmental effects are adequately addressed by the certified CTSP EIR, may be exempt from further CEQA review. The need for and scope of environmental review for future projects will be the responsibility of the City of Ceres; this discretion will be exercised on a project-by-project basis.

3.4.5 Tentative Subdivision Maps

The proposed project does not include a current request for City approval of tentative subdivision maps. However, it is anticipated that one or more tentative maps would be submitted in conjunction with future development of the CTSP Area; Tentative maps may also be submitted for vacant portions of the Pocket Area. All tentative subdivision maps would require approval by the Ceres Planning Commission, appealable to the Ceres City Council.

Future tentative maps for lands within the CTSP Area will be required to conform to the adopted CTSP. In the Pocket Area, new development would need to conform to the applicable Ceres General Plan and zoning standards.

Future tentative map approvals would generate the need for street and utility improvements, which would be attached to the approved tentative maps in the form of Conditions of Approval. To the degree that tentative maps for residential development implement and do not conflict with the CTSP, and are consistent with the EIR Project Description, the City of Ceres may determine that additional environmental review of these maps is not required.

3.4.6 Development Agreement

Development within the CTSP Area can be expected to include one or more requests for approval of a Development Agreement (DA) governing the relationship between the City and the project applicants. No DA content is defined at present; future DAs would outline the City and property owner(s) obligations and could be expected to address a variety of topics which may include variations in allowable land use types, development intensity and density, development standards, and other administrative and/or financial relationships that may need to be defined as the review of the CTSP and EIR proceed. DA content is generally outside the scope of this EIR. Development within the Pocket Area is not anticipated to require a DA.

3.4.7 Williamson Act Contract Cancellation

Three parcels within the CTSP Area are under existing Williamson Act contracts (see Chapter 5.0, Agricultural Resources). If these contracts are not canceled or have not had a Notice of Non-Renewal filed prior to annexation, the City of Ceres would automatically succeed to the County's existing interest in the contracts.

To permit urban development of any Williamson Act parcels prior to expiration of the existing contracts, the property owner would need to apply for City approval of "immediate cancellation" of the contract, pursuant to Government Code Sections 51282 and 51284. Alternatively, the property owner may file a Notice of Non-Renewal if planned development would not occur in the near future. Williamson Act contract cancellation and non-renewal, as well as potential environmental impacts associated with development of Williamson Act parcels, are discussed in Chapter 5.0, Agricultural Resources.

3.5 POTENTIAL DEVELOPMENT UNDER THE SPECIFIC PLAN

Approval of the CTSP and related approvals would entitle approximately 534.6 acres for urban development, subject to the development limitations, standards and described in the CTSP. The CTSP Land Use Summary provides for potential development of up to 2,392 single- and multi-family residential units and up to approximately 1.17-million square feet of new commercial development. The CTSP also defines approximately 42.4 acres of parks and open space and 3.4 acres of new public space in addition to the 74.1 acres of existing public space occupied by the existing school sites in the CTSP Area.

Table 3-2 summarizes the potential development within the CTSP Area, based on the CTSP Land Use Plan (see Figure 3-1A). These quantities will provide the basis for evaluation of potential environmental impacts in this EIR.

TABLE 3-2
COPPER TRAILS SPECIFIC PLAN
POTENTIAL DEVELOPMENT SUMMARY

Land Use	Acres	Dwelling Units	Building Square Footage
Low-Density Residential	177.6	988	-
Medium-Density Residential	37.6	338	-
Medium High-Density Residential	16.8	336	-
High-Density Residential	30.8	730	-
Regional Commercial	106.5	-	1,169,586
Park/Open Space	42.4	-	-
Community Facilities	3.4	-	-

Schools	74.1	-	-
Major Roadway/Landscape Corridor	47.3	-	-
TOTAL	**534.6**	**2,392**	**1,169,586**

As shown on the proposed Land Use Plan, primary circulation into and from the CTSP Area would be provided by existing roads in the CTSP Area; improvements to these roads will need to be made as needed to serve urban development; these requirements will be set as individual projects are brought to the City for approval. Overall anticipated major street improvements are shown on Figure 3-3. New streets would be installed where necessary to serve new development, along with buried infrastructure such as water and sewer lines, consistent with the adopted CTSP. Proposed vehicular circulation systems are intended to promote connectivity and travel convenience in the CTSP Area. Circulation improvements would also include pedestrian and bicycle facilities to promote walking, bicycling, and non-vehicular use, as illustrated on Figure 3-3.

Specific development standards and community design themes for planned land uses are defined in Chapter 9 of the CTSP; it can be anticipated that future development of the CTSP Area would be similar to existing development patterns seen in the City's newer residential and commercial areas.

3.5.1 Specific Plan Land Uses

Residential

The Specific Plan Land Use Map (Figure 3-1A) provides for a mix of both employment-generating uses and residential neighborhoods. Residential neighborhoods, for the most part, would be located on lands west of Moffett Road. Higher-density residential areas would be located primarily along Moffett Road and East Redwood Road, near the planned Regional Commercial development area, while Low and Medium-Density neighborhoods would be located further west. Planned residential development would consist of the following:

Low Density Residential (up to 7.0 dwelling units per acre)
Medium Density Residential (7.0-12.0 dwelling units per acre)
Medium-High Density Residential (12.0-20.0 dwelling units per acre)
High Density Residential (20.0-30.0 dwelling units per acre)

This range of densities is projected to result in as many as 1,286 new single-family homes and 1,106 multifamily units, for a total of 2,392 dwelling units at CTSP buildout. This estimate assumes that 80% of the maximum possible housing units under proposed CTSP land use designations would be developed.

Regional Commercial

Planned non-residential development as proposed in the CTSP would consist primarily of Regional Commercial uses, located in an approximately 107-acre area east of Moffett Road and adjacent to and west of Mitchell Road. As described in the CTSP, the Regional

Commercial land use designation provides for a broad range of retail goods and services, which is intended to serve both area residents and those from nearby communities. Development can accommodate different types of commercial and service uses, including those that are oriented to highway travelers, those that serve as destination shopping centers, and those that provide goods for nearby residential neighborhoods. The types of uses envisioned for development of these parcels include "big-box" stores, national retailers, hotels, office buildings, entertainment venues, grocery stores, drug stores, gas stations, dining establishments, and service-type uses. Neighborhood-serving professional uses are also appropriate. Multi-family residential uses may be permitted if included as part of a mixed-use development project.

The CTSP states that no minimum lot area or lot width is required for the Regional Commercial designation. However, lot coverage shall be no greater than 50 percent, and the maximum building height is 65 feet. Minimum front/primary street landscape setback is 15 feet along public streets. Minimum side and rear setbacks are both 15 feet from the property line. Minimum interior separation between buildings is 20 feet.

Parks and Open Space

Planned City park lands, including recreational corridors, would be concentrated mainly along the southern and western boundaries of the CTSP Area. The CTSP proposes a sidewalk and open space corridor along the TID Lateral, considered the "greenbelt corridor" that provides for both recreation and for stormwater storage. The sidewalk would be eight feet wide and would be installed within a corridor 20 feet wide adjacent to the lateral. Landscaping would be planted on each side of the sidewalk, with one side approximately five feet wide and the other approximately seven feet wide. Adjacent to the sidewalk corridor, another corridor approximately 30 feet wide would be used for stormwater storage and treatment swales. Several small parks are planned along the TID lateral to provide both recreation activity areas for residents and visual screen for the water-treatment plant and major roadways. Consultation with TID on the design walkways, which are located within TID easements would be needed.

A total of five new various-sized neighborhood parks are planned throughout the CTSP. The larger parks are designed to provide more active recreation such as multi-sport fields and large gathering spaces. The smaller parks are designed to include amenities for smaller neighborhood gatherings, water features and small turf areas. One new park of approximately 3.7 acres is proposed adjacent to and north of the existing Hidahl Elementary School. The CTSP also designates a plaza area of two acres at the intersection of Redwood Road and Moffett Road. The plaza is expected to be an open space area where public events may be held. Additional neighborhood parks would be provided within planned residential acres, consistent with City of Ceres standards for size and amenities.

The proposed project would include a trail system that will follow the project's boundary and the major roads, providing non-vehicular transportation connections between the various land uses. The proposed trail system is intended to provide and encourage walkability within the CTSP Area.

Community Facilities

This designation applies to the use of land for major public facilities, such as fire stations and police substations. The CTSP proposes 3.4 acres for community facilities/public safety facilities (CF-PSF in Figure 3-1A). The CTSP shows two anticipated locations for future public uses in the area when they will be needed. In proximity to the CTSP's most intensive residential and commercial uses, these sites can be utilized by the City to construct public safety facilities or other uses deemed necessary to augment public services. The location of these facilities remains flexible. Future decisions on the precise location of these facilities, in particular fire stations, will be dependent on ongoing discussions with the service providers and potentially on a standards of coverage study that would determine optimal facility locations to serve the planned development in the area (Darin Jesberg pers. comm.).

The distribution of responsibilities for fire protection among the agencies currently serving the CTSP and the proposed annexation area is currently under discussion. It is anticipated that service area boundaries will be adjusted at the completion of this process. These concerns will be discussed during the annexation process for the CTSP Area.

Schools

This designation covers the existing schools within the CTSP Area: Central Valley High School, Ceres Adult School, and Hidahl Elementary School. No changes to these existing land uses would occur with CTSP implementation.

3.5.2 Circulation

The CTSP proposes an open and interconnected circulation system for vehicles, bicyclists, and pedestrians that promotes connectivity and access to major focal points and public facilities, such as parks and schools. The CTSP defines the circulation concepts that provide for safe and convenient movement of residents and visitors throughout the CTSP Area. Circulation components include the proposed network of roadways, pedestrian/bicycle circulation, landscape easements and streetscape design. Figures 3-2 and 3-3 illustrate the proposed circulation plan for the CTSP Area, along with cross sections of proposed streets.

Primary vehicular access to the CTSP Area will be provided from SR 99 on the east. The State of California in coordination with Stanislaus County and the City is planning major improvements to the SR 99 interchange with East Service Road. While not fully designed, planning and design of the new interchange is expected to initiate in early 2025 and complete by the end of 2026.

Figure 3-2 depicts the proposed "backbone" street system for the CTSP Area. The proposed street system is centered on three roadways:

- Service Road would be improved from Blaker Road to Moffett Road. The segment from Blaker Road to east of Central Avenue would be widened from the existing three travel lanes and a center lane to four travel lanes and a center lane. Sidewalk would be installed on both sides of this segment, and a parking lane would be

provided on the south side. On the segment from east of Central Avenue to Moffett Road, Service Road would be improved to four travel lanes and a center lane. A sidewalk and a parking lane would be provided on the south side of this segment. On both segments, bicycle lanes would be installed on both sides of the road.

- Blaker Road would be improved from Service Road to TID Lateral No. 2, with two travel lanes, a parking lane on the east side, and a bicycle lane on the west side.
- Central Avenue would be improved to four travel lanes with a median island 14 feet in width. On both sides of Central Avenue, there would be a bicycle lane, a parking lane, a landscaping strip, and a sidewalk.

Existing roads such as Redwood Road and Moffett Road would be improved as interior collector streets, along with proposed new streets. Interior collector streets would have two travel lanes, along with a parking lane, a landscaping strip, and a sidewalk on both sides. Some interior collector streets would also have a median island and bicycle lanes on both sides. These would include the improved Redwood Road and Moffett Road. Moffett Road south of Service Road may be considered for widening to four lanes to accommodate regional commercial and high-density residential traffic.

3.5.3 Utilities and Services

Chapter 7.0 of the CTSP provides a detailed description of utility improvements needed to service future urban development, summarized below.

Potable Water System

Potable water services would be provided by the City of Ceres through its water system. Water pipelines would be extended to the CTSP Area from existing infrastructure in the City, typically installed in roadway corridors. The proposed on-site water distribution system would be designed as a looped system following major arterial and collector street alignments for a transmission main grid consisting of approximately 12-inch to 24-inch diameter mains. Significant water infrastructure projects include pipe extensions along Central Avenue, Moffett Road, Blaker Road, and East Redwood Road, pipe installations along the central, western, and commercial backbone streets (see Figure 3-5), and improvements along East Service Road.

With full buildout of the CTSP, on-site potable water infrastructure may require construction of groundwater wells, water storage tank(s), and similar facilities, sized and designed in accordance with the City of Ceres' improvement standards. At least one water well and one water tank are anticipated to be constructed within the CTSP Area. Water would be supplied from the existing City well system, supplemented by surface water to be provided by the Regional Surface Water Supply Project**.**

Non-Potable Water

The CTSP proposes the installation of a non-potable water system. It is expected that this system would be used to provide irrigation water for parks and landscaped areas within the CTSP Area. Separate infrastructure, including pipeline, would be installed for the non-

potable water system. However, the infrastructure would be installed in the same locations as the potable water system facilities. The CTSP infrastructure plan anticipates the installation of landscape irrigation wells to supply the water.

Sanitary Sewer System

Sanitary sewer services would also be provided by the City of Ceres through its system. Effluent generated by development in the CTSP would be directed to the Ceres Wastewater Treatment Plant (WWTP) for treatment. The WWTP is located west of the CTSP Area, south of Service Road and west of Blaker Road.

Wastewater flows would be directed to the WWTP by a network of pipes installed within street rights-of-way or easements. Sewage would be conveyed by both gravity lines and/or sewer force mains. As with water infrastructure, significant sanitary sewer infrastructure projects include pipe extensions along Central Avenue, Moffett Road, Blaker Road, and East Redwood Road, pipe installations along the central, western, and commercial backbone streets, and improvements along East Service Road. The site's topography may require the installation of strategically placed on-site sewer lift stations for the force main sewer pipes.

Storm Drainage

Storm drainage services would be provided by the City of Ceres through its system. Development of the CTSP Area would require installation of on-site drainage conveyance facilities, along with alteration of site topography in some areas to accommodate the proposed land uses while mitigating drainage impacts. Significant storm drainage infrastructure projects include the installation of facilities along Moffett Road, Blaker Road, and East Redwood Road, as well as along the central, western, and commercial backbone streets.

Drainage facilities would be sized to avoid increases in peak water flow rate and/or surface water elevation changes, both upstream and downstream, for up to and including the 24-hour, 50-year storm event. Further, stormwater retention will be provided to assure no impacts due to loss of stormwater storage capacity. Lastly, the CTSP would include on-site construction of stormwater quality treatment facilities. The City maintains its storm drainage system in accordance with State and Federal law. With full 100-year storm tailwater control, the City's system is sufficient to ensure that water quality remains acceptable during collection and transfer.

Solid Waste

Solid waste collection is provided by Bertolotti Disposal, providing both residential and commercial services, as well as debris box services. Through the City's franchise agreement, Bertolotti Disposal is responsible for collecting garbage, recyclables, organics, bulky items, and leaf and limb piles within the City limits. Material collected is transported to the Bertolotti Transfer Station located at 231 Flamingo Drive in Modesto, which receives waste from various cities in the area.

Regulated Utilities

Electrical, gas and communication services would be extended from existing facilities in or adjacent to the CTSP Area to new development as required. Utilities would be located within streets or within existing public utility easements or easements to be dedicated along street frontages. Except for electrical transmission lines, existing overhead electrical and communication facilities would be undergrounded.

3.5.4 Infrastructure Phasing

The CTSP provides for a comprehensively planned infrastructure system with coordinated construction of backbone facilities necessary to incrementally serve new development. A series of infrastructure construction phases are anticipated as the CTSP Area builds out over time.

The infrastructure requirements for each phase of development include all on-site backbone infrastructure and off-site facilities necessary for the buildout of each phase. These include roadways, water, sewer, storm drainage, dry utilities, parks and open spaces, and other public facilities and improvements. All in-tract water, sewer, storm drain, and dry utilities are to be installed as part of local project improvements.

This plan is intended to be implemented with flexibility to serve different areas of the CTSP based on market demand. The conceptual phasing plan is structured such that infrastructure improvements in each phase can support its respective development in compliance with City policies and standards, and that the development in each phase can support the costs of the required improvements. Infrastructure phases identified in the phasing plan may be modified at the discretion of the City, subject to any applicable criteria in approved Development Agreements.

3.6 POTENTIAL DEVELOPMENT IN THE POCKET AREA

Most of the Pocket Area has already been developed. No development plans have been prepared for lands in the Pocket Area. It is expected that any new development or redevelopment in this area would be consistent with the City zoning, including applicable development standards, that would take effect should annexation of the Pocket Area be approved. The planned development of the Pocket Area is shown in Table 3-1 above. All projects would be subject to City review, with the review process including any necessary CEQA environmental evaluation.

3.7 ENTITLEMENTS AND PERMITS

Table 3-3 identifies the approving authorities for all actions associated with the proposed project. The primary entitlement associated with the project is City approval of the CTSP. The approval authority would rest with the Ceres City Council, based on recommendations from the Ceres Planning Commission. As noted, adoption of the CTSP would include a range of graphic and text amendments to the Ceres General Plan. Pre-zoning of the CTSP Area would occur with annexation, which is discussed below.

The CTSP would provide the planning framework for, and a regulatory tool governing, future development of the CTSP Area. The land use designations, infrastructure plans, development guidelines and standards, and other provisions of the CTSP would be the primary basis for City evaluation of future development proposals, including review and approval of tentative subdivision maps, site development plans, or other requests for City approval. The City anticipates that one or more DAs would be needed between the City and project applicants in conjunction with future development. Such agreements would need to be consistent with the CTSP.

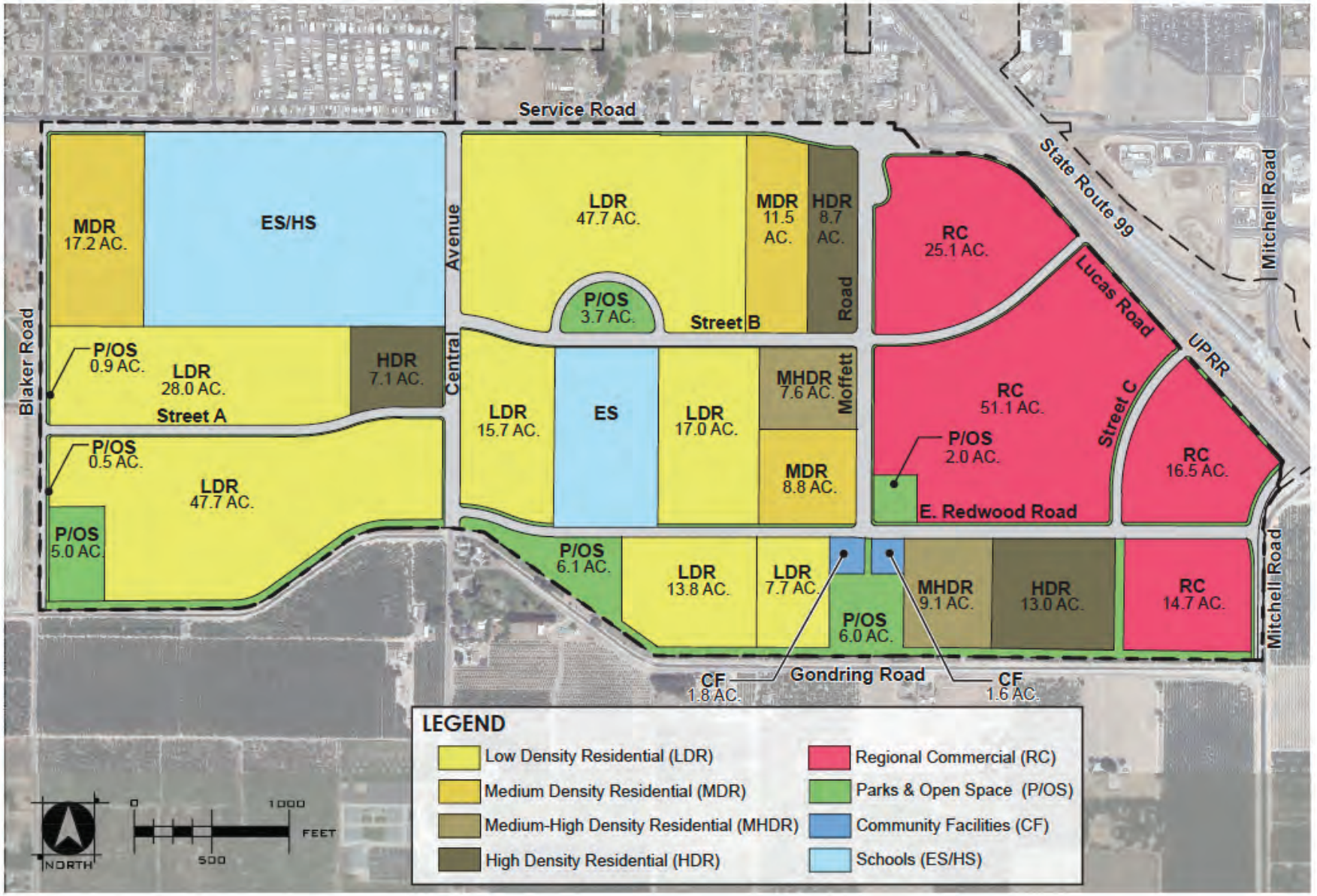
CEQA requires that an EIR identify the principal discretionary actions under consideration in the EIR, as well as any other agency permits and approvals that may require consideration under CEQA. The principal discretionary permits and approvals required for the CTSP would be granted by the City of Ceres.

Permits and approvals from a number of other agencies may also be necessary in the course of implementing the CTSP and other aspects of the project. These other agencies are listed in Table 3-3. The most notable of them is the Stanislaus LAFCo, which has the authority to approve any proposed annexations to a city. The City of Ceres would submit an annexation application to LAFCo once the City approves other project-related actions. The annexation application would require submittal of a City Services Plan that demonstrates the financial capability of the City to provide adequate public services to the proposed annexation area. Also required is a Statement of Adequacy of Water Supplies and an Agricultural Land Conversion Statement that describes potential losses of agricultural lands. As noted, LAFCo would be a Responsible Agency under CEQA with respect to the CTSP and therefore would be expected to use this EIR in its decision-making process.

TABLE 3-3
REQUIRED PERMITS AND APPROVALS,
COPPER TRAILS SPECIFIC PLAN

Agency	Permit/Approval
Ceres City Council	Certify Final EIR
	Adopt CEQA findings
	Adopt Mitigation Monitoring Program
	Approve Copper Trails Specific Plan
	Approve Required General Plan Amendments
	Approve Required Zoning Changes
	Approve Development Agreements
	Approve Tentative Subdivision Maps
Ceres Planning Commission	Recommendations to City Council on the above items
	Development Plans for new development

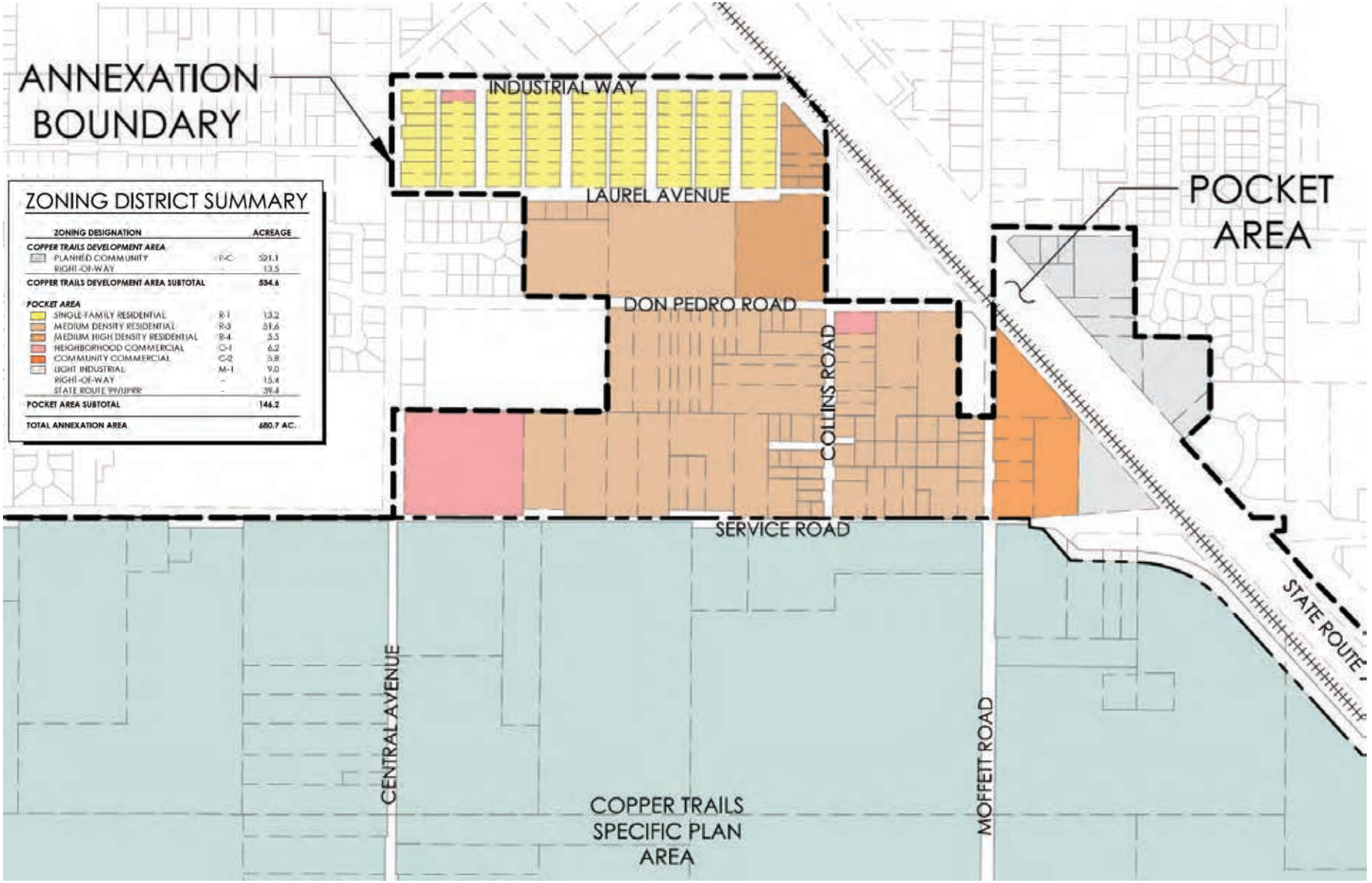
	Infrastructure Improvement Plans
Stanislaus Local Agency Formation Commission	Approve annexation application
	Accept City Services Plan, Agricultural Land Statement, Statement of Availability of Water Supply
	Approve Ceres Fire Protection District boundary adjustment
Regional Water Quality Control Board	General Construction and MS4 Storm Water Permits for new development
Caltrans	SR 99 encroachment permits
San Joaquin Valley Unified Air Pollution Control District	Dust Control Plans
	Indirect Source Rule Permits
	Authority to Construct (if stationary sources)
	Permit to Operate (if stationary sources)
Turlock Irrigation District	Encroachment Permits



BaseCamp Environmental

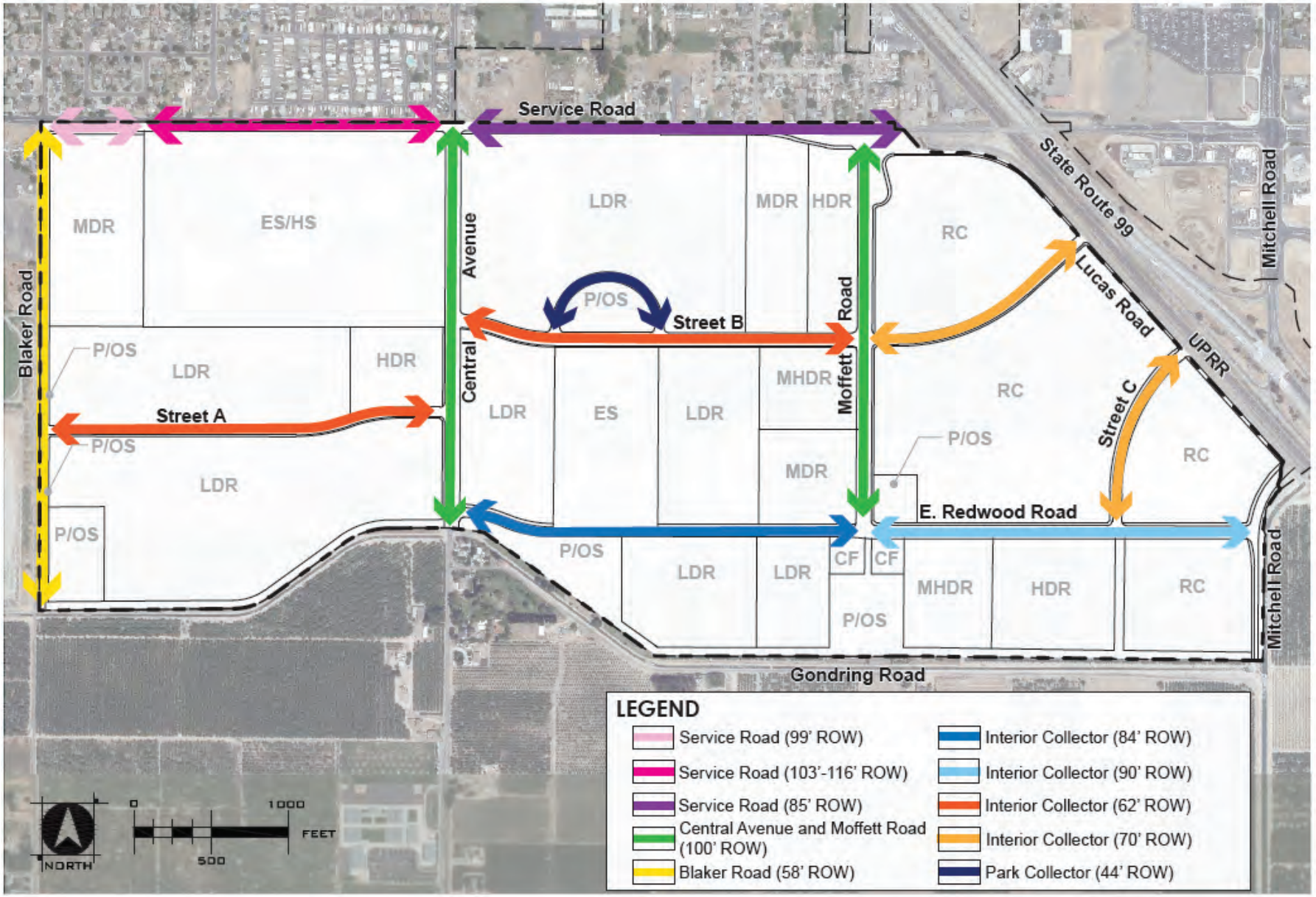
SOURCE: Wood Rodgers

Figure 3-1A
PROPOSED LAND USE PLAN



SOURCE: Wood Rodgers

Figure 3-1B
POCKET AREA PREZONING



BaseCamp Environmental

SOURCE: Wood Rodgers

Figure 3-2
TRANSPORTATION KEY MAP

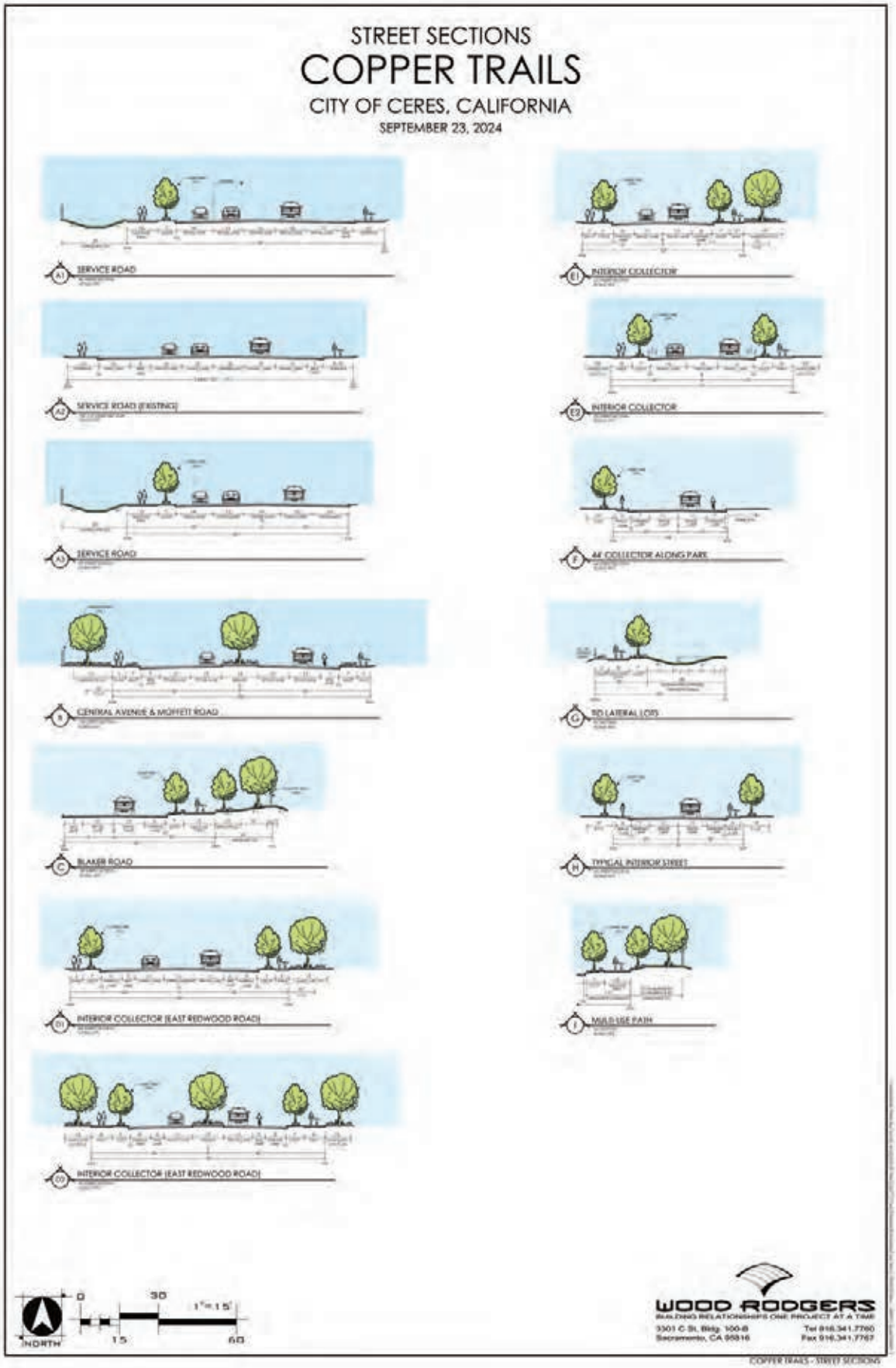


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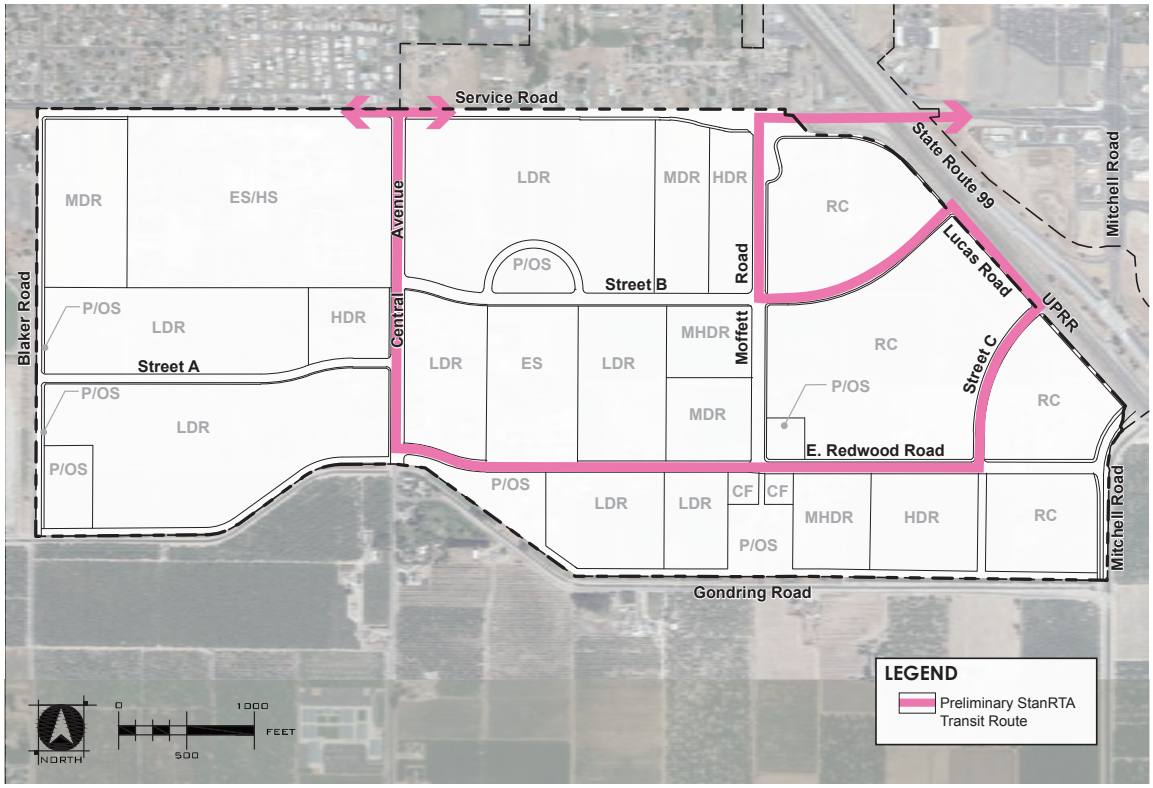
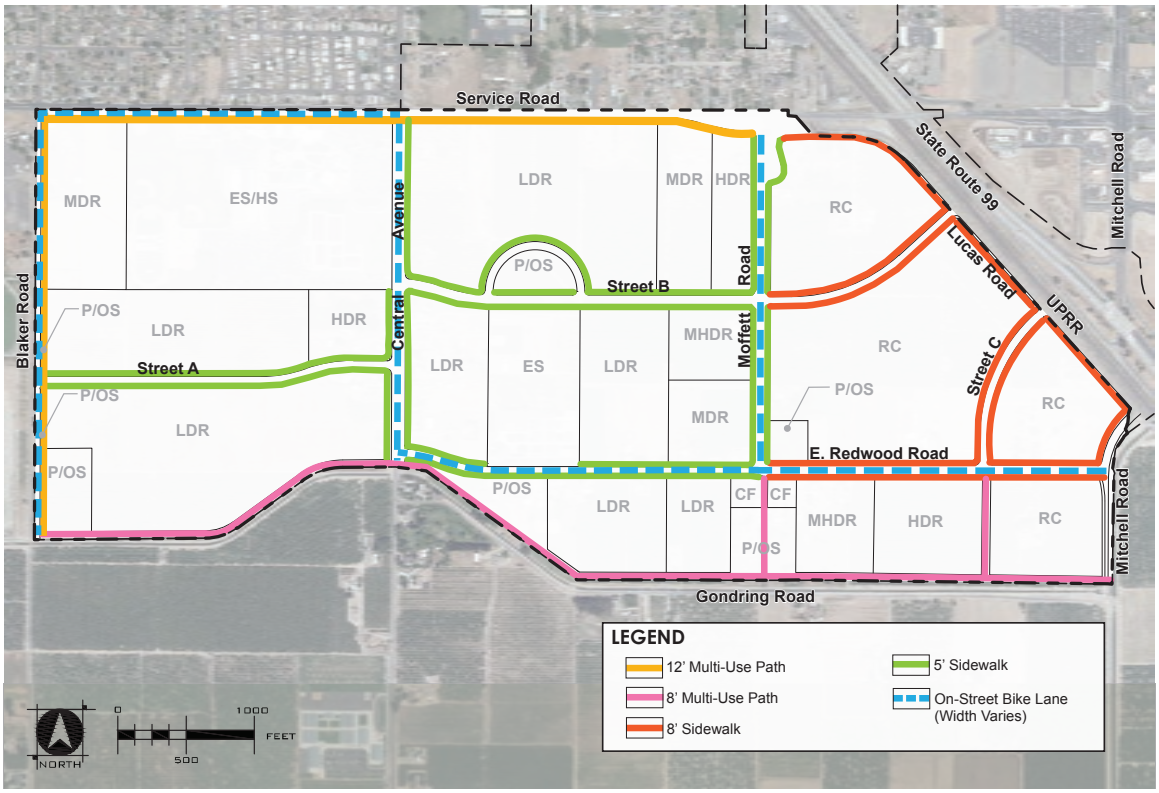
Figure 3-3
STREET SECTIONS



Public Transit



Bike and Pedestrian , Transit

Figure 3-4
TRANSIT AND PEDESTRIAN CIRCULATION

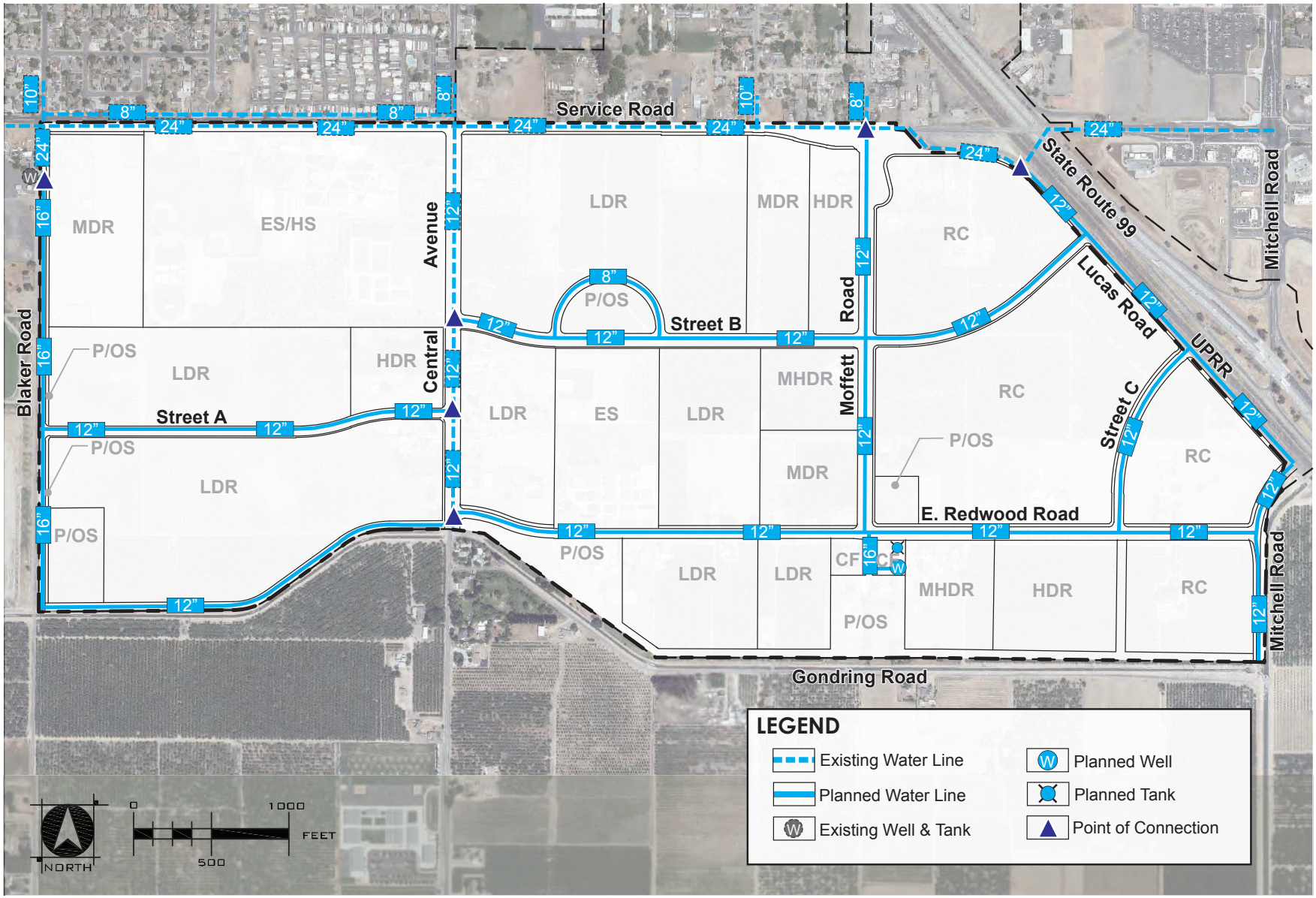


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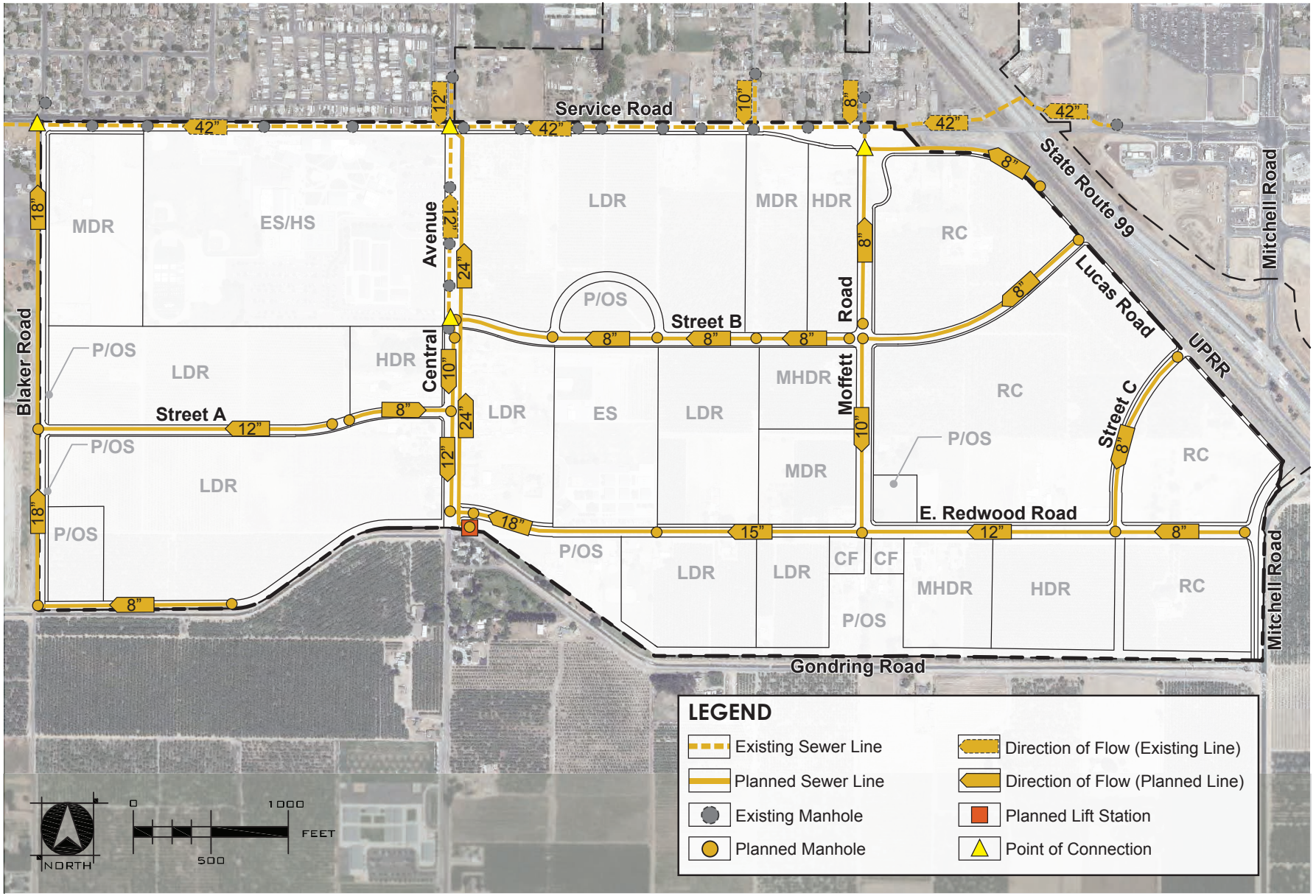
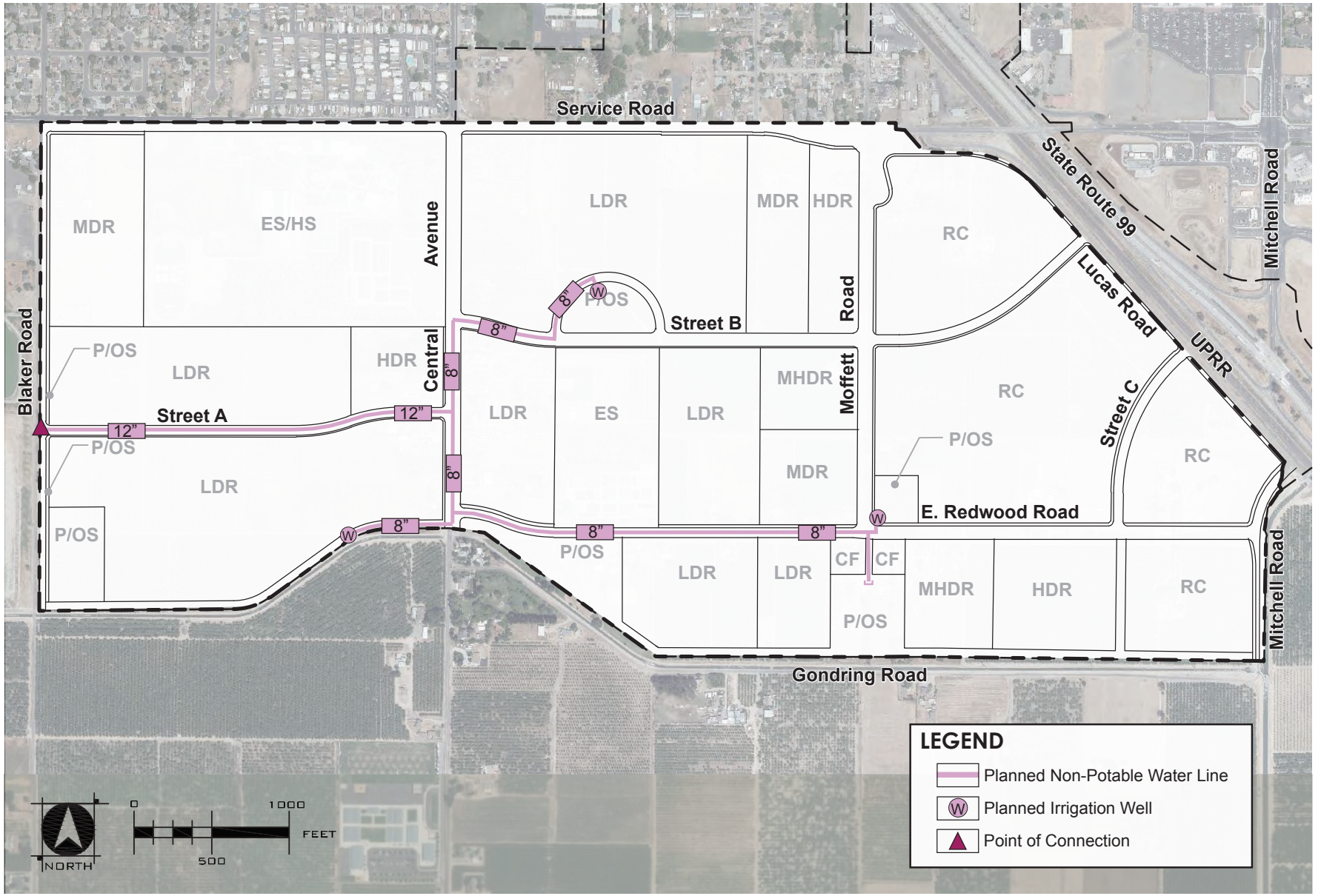
Figure 3-5
PROPOSED POTABLE WATER SYSTEM



BaseCamp Environmental

Figure 3-6
PROPOSED SANITARY SEWER SYSTEM



BaseCamp Environmental

Figure 3-7
PROPOSED NON-POTABLE WATER SYSTEM

BaseCamp Environmental

Figure 3-8
PROPOSED STORM DRAINAGE SYSTEM

4.0 AESTHETICS

ENVIRONMENTAL SETTING

The City of Ceres is in the San Joaquin Valley, a predominantly level agricultural landscape that also includes substantial areas of urban development in cities located for the most part along the State Route (SR) 99 highway corridor, such as Bakersfield, Fresno, Merced, Turlock, Modesto and Stockton. Ceres abuts the City of Modesto along most of its northern boundary. Agricultural lands surround the City to the east, south, and west, although there is some developed land to the southeast of the City in the Keyes unincorporated community. The eastern, southern, and western edges of development in the city are relatively well defined, with areas developed with residential neighborhoods or community facilities adjacent to agricultural uses.

The topography throughout the area is almost completely level; there are no substantial hillsides providing natural raised vistas of its surroundings. Views over surrounding lands are, however, available from the SR 99 freeway overpasses at Whitmore, Hatch, Crows Landing roads. Mid-range views of farms with row crops and orchards are visible from ground level public roads in the urbanized city's edges and from all the unincorporated areas within the City's General Plan Planning Area. On clear days, the Sierra Nevada mountain range is visible to the east, and Mount Diablo and the surrounding foothills are visible to the west (City of Ceres 2018a).

Like many other cities in the San Joaquin Valley, Ceres is bisected by and gains its principal access from SR 99. Therefore, all of Ceres has close proximity to SR 99, and many visitors are introduced to Ceres from the freeway. Because development in the City is predominantly low-rise and changes in the elevation of SR 99 are minor, the views from the SR 99 corridor through the City are characterized by the tree buffer along the railroad and facades of directly adjacent development (City of Ceres 2018a).

The CTSP Area is currently a mix of agricultural, rural residential, and urban land uses. The CTSP Area is predominantly agricultural and rural residential in its landscape; the area closest to of SR 99 provide views of orchards and grazing lands. Direct views of the CTSP Area are also available from the major existing public roads including Service Road, Blaker Road, Central Avenue, East Redwood Avenue, and smaller local roads. Substantial urban development has occurred along Central Avenue between Service Road and East Redwood Road, including Central Valley High School and the Ceres Adult School, and a mix of residential, agricultural, and commercial uses.

The Pocket Area north of Service Road is a predominantly urban landscape, with a mix of residential areas, commercial lots, and vacant land. Outside these two areas, agricultural and rural residential landscapes are more prominent. Existing public roads within the CTSP and Pocket Areas are minimally improved beyond provision of the necessary vehicle travel lanes. Many existing roads lack paved shoulders, and few if any have drainage improvements, curb and gutter or sidewalks.

Existing lighting in the CTSP vicinity is primarily concentrated in the existing developed areas north of Service Road. Along Service Road, streetlights have been installed along the frontage with Central Valley High School to the Central Avenue intersection. South of Service Road, lighting is mainly found at the schools, although its use most notably occurs during night sporting events at the high school football field. Outside the school areas, lighting is limited mainly to exterior lighting at rural residences. Another existing source is lighting is nighttime vehicle traffic on SR 99, but views of this lighting are confined to the areas adjacent to the roadway. The majority of lands within the CTSP Area are agricultural and unlighted.

REGULATORY FRAMEWORK

California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to these highways. The State laws governing the Scenic Highway Program are in the California Streets and Highways Code, Section 260 *et seq*. A highway may be designated scenic based upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

The State Scenic Highway System includes a list of highways that are either designated as scenic highways or are eligible for designation. According to the California Department of Transportation (Caltrans) list of designated scenic highways under the California Scenic Highway Program, there is only one officially designated state scenic highway within Stanislaus County: Interstate 5 from the San Joaquin County Line to the Merced County Line in western Stanislaus County (Caltrans 2019); this roadway segment is more than 12 miles west of the CTSP Area.

Small Lot Design Guidelines

The Ceres Small Lot Design Guidelines were adopted in 2007 to provide builders with a clear set of design policies and to expedite the building permit review process. The Design Guidelines apply to single-family detached residential development on lots of 4,999 square feet or less, which can only occur in Planned Community zones. Small-lot housing is often more affordable than larger-lot development and easier to maintain. The guidelines are intended to provide for the following (City of Ceres 2007c):

- Small-lot, single-family projects that feature a variety of lot types, home sizes, housing types, designs and building materials,
- Small-lot, single-family developments that include interconnected, short blocks that diffuse traffic and provide easy, direct routes for pedestrians, bicyclists, and drivers around the neighborhood, and

- Small-lot, single-family developments that emphasize pedestrian-oriented streetscapes, not dominated by garages and including street systems designed for pedestrians and bicyclists as well as for automobile use.

Ceres Municipal Code

Chapter 15.14, California Green Building Code

The City of Ceres has adopted the 2022 California Green Building Standards Code (California Code of Regulations, Title 24, Park 11) as Chapter 15.14 of the Municipal Code. The purpose of the California Green Building Standards Code (CALGreen) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. CALGreen includes both mandatory and voluntary measures for both residential and nonresidential development, including a nonresidential mandatory light pollution reduction measure that establishes maximum allowable light and glare standards for new nonresidential projects.

Section 17.26.080 Street Lights

Section 17.26.080 of the Ceres Municipal Code regulates streetlights. Streetlights shall be to the standard approved by the City Council. All light standards shall be placed at locations approved by the Community Development Director.

Section 18.42.240 Illumination

Section 18.42.240 of the Ceres Municipal Code regulates the illumination of signs. Direct or indirect lighting methods are allowed, provided they are not harsh, unnecessarily bright, and located or shielded to prevent glare to surrounding properties.

Section 18.40.040 Off-Street Loading Facilities

Section 18.40.040 of the Ceres Municipal Code regulates lighting in off-street loading facilities. If the loading area is illuminated, lighting shall be deflected away from adjacent uses so as to cause no annoying glare.

Section 18.38.060 Dangerous and Objectionable Elements

Section 18.38.060 of the Ceres Municipal Code establishes that every use shall be so operated that they do not emit direct or indirect glare in such quantities or degree so as to constitute a nuisance to adjacent or adjoining properties.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to the CEQA Guidelines, a project will ordinarily have a significant effect on aesthetics and visual resources if it would:

- Have a substantial adverse effect on a scenic vista,
- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway,
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings; or, in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality, or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

A recent change to the Environmental Checklist in CEQA Guidelines Appendix G emphasizes aesthetic and visual resource impacts on public views in non-urbanized areas. As defined in Appendix G, "public views" are views that are experienced from publicly accessible vantage points. Although not specifically defined, "publicly accessible vantage points" are assumed to include, though not necessarily limited to, public roads, parks, trails, and scenic vista turnouts. "Scenic vistas" are generally interpreted as long-range views of a specific scenic feature, such as open space lands, mountain ridges and open water.

Impact AES-1: Scenic Vistas

The topography of the Ceres area is almost completely level, providing no natural raised vistas of its surroundings. Because the city has maintained its status as a stand-alone urban area surrounded by agricultural uses, farms with row crops, livestock grazing and orchards are visible from ground level around the circumference of the urbanized city and from all areas in the unincorporated County land. On clear days, the Sierra Nevada mountain range is visible to the east, and Mount Diablo and the surrounding foothills are visible to the west (City of Ceres 2018a).

Land within the project site and surrounding area is similar topographically to the Ceres area. Some views over the CTSP Area are available from localized high spots and will become more available from westbound Service Road and the interchange transition ramps as the SR 99/Service Road interchange is constructed. Development within the project site, mainly within the CTSP Area, would have the potential to obstruct short-range views of farmland currently available to the public. These views could be partially or fully blocked in some public areas by new construction occurring beyond the current edge of development. However, what may be considered scenic vistas as defined above are already limited by existing urban development, particularly agricultural landscapes. The CTSP limits heights of multifamily residential buildings to no greater than 50 feet, and it designates multifamily development only at the intersection of Service Road and Moffett Road, and along East Redwood Road adjacent to the proposed regional commercial development. As such the potential obstruction of scenic vistas would be limited, and project impacts on scenic vistas would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AES-2: Scenic Resources and Scenic Highways

As discussed in the previous section, development of the CTSP Area would result in the gradual conversion of existing agricultural open space to planned urban uses. However, there are no distinctive scenic resources located within the project site which would be threatened by planned development. The agricultural landscapes within the CTSP Area, while inherently attractive, are composed of features that are common in valley areas and would not result in a substantial adverse effect if the project site is developed. The GPEIR did not explicitly address this issue in its analysis of aesthetic impacts associated with the Ceres General Plan.

No outstanding scenic resources, such as tree groves or rock outcroppings, are on the project site. As noted, the only state scenic highway designated in Stanislaus County is Interstate 5. The project site is not located on or near Interstate 5. Neither the City nor Stanislaus County has designated any scenic highways. Project impacts on scenic resources and scenic highways would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AES-3: Visual Character and Quality

The project would not affect the visual character of the Pocket Area, which is already predominantly urban, developed under Stanislaus County jurisdiction. The project would not substantially change the existing visual landscape. Potential future development in the Pocket Area would be subject to City of Ceres design requirements and would not be expected to result in any substantial adverse effect on the visual landscape.

As has been indicated, adoption and implementation of the CTSP and planned urbanization of the CTSP Area can be expected to substantially change the visual landscape of the CTSP area. The CTSP Area currently contains a substantial agricultural landscape. Development pursuant to the CTSP would change the agricultural landscape to an urban landscape on a project-by-project basis., which would cumulatively be a significant aesthetic change. This loss of the agricultural landscape was addressed in the certified GPEIR relative to development of lands in accordance with the land use designations established by the General Plan 2035, and annexation of future urban land into the City. Impacts would be reduced with the implementation of General Plan policies such as prioritizing infill development, limiting development of agricultural lands only where contiguous to existing development, and developing a Plan for Agricultural Preservation upon application for annexation of agricultural land. Implementation of the CTSP would have no new or more severe impacts than those analyzed in the GPEIR. Therefore, as discussed in Section 1.2, no further consideration of this issue is required.

The CTSP is intended and expected to result in a cohesive and attractive urban development, with generally beneficial aesthetic effects. These effects would stem from actual development in accordance with the CTSP's and City of Ceres land use and design guidelines and construction of the various open space areas. It also would integrate the

existing two schools into a more coherent urban landscape, rather than remain isolated urban features in a mostly rural area.

Moreover, the CTSP design guidelines would improve the appearance and attractiveness of the permitted land uses, also contributing to beneficial aesthetic effects. Development of the CTSP Area as planned is expected to result in pleasing views that will have a beneficial or at least neutral impact on surrounding streets and adjacent land uses. Proposed land uses would be visually compatible with urban land uses to the north. Future development projects in the CTSP Area would be subject to existing City review and design standards and guidelines as well as the more stringent requirements of the CTSP.

Planned urban development as envisioned in the CTSP will include the improvement of streets within and adjacent to project sites. These improvements would replace the minimally improved existing road system with landscaped corridors providing pedestrian and bicycle use separate from the roadway. Street improvements would include installation of landscaped medians on proposed Divider Collector Roads, Blaker Road and Central Avenue. Substantial streetside landscaping strips will be located along these roads as well as along Service Road and the Standard Collector Road. These improvements, together with the CTSP commercial and residential design requirements will result in a planned and organized aesthetic environment consistent with other areas of new development in the City of Ceres.

There is no known plan for the improvement of streets or other public facilities in the Pocket Area. Except for new development project that may require improvement of the adjacent street, streets in the Pocket Area will remain more or less in their current condition until an improvement plan is organized and funded.

In summary, while conversion of the existing largely agricultural visual landscape would occur, the resulting project development would be considered aesthetically pleasing with adherence to CTSP design guidelines and consistent with the Ceres General Plan. Overall, project impacts on visual character and quality would be less than significant and potentially beneficial.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AES-4: Light and Glare

The project would not involve substantial changes in lighting conditions in the Pocket Area. The Pocket Area is already substantially developed, and the project would not change existing conditions nor substantially alter future conditions in areas of existing development. New development on scattered parcels may result in new security lighting or new, or replacement, street lighting in selected areas; these improvements would contribute to the overall quality of development in the Pocket Area with no substantial adverse effect.

Development of the CTSP Area would involve additional night lighting sources. New sources would include high-intensity lighting of the proposed regional commercial development, including parking areas and signage. Signage could be expected to include

one or more freeway-visible as well as monument, store advertisement and directional signs It can be expected that intersections surrounding the center will include additional width, signal control and enhanced lighting for night visibility and safety.

New residential areas would include new street lighting as well as varying levels of security and nightscape lighting. New multifamily residential development would likely involve architectural and decorative lighting, exterior lighting for individual units and security lighting in parking areas and common spaces. Lighting may also be installed in the park areas, depending on the amenities offered. Streetlights would be installed on streets in the developed areas per City standards. All this would contribute to a substantial increase in night lighting in the CTSP Area and would contribute to overall ambient light and nighttime sky glow effects.

The CTSP states that street lighting is required along all roadways and may vary in design and height based on a roadway's size. Light fixture design, luminaries, specification, and installation are subject to the City's adopted Improvement Standards and are subject to applicable regulations in the City of Ceres Municipal Code. As permitted by City standards, decorative street lighting that is consistently themed may be used on public streets in residential neighborhoods to maintain a cohesive design for the public realm. Where utilized, decorative fixtures are permitted on collector and residential streets. Decorative light fixtures are also encouraged on private streets within medium-high and high-density residential developments. In addition, development would comply with the lighting provisions of CALGreen. Compliance with these provisions would avoid significant light and glare effects on adjoining uses and reduce the potential impact of urban development on the night sky.

New development and associated lighting within the CTSP Area would involve generally minor effects on land uses outside the CTSP Area that could be light-sensitive. Urban land uses north of Service Road, which are already developed and have existing lighting, would likely notice little change in ambient lighting, particularly with a proposed open space corridor along Service Road acting as a buffer. Lands south and west of the CTSP Area are mostly agricultural fields that would not be affected by changes in lighting. CTSP Area development would not involve any substantial adverse effects on the SR 99 corridor to the east.

Scattered rural residences south of TID Lower Lateral 2 could experience changes in ambient lighting as a result of CTSP development. However, setbacks provided by the lateral right-of-way and the proposed open space corridor along the lateral, coupled with the City's lighting requirements, would minimize the amount of lighting reaching these residences. A few residences west of Blaker Road may be subject to changes in ambient night lighting over time, especially with the anticipated addition of streetlights on the roadway. Compliance with the City's street lighting requirements, along with a proposed open space corridor along Blaker Road, would minimize the amount of lighting reaching these residences.

In summary, the project would result in additional lighting, mainly in the CTSP Area. However, compliance with City codes and CTSP standards would minimize potential

lighting impacts. Therefore, project impacts related to light and glare would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Views to south and west from Service Road/SR 99 Overcrossing

View east along Service Road near Central

Looking northwest across Central to Central Valley High School

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Figure 4-1A
REPRESENTATIVE PHOTOS

Looking north along Central to Service Road intersection

Looking west from Central and Redwood Road

Looking east along Redwood Road from Central

Rural uses near Moffett Road and Redwood Road

Figure 4-1B
REPRESENTATIVE PHOTOS

Almond grove adjacent Moffett Road

Ceres Sports Arena at Lucas

Looking northeast across Redwood Road at Hidahl Elementary School

Looking west along TID lateral from Lucas, adjacent Redwood Road and almond groves

BaseCamp Environmental

Figure 4-1C
REPRESENTATIVE PHOTOS

Typical industrial uses in Pocket Area

Small homes, Spruce Street

Mixed Uses in Pocket Area

Mobilehome Park along Industrial Road

BaseCamp Environmental

Figure 4-1D
REPRESENTATIVE PHOTOS, POCKET AREA

5.0 AGRICULTURAL RESOURCES

ENVIRONMENTAL SETTING

Agriculture is an important part of the economy in Stanislaus County and the Central Valley. Approximately 75.5% of Stanislaus County's land area was in farms and pasture as of 2017 (U.S. Department of Agriculture 2019). The County's total gross value for agriculture production reached approximately $3.7 billion in 2022, an increase from approximately $3.5 billion in 2021. Stanislaus County ranked sixth in the state in agricultural production in 2022. The top five crops in 2022 were milk, almonds, poultry, cattle and calves, and fruit and nut nursery stock (Stanislaus County 2022).

As discussed in Chapter 4.0, Aesthetics, lands to the south, east, and west of Ceres are predominantly in agricultural land use. During the mid-19th century, the economy of Ceres was based on non-irrigated wheat farming, which later grew into a wider variety of crops after the introduction of irrigation to the area and formation of the TID. As of 2017, the majority of farmland in the City's Planning Area is located outside of the Ceres city limits. Most of the agricultural uses that are within the city limits are located west of Crows Landing Road and in the northeast of the City near Faith Home Road (City of Ceres 2018a); neither of these areas are within the project site. Agricultural lands within the CTSP Area are south of Service Road; lands in the Pocket Area are predominantly developed. CTSP Area agricultural lands livestock grazing lands and orchards.

Agricultural resources and the loss of agricultural land are issues that have been addressed in the Ceres General Plan and GPEIR. Over the life of the General Plan, which also includes planned urbanization of the CTSP Area, buildout would involve the conversion of 3,508 acres of Farmland, the majority of which is classified as Prime Farmland. This was identified as a significant and unavoidable impact of urbanization and accepted in a Statement of Overriding Considerations adopted in conjunction with the City's adoption of the General Plan.

The Environmental Checklist in CEQA Guidelines Appendix G includes questions on forest lands in the Agricultural Resources section. Forest lands include National Forest lands, State forests, and private lands zoned for timber production. There are no forest lands or timberlands located in or near the City of Ceres. Because of this, the proposed project would not affect forestry resources, and this issue will not be discussed further in this EIR.

Important Farmland

The California Department of Conservation Important Farmland Maps for Stanislaus County categorize agricultural land in decreasing order of importance as "Prime Farmland," "Farmland of Statewide Importance," "Unique Farmland," "Farmland of Local Importance" and "Grazing Land." The first three categories listed are considered Farmland as defined in CEQA Guidelines Appendix G; under CEQA, conversion of substantial amounts of "Farmland" may involve a significant environmental effect.

In Stanislaus County, total agricultural land as followed by the California Department of Conservation decreased by 14,682 acres from 2004 to 2020. Most of the decrease was in grazing land, which decreased by 47,567 acres. Among the three Farmland categories, Prime Farmland decreased by 12,051 acres; however, Farmland of Statewide Importance increased by 3,414 acres, and Unique Farmland increased by 54,071 acres. Farmland of Local Importance, which is not Farmland as defined by CEQA Guidelines Appendix G, decreased by 12,549 acres (FMMP 2020).

Figure 5-1 identifies Important Farmland on the project site. Lands in the CTSP Area that are defined as Farmland are designated primarily as Prime Farmland, which includes lands with the best combination of physical and chemical characteristics able to sustain long-term production of agriculture crops. A substantially smaller land area is designated Farmland of Statewide Importance, which includes lands that are not Prime Farmland but have a good combination of physical and chemical characteristics for agriculture production (FMMP 2018). Farmland acreages within the CTSP Area are as follows:

- Prime Farmland (approximately 309 acres)
- Farmland of Statewide Importance (approximately 10.5 acres)

Other portions of the CTSP Area are not classified as Farmland. These include the following (FMMP 2018):

- Semi-Agricultural and Rural Commercial Land - lands which are suitable for agricultural storage and packing sheds, equine facilities, and other similar uses.
- Rural Residential Land - includes residential areas of one to five structures per ten acres.
- Urban and Built-Up Land - occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel.

Lands so designated in the CTSP Area include Central Valley High School, Ceres Adult School and Hidahl Elementary School, rural residential areas near the intersection of Central Avenue and East Redwood Avenue, and the Ceres Sports Arena in the southeastern area.

As noted, lands in the Pocket Area are predominantly developed. There is no Farmland in this area; lands are classified as Urban and Built-Up Land, Rural Residential Land, and Vacant or Disturbed Land, the latter including open field areas that do not qualify for an agricultural category (FMMP 2018).

LAFCo Prime Agricultural Lands

In processing annexation applications, the LAFCo evaluates potential impacts on "prime agricultural land" as defined in the Cortese-Knox-Hertzberg Act, which sets forth procedures for annexations. The Cortese-Knox-Hertzberg Act provides the following definitions of prime agricultural land:

- Land that qualifies, if irrigated, for rating as Class 1 or Class 2 in the Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.
- Land that qualifies for 80 through 100 Storie Index Rating.
- Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the U.S. Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.
- Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than $400 per acre.
- Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than $400 per acre for three of the previous five calendar years.

As described in more detail in Chapter 9.0, Geology, the project site has eight types of soil (see Table 9-1). Of these eight soil types, five are rated as Class 1 or Class 2: two types of Dinuba sandy loam, and three types of Hanford sandy loam. These five soil types are Class 1 or Class 2 soils when irrigated (SCS 1964). The portions of the project site containing these soils are considered to have prime agricultural land as defined by the Cortese-Knox-Hertzberg Act. This land would be the subject of further analysis in the annexation application to LAFCo.

REGULATORY FRAMEWORK

Williamson Act

The Land Conservation Act of 1965, commonly known as the Williamson Act, was enacted to help preserve farmland in California. Under the Williamson Act, a contract is executed between landowners and local governments to voluntarily restrict development on property for a period of 10 years in exchange for lower property tax assessments based on the existing agricultural land use. The State formerly provided subvention payments to participating counties to offset reductions in property tax revenues, but these payments have been discontinued.

Contracts are entered into for a 10-year period and can be terminated only by non-renewal of the contract or by a cancellation process defined in the California Government Code. The non-renewal process takes 10 years to complete from the date the Notice of Nonrenewal is submitted to the County. Cancellation of a Williamson Act contract takes effect immediately upon approval of the cancellation by the County Board of Supervisors. However, the cancellation requires a public hearing, and the Board of Supervisors must make either of these findings consistent with State law: 1) the cancellation is consistent with the purposes of the Williamson Act, or 2) the cancellation is in the public interest. A non-renewal does not require a public hearing or findings.

In 2023, Stanislaus County had approximately 286,350 acres of prime agricultural land and 337,359 acres of non-prime agricultural land under Williamson Act contracts. The total acreage has remained fairly steady from year to year (John Silva pers. comm.).

The number of parcels within the project site under a Williamson Act contract were identified using the California Williamson Act Enrollment Finder database, managed by the California Department of Conservation. The database, in turn, receives data from counties that participate in the Williamson Act program. The most recent information from Stanislaus County is from 2022. Table 5-1 shows the three parcels within the project site that are under a Williamson Act contract. The total acres under contract are 67.78 acres.

TABLE 5-1
WILLIAMSON ACT PARCELS IN PROJECT SITE

APN	Address	Acres
041-010-007	6055 Central Avenue	19.0
041-010-008	4342 Central Avenue	38.0
041-010-015	2219 E. Redwood Avenue	10.78

Source: California Department of Conservation 2023.

Stanislaus LAFCo Agricultural Preservation Policy

The Stanislaus LAFCo, in its Policies and Procedures, contains an Agricultural Preservation Policy (Stanislaus LAFCo 2020). The goals of the Agricultural Preservation Policy are as follows:

- Guide development away from agricultural lands where possible and encourage efficient development of existing vacant lands and infill properties within an agency's boundaries prior to conversion of additional agricultural lands.
- Fully consider the impacts a proposal will have on existing agricultural lands.
- Minimize the conversion of agricultural land to other uses.
- Promote preservation of agricultural lands for continued agricultural uses while balancing the need for planned, orderly development and the efficient provision of services.

Upon application for annexation to a city providing one or more urban services that includes agricultural lands, a Plan for Agricultural Preservation must be provided to LAFCo with the application. The purpose of a Plan for Agricultural Preservation is to assist LAFCo in determining how a proposal meets the stated goals of the Agricultural Preservation Policy. The plan shall include the following:

- A detailed analysis of direct and indirect impacts to agricultural resources.

- A vacant land inventory and absorption study evaluating lands within the existing boundaries of the jurisdiction that could be developed for the same or similar uses.
- Existing and proposed densities (persons per acre).
- Relevant county and city General Plan policies and specific plans.
- Consistency with regional planning efforts (e.g., the San Joaquin Valley Blueprint and the Sustainable Communities Strategy).
- An analysis of mitigation measures that could offset impacts to agricultural resources.

The Plan for Agricultural Preservation shall specify the method or strategy proposed to minimize the loss of agricultural lands. LAFCo encourages the use of strategies such as an adopted policy or condition requiring agricultural mitigation at a ratio of at least 1:1. This can be achieved by acquisition and dedication of agricultural land, development rights and/or conservation easements to permanently protect agricultural land, or payment of in-lieu fees to an established, qualified, mitigation program to fully fund the acquisition and maintenance of such agricultural land, development rights or easements (Stanislaus LAFCo 2020).

LAFCO may consider approval of an annexation containing agricultural land if the Plan for Agricultural Preservation demonstrates that insufficient alternative land is available within the existing SOI or boundaries of the agency and, where possible, growth has been directed away from prime farmland towards soils of lesser quality; that the development for an annexation proposal is imminent for all or a substantial portion of the proposal area; that the loss of agricultural lands has been minimized based on the selected agricultural preservation strategy; and that the proposal would result in planned, orderly, and efficient use of land and services. Since the LAFCO Agricultural Preservation Policy was adopted in 2012 and amended in 2015, the City has not had an occasion to adopt a Plan for Agricultural Preservation (City of Ceres 2018a).

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on agricultural resources if it would:

- 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, to non-agricultural use,
- Conflict with existing zoning for agricultural use or a Williamson Act contract, or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

CEQA Guidelines Appendix G contains two questions in the Agricultural Resources section of the Environmental Checklist related to forest lands and conflicts with zoning for timber production. There are no forest lands on the project site or in the Ceres area, and no lands have been zoned for timber production. Therefore, forest land issues will not be discussed further in this EIR.

Impact AG-1: Conversion of Farmland

Adoption of the CTSP can be expected to further the urban development of the CTSP Area, eventually resulting in the irreversible conversion of all its agricultural acreage to urban or other non-agricultural uses. Approximately 60% of the CTSP Area is Prime Farmland and Farmland of Statewide Importance. Provided that all potential development occurs as a result of adopting the CTSP, there would be an irreversible loss of approximately 319.5 acres of Farmland that is suitable for a variety of agricultural uses, and of the natural resource values represented by this farmland. As noted, the Pocket Area does not include any Farmland.

Agricultural resources and the loss of agricultural land is an issue that was addressed in the current Ceres General Plan and its GPEIR, as well as in prior General Plans and CEQA documents. Buildout of the CTSP Area would contribute to the projected conversion of agricultural land to urban uses accounted for in prior CEQA documents. The GPEIR identified several applicable General Plan policies that could reduce conversion of agricultural lands, such as prioritizing infill development, allowing development on, agricultural lands only where contiguous to existing urban development, and ensuring that development and the expansion of infrastructure in urban areas do not encourage the expansion of urban uses into areas designated for Agriculture on the Land Use Diagram. Another policy minimizes the loss of agricultural lands by developing the LAFCo-required Plan for Agricultural Preservation.

Despite these policies and actions, the GPEIR concluded that agricultural land conversion impacts would be significant and unavoidable. A Statement of Overriding Considerations for this issue was adopted by the Ceres City Council in conjunction with adoption of the General Plan. CEQA Guidelines Section 15152(d) states that, where an EIR has been prepared and certified for a plan, any lead agency for a later project pursuant to or consistent with the plan should limit the project EIR or negative declaration to effects which were not examined as significant effects on the environment in the prior EIR, or are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.

The project would not introduce any new impacts related to conversion of Farmland, nor would it increase the severity of Farmland conversion beyond that described in the GPEIR. As part of any application for annexation that includes agricultural lands, which would include the project, the Stanislaus LAFCo requires the preparation of a Plan for Agricultural Preservation that includes an analysis of mitigation measures that could offset impacts to agricultural land and a strategy to minimize the loss of agricultural lands, such as an urban growth boundary or agricultural mitigation policy. This requirement is consistent with Ceres General Plan Policy 4.A.7. Based on this, project impacts are expected to be consistent with the analysis and conclusions in the GPEIR, which were that,

even with adoption of the Plan for Agricultural Preservation, impacts would be significant and unavoidable.

Although these conditions would apply to the project, preparation of a Plan for Agricultural Preservation is required as mitigation below in order to reduce Farmland conversion impacts. This measure comes from the EIR prepared for the Whitmore Ranch Specific Plan that was adopted by the City. Although the mitigation measure has the potential to reduce impacts, project impacts on Farmland conversion are still considered significant and unavoidable.

Level of Significance: Significant

Mitigation Measures:

AG-1: Prior to the approval of improvement plans, building permits, or recordation of a final map, applicants for projects in the Specific Plan Area shall offset the loss of Prime Farmland. This shall be done in coordination with the City, through the acquisition of conservation easements in Stanislaus County at a 1:1 ratio (i.e., one acre on which easements are acquired to one acre of Prime Farmland removed from agricultural use) that provide in-kind or similar resource value protection; payment of in-lieu fees to an established, qualified, mitigation program to fully fund the acquisition and maintenance of agricultural land or easements; or compliance with the City's Plan for Agricultural Preservation, as adopted by Stanislaus LAFCO in accordance with LAFCO Policy 22.

Significance After Mitigation: Significant and unavoidable. Previously addressed in Ceres General Plan EIR.

Impact AG-2: Conflict Between Agricultural and Urban Land Uses

Intensive agricultural operations adjacent or close to urban development can result in use conflicts. These conflicts can result from agricultural practices that generate complaints and result in limits on these practices, such as dust generated during cultivation, smoke during burning, noise during harvesting operations, and drift from pesticide applications. These potential conflicts are predominantly associated with the juxtaposition of agricultural and residential areas. Such juxtapositions could occur during a gradual (project-by-project) development of the CTSP Area, in which development could be placed adjacent to existing agricultural lands.

Stanislaus County has a "Right to Farm" ordinance, which prevents an existing agricultural operation using standard farming practices from being considered a nuisance by later adjoining uses. This protects farmers from attempts by nearby residents to curtail agricultural activities. The City has not enacted a Right to Farm ordinance; however, General Plan Policy 4.A.6 supports the County's Right to Farm ordinance.

Also, Policy 4.A.5 of the City's General Plan seeks to ensure that new development adjacent to agricultural uses is compatible with the continuation of the agricultural uses by minimizing conflicts through appropriate design criteria, such as site layout, landscaping,

and buffers to provide adequate separation between habitable structures and active farmland.

The CTSP Area would be separated from agricultural lands to the south by TID Lower Lateral 2. A 50-foot landscape buffer would be placed between the lateral and adjacent residential lots to the north, while the lateral and its right-of-way would add another 50 feet of buffer area. Thus, the proposed open space and the TID lateral right-of-way provide an effective buffer between CTSP urban uses and continuing agricultural uses to the south, limiting by distance the potential for noise, air quality, and other impacts.

Based on the above discussion, project impacts related to conflicts between agricultural and urban land uses would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AG-3: Conflicts with Agricultural Zoning and Williamson Act Contracts

As discussed in more detail in Chapter 13.0, Land Use, land within the Pocket Area is zoned for non-agricultural land uses. However, substantial areas within the CTSP Area are zoned for agricultural uses; existing zoning was applied by Stanislaus County in years past. City adoption of the CTSP would nullify the existing County zoning upon annexation of the CTSP Area to the City; although development proposed under the CTSP would conflict with the County's existing agricultural zoning, No conflict would exist with CTSP approval.

All the land within the project site is designated for urban development by the adopted Ceres General Plan. It is expected that, as part of the annexation application to the Stanislaus LAFCo, the City would pre-zone the project site consistent with the land use designations of the Ceres General Plan or the CTSP, whichever is applicable. The pre-zoning would eliminate agricultural zoning, as no agricultural uses are planned. Upon annexation of the project site, no conflict with agricultural zoning would remain.

As previously discussed, there are three parcels within the project site, totaling 67.78 acres, that are under Williamson Act contracts. Planned urban development would conflict with the purpose of the Williamson Act contracts. Williamson Act contracts at the time of annexation would remain in place, and the City would succeed to the County's interest in the contracts. Prior to development, contracts on lands subject to Williamson Act contracts would either need to expire by non-renewal or would need to be canceled by the City subject to Government Code requirements, including consistency with immediate cancellation criteria, prior to development. This need would be met during City processing of development applications. Potential inconsistency with Williamson Act contracts is considered a potentially significant environmental effect.

Level of Significance: Potentially significant

Mitigation Measures:

AG-2: Project applicants for urban development of lands with a surviving Williamson Act contract shall apply to the City for approval of immediate cancellation of the contract. The application shall be

processed pursuant to the requirements of Sections 51282 and 51284 of the Government Code, including detailed findings specified in the law, and review and comment by the California Department of Conservation:

1. That the cancellation is consistent with the purposes of this chapter, and

2. That cancellation is in the public interest.

Provided that required findings can be made, immediate cancellation of remaining Williamson Act contracts will reduce potential conflicts to a less than significant level.

Significance After Mitigation: Less than significant

Impact AG-4: Indirect Agricultural Land Conversion

Urban development can result in indirect impacts that exert pressure on agricultural lands to convert to non-agricultural use. Such indirect impacts can include the division of large tracts of continuous agricultural land into smaller, less agriculturally viable tracts; increases in land values and taxes that exert pressure on agricultural landowners to convert to urban uses; and loss of agricultural support infrastructure, such as processing facilities. In addition, urban growth may increasingly compete with agriculture for the use of water resources, and it may conflict with operational use of area roadways (City of Ceres 2018a).

The annexation and subsequent development of the project site could exert pressure on nearby agricultural lands that may lead to their conversion to non-agricultural uses in the long term. Policies in the Ceres General Plan would serve to reduce impacts by limiting the expansion of urban uses into areas designated for agriculture (Policy 4.A.2); requiring compatibility between new development and adjacent agricultural uses (Policy 4.A.5); maintaining connections between agricultural lands and supporting uses (Policy 4.A.9); and supporting the local agricultural economy (Policy 4.A.11). As has been discussed above, the CTSP Area is designated for urban uses. The TID Lower Lateral 2 and setbacks from this facility would provide a buffer between proposed urban development and remaining agricultural uses to the south of the CTSP Area. Urban development outside of the CTSP Area would be discouraged by existing City and County planning requirements. Lands outside the CTSP Area are within the City's Sphere of Influence and new development proposals would be subject to City review and comment. Further urbanization would require annexation of new urban development areas to the City. Agricultural land outside the CTSP Area would remain under the jurisdiction of Stanislaus County. The Stanislaus County Code contains provisions that would reduce the potential for nuisance complaints and the siting of incompatible uses, thereby reducing conversion pressures.

Irrigation water is available within the CTSP Area from existing TID irrigation laterals as well as from individual irrigation wells. Continued urbanization of the CTSP Area would result in conversion of agricultural lands, eventually eliminating the need for agricultural irrigation. The TID irrigation system is, however, located within easements and other rights that will ensure that these facilities are not directly or adversely impacted by new development. As demands change, local demand on the existing laterals for irrigation

water within the CTSP Area can be expected to be reduced. As this occurs, the TID will consider the needs of agriculture within and near the CTSP Area together with exercise and preservation of its water rights, regional water demands and other factors and determine if existing laterals would be kept in service, which would be in TID's sole discretion.

In summary, the CTSP and existing City and County planning requirements are structured, and would be implemented, such that pressures to indirectly convert farmland would be reduced. Nevertheless, the Ceres General Plan EIR stated that existing and proposed policies would not eliminate the indirect impacts that could result in agricultural conversion. The expansion of non-agricultural uses to adjacent lands could exert development pressures that could lead to conversion. Additionally, General Plan buildout would also reduce the connectivity of agricultural lands along the southern portion of the Planning Area, and intensification of development near agricultural operations could lead to traffic conflicts along roadways used by agricultural vehicles. Therefore, the GPEIR considered the impact significant and unavoidable (City of Ceres 2018a). As the proposed project would have similar impacts to those of the General Plan, the CTSP's impacts are likewise considered significant and unavoidable.

Level of Significance: Significant and unavoidable

Mitigation Measures: None feasible

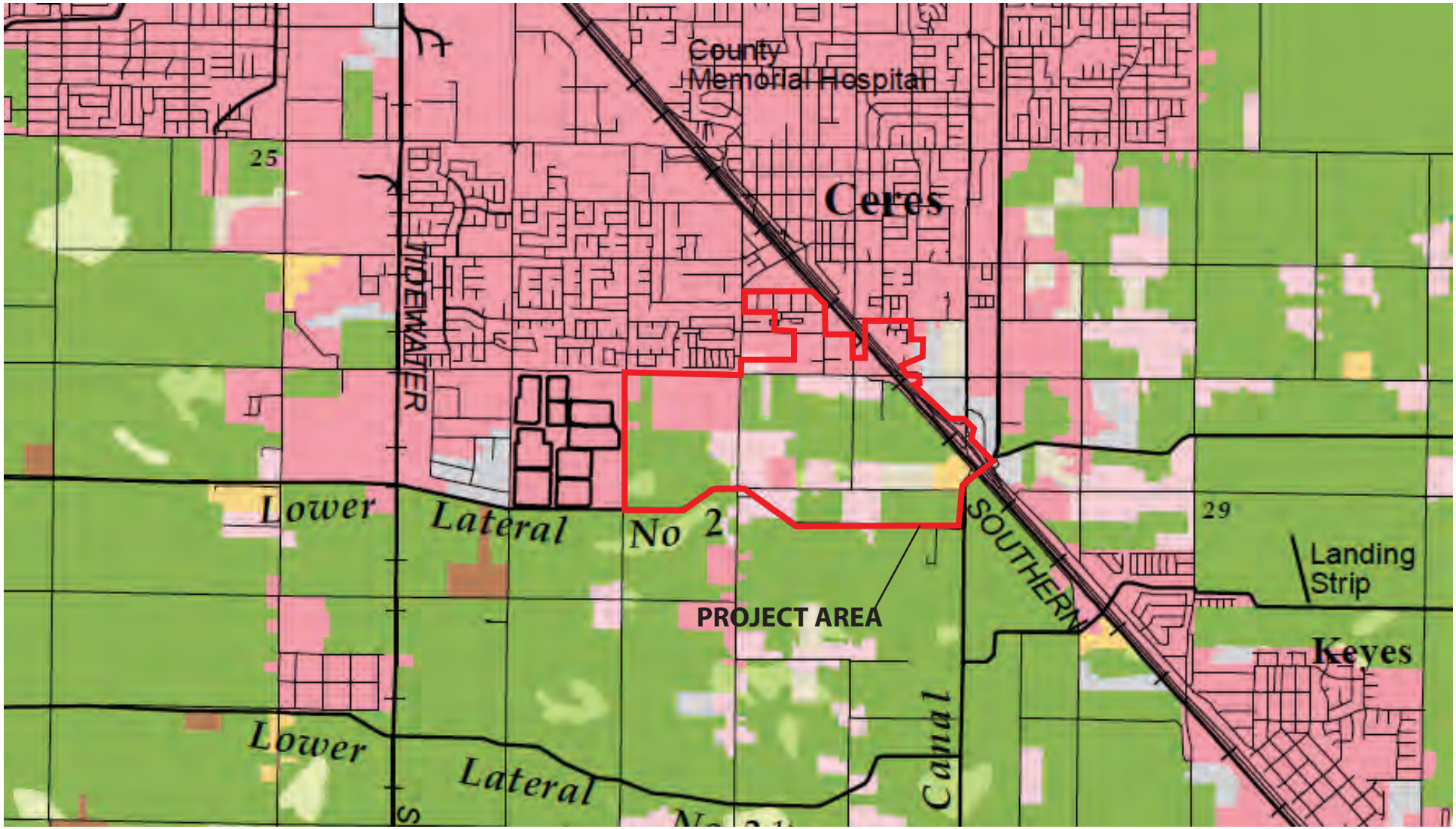
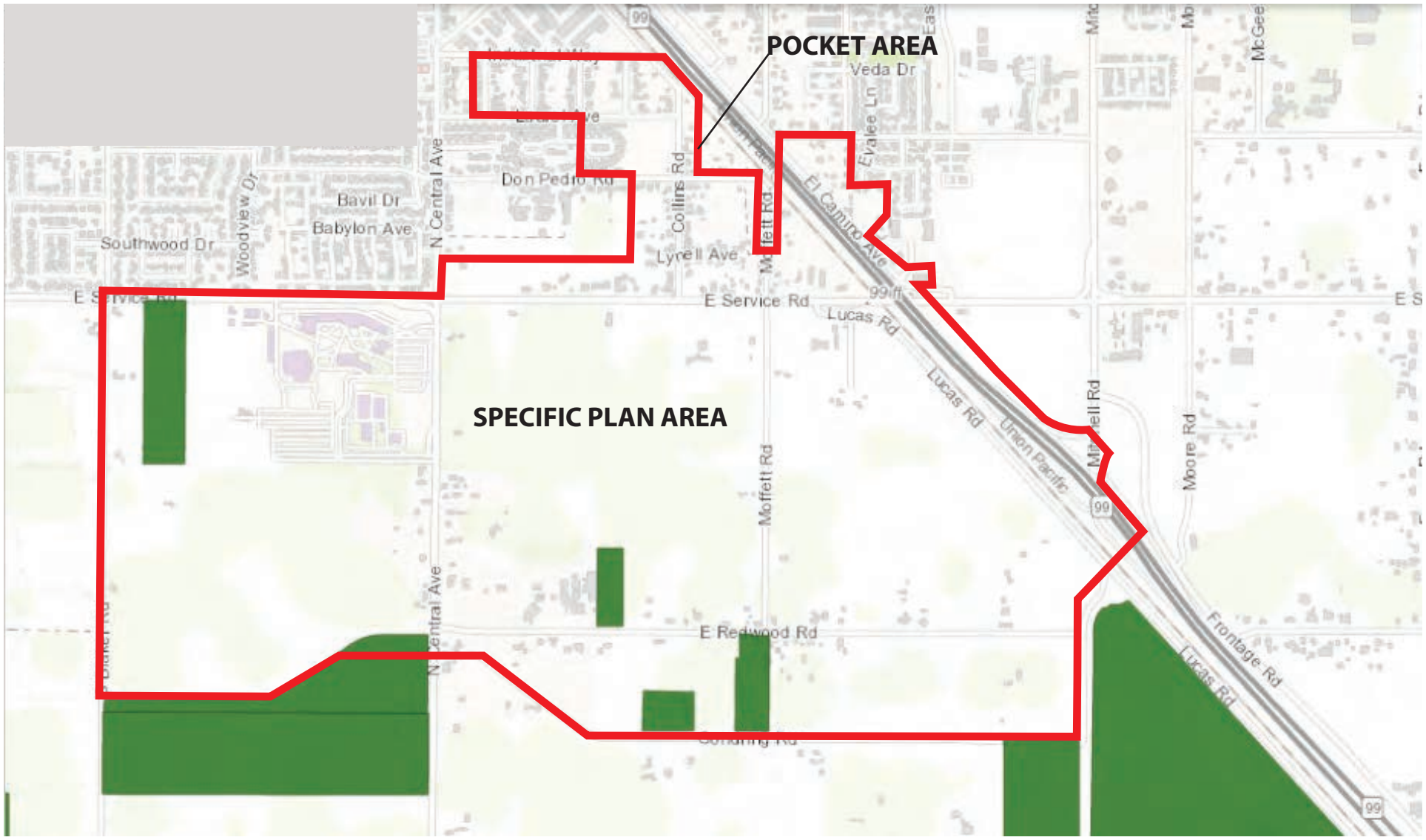


Figure 5-1
IMPORTANT FARMLAND MAP



BaseCamp Environmental

Figure 5-2
WILLIAMSON ACT LANDS

6.0 AIR QUALITY

This chapter analyzes impacts of CTSP adoption and implementation on air quality, specifically as they relate to pollutants regulated by federal and California Clean Air Acts. Greenhouse gases (GHGs), gases that trap heat generated by the sun, are regulated separately from other air pollutants. Chapter 10.0, Greenhouse Gas Emissions, discusses the GHG regulatory framework and the potential environmental impacts of the project as they relate to GHG emissions.

ENVIRONMENTAL SETTING

The project site is located within the northern portion of the San Joaquin Valley Air Basin. The Air Basin is bounded generally by the Coast Ranges to the west and the Sierra Nevada and foothills to the east. The prevailing winds are from the west and north, a result of marine breezes that enter the Air Basin primarily through the Carquinez Strait but also through the Altamont Pass. Surrounding topography results in weak air flow, which makes the Air Basin highly susceptible to pollutant accumulation over time. Summers are hot and dry, and winters are cool. Most of the annual precipitation falls from November through April. The Air Basin enjoys more than 260 days of sunshine annually, but the amount of sunshine is reduced during the winter months. Inversions occur frequently during fall and early winter (SJVAPCD 2015).

On some days, pollutants transported from the Bay Area impact the northern San Joaquin Valley, mixing with local emissions to contribute to State and federal violations at Stockton and Modesto. Under certain conditions, pollutants from the San Joaquin Valley can be transported to Sacramento, and the Delta breeze typically carries polluted air from the valley to the Sierra Nevada and eastern foothills. Air Basin pollution can also significantly affect the Great Basin, Mojave Desert, and central California coast areas (ARB 2001).

Air Pollutants

Pollutants of concern for development projects typically include ozone, particulate matter, and carbon monoxide. Pollutants of concern for industrial and warehouse projects also include what are called “toxic air contaminants” (TACs).

In 2016, approximately 1,017 tons of ROG and 218 tons of NO_x were emitted each day from sources in the San Joaquin Valley Air Basin. Approximately 316 tons of PM_{10}, of which approximately 103 tons were $PM_{2.5}$, were emitted daily. Areawide sources account for most of the ROG emissions; major sources include farming operations, solvent evaporation, cleaning and surface coatings, and waste disposal. Major sources of PM_{10} emissions are also areawide; these include farming operations, road and fugitive windblown dust, and wildfires. Most of the NO_x emissions were caused primarily by motor vehicles. Wildfires were a major source of CO emissions in 2019, along with mobile sources (ARB 2020a).

Ozone

Ozone is not directly produced; rather, it is the result of emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x) reacting in the presence of sunlight. ROG and NO_x are referred to as "ozone precursors." Motor vehicle emissions represent the principal source of ozone precursors. To control ozone pollution, it is necessary to control emissions of ROG and NO_x.

High concentrations of ground-level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. More specifically, ground-level ozone may:

- Make it more difficult to breathe deeply and vigorously.
- Cause shortness of breath, and pain when taking a deep breath.
- Cause coughing and sore or scratchy throat.
- Inflame and damage the airways.
- Aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.
- Increase the frequency of asthma attacks.
- Make the lungs more susceptible to infection.
- Continue to damage the lungs even when the symptoms have disappeared.
- Cause chronic obstructive pulmonary disease.

People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. In addition, people with certain genetic characteristics, and people with reduced intake of certain nutrients, such as vitamins C and E, are at greater risk from ozone exposure (EPA 2018a).

Particulate Matter

Particulate matter includes any solid matter suspended in air. Standards are applied to particulates 10 micrometers in diameter or less (PM_{10}), because these particles, when inhaled, are not filtered out prior to reaching the lungs, where they can aggravate respiratory diseases. Particulates originate from automobile traffic, urban construction, grading, farm tilling, and other activities that expose soil and dust. Dry summer conditions and daily winds can increase particulate concentrations. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including:

- premature death in people with heart or lung disease
- nonfatal heart attacks
- irregular heartbeat

- aggravated asthma
- decreased lung function
- increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.

People with heart or lung diseases, children, and older adults are the most likely to be affected by particle pollution exposure (EPA 2018b).

Separate standards have been established for particulate matter that is 2.5 micrometers or less in size ($PM_{2.5}$), sometimes referred to as "fine particulate matter." The $PM_{2.5}$ standards reflect health concerns related to respiration of smaller particles, which can go deeper into the lungs than larger particulate matter. Fine particulates include sulfates, nitrates, organics, ammonium, and lead compounds originating from activities in urban areas.

Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels. The main source of CO in the San Joaquin Valley is on-road motor vehicles. Other CO sources in the Valley include other mobile sources, miscellaneous processes, and fuel combustion from stationary sources. Because of its ability to readily combine with hemoglobin and displace oxygen in the human body, high levels of CO can affect human health, causing fatigue, headache, confusion, and dizziness, especially for elderly people or individuals with respiratory ailments.

Toxic Air Contaminants (TACs)

TACs are air pollutants that cause or may cause short-term (acute) or long-term (chronic) adverse health effects. These health effects may include cancer, birth defects, neurological and reproductive disorders, or chronic eye, lung, or skin irritation. TACs also may cause adverse environmental and ecological effects. The State's Air Toxics Inventory includes more than 250 substances considered TACs (ARB 2008a). They include such substances as chlorinated hydrocarbons, asbestos, dioxin, toluene, gasoline engine exhaust, particulate matter emitted by diesel engines, and metals such as cadmium, mercury, chromium, and lead compounds, among many others.

Most TACs are emitted by specialized industrial processes and are therefore uncommon. However, they may also be emitted from a variety of common sources such as gasoline stations, automobiles, diesel engines, dry cleaners, and painting operations. Diesel particulate matter (DPM), emitted from diesel engines, is of special concern because it is present at some concentration in all developed areas of the state. DPM is designated by the State of California as a TAC, as it is a potential source of both cancer and non-cancer health effects. The California Air Resources Board (ARB) has identified DPM as a major contributor to ambient cancer risk levels; while it accounts for only about 4% of air toxic emissions in the state, it is associated with more than 70% of the 2000 cancer risk associated with outdoor ambient levels of all TACs. General risks can be elevated with proximity to the source, which for DPM includes freeways, ports and railyards, and distribution centers (ARB 2005). California has adopted and is implementing a number of

aggressive toxic air contaminant control programs; these are discussed in more detail in the following Regulatory Framework section.

County Emissions Inventory

Table 6-1 shows the most recent information available on criteria pollutant emissions generated in Stanislaus County. These include emissions from stationary sources such as industrial processes and cleaning and surface coating activities, areawide sources such as solvent evaporation, mobile sources, and natural sources.

TABLE 6-1
AIR POLLUTANT EMISSIONS IN STANISLAUS COUNTY, 2017

	Emissions (tons/day)					
Emission Source	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Stationary Sources	9.39	2.79	1.14	0.81	1.47	0.76
Areawide Sources	19.25	1.11	8.17	0.04	25.64	4.94
Mobile Sources	8.62	18.40	60.39	0.07	1.43	0.95
Natural Sources	29.42	0.80	0.62	0.01	0.06	0.05
TOTAL	**66.67**	**23.10**	**70.32**	**0.92**	**28.60**	**6.70**

Totals may be affected by rounding.
Source: ARB 2017.

REGULATORY FRAMEWORK

Federal Clean Air Act

Federal air quality regulation stems from the Clean Air Act, as amended. The Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to establish air quality standards for criteria pollutants, known as the National Ambient Air Quality Standards, as shown in Table 6-2. There are six criteria pollutants: ozone, carbon monoxide, particulate matter, nitrogen dioxide, lead, and sulfur dioxide. Two types of National Ambient Air Quality Standards are established:

- Primary standards to protect human health, based on EPA medical research and specific concentration thresholds derived therefrom; and
- Secondary standards to protect the public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage.

TABLE 6-2
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Air Pollutant	Averaging Time	California Standards	Primary National Standards[1]	Secondary National Standards[2]
Ozone	1 Hour	0.090 ppm	--	--
	8 Hour	0.070 ppm	0.070 ppm	0.070 ppm
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	150 µg/m^3
	Annual Mean	20 µg/m^3	--	--
$PM_{2.5}$	24 Hour	--	35 µg/m^3	35 µg/m^3
	Annual Mean	12 µg/m^3	12 µg/m^3	15 µg/m^3
Carbon Monoxide	1 Hour	20 ppm	35 ppm	--
	8 Hour	9 ppm	9 ppm	--
Nitrogen Dioxide	1 Hour	0.18 ppm	100 ppb	--
	Annual Mean	0.030 ppm	0.053 ppm	0.053 ppm
Sulfur Dioxide	1 Hour	0.25 ppm	75 ppb	--
	3 Hour	--	--	0.5 ppm
	24 Hour	0.04 ppm	0.14 ppm*	--
	Annual Mean	--	0.030 ppm*	--
Lead	30 Day Avg.	1.5 µg/m^3	--	--
	Calendar Qtr.	--	1.5 µg/m^3	1.5 µg/m^3
	3 Month Average	--	0.15 µg/m^3	0.15 µg/m^3
Sulfates	24 Hour	25 µg/m^3	N/A	N/A
Hydrogen Sulfide	1 Hour	0.03 ppm	N/A	N/A
Vinyl Chloride	24 Hour	0.01 ppm	N/A	N/A
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer.[3]	N/A	N/A

Notes: ppm – parts per million; ppb – parts per billion; µg/m^3– micrograms per cubic meter; N/A – not applicable
[1] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[3] The "extinction coefficient" is a measure of the diminishing of light through scattering and absorption.
* For certain areas.
Source: ARB 2016.

Regions of the country are classified with respect to their attainment of the National Ambient Air Quality Standards. Areas where these standards are exceeded are considered "nonattainment" areas and are subject to more intensive air quality management and more stringent regulation. Table 6-3 shows the attainment status of the Air Basin for federal standards. The Air Basin is designated Nonattainment/Extreme for ozone and Nonattainment for $PM_{2.5}$. The Air Basin meets all other federal standards.

TABLE 6-3
SAN JOAQUIN VALLEY AIR BASIN ATTAINMENT STATUS

	Designation/Classification	
Pollutant	**Federal Primary Standards**	**State Standards**
Ozone - One hour	No Federal Standard[a]	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme[b]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

[a] Effective June 15, 2005, the EPA revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

[b] Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

[c] On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

[d] The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Source: SJVAPCD 2023.

The Clean Air Act requires states to submit a State Implementation Plan for nonattainment areas. The State Implementation Plan in California is prepared by the ARB and is reviewed and approved by the EPA, subject to a determination of adequacy in demonstrating how the federal standards will be achieved. The local air pollution or air quality management districts are responsible for preparation of Air Quality Attainment Plans for their jurisdictions. These Air Quality Attainment Plans become part of the State Implementation Plan.

California Clean Air Act

The California Clean Air Act provides the planning framework for California air quality. It establishes the State's own set of ambient air quality standards for criteria pollutants, known as the California Ambient Air Quality Standards (see Table 6-2). The State standards cover other pollutants besides the six criteria pollutants designated by the federal Clean Air Act; additionally, the State standards are generally more stringent than the corresponding federal standards.

Table 6-3 shows the attainment status of the Air Basin for California Ambient Air Quality Standards. For ozone, the Air Basin is designated Nonattainment/Severe by the State. The State also classifies the Air Basin as Nonattainment for PM_{10} and $PM_{2.5}$. The Air Basin is in attainment of, or unclassified for, all other State standards. The California Clean Air Act requires areas that are designated nonattainment to achieve a 5% annual reduction in emissions until the standards are met. Responsibility for implementation of the California Clean Air Act requirements rests with the ARB.

ARB's existing mobile source control program has achieved substantial reductions in air pollution in the San Joaquin Valley. Since 2000, NO_x and $PM_{2.5}$ emissions from mobile sources have been reduced by over 60 percent. Continued implementation of ARB's current mobile source programs is anticipated to reduce NOx emissions from 2013 levels by 55 percent and PM2.5 emissions by nearly 40 percent by 2025 (SJVAPCD 2018).

California Toxic Air Contaminant Controls

The State regulates TACs primarily through the Tanner Air Toxics Act and the Air Toxics Hot Spots Information and Assessment Act of 1987. Under these programs, the State is responsible for an inventory of TACs, for analysis of exposure and risk, and for planning to reduce risk. Most recently, in 2017, Assembly Bill 617 was signed into law establishing the Community Air Protection Program. The program's focus is to reduce exposure in communities experiencing high cumulative exposure to air pollution including air toxic chemicals. Many of these occur within disadvantaged communities.

The agencies primarily responsible for administering these programs are ARB and the Office of Environmental Health Hazard Assessment. Like other federal and state air quality requirements, the various elements of the State air toxics program are implemented by the local air districts.

DPM is regulated by the ARB under various programs and regulations designed to reduce emissions. These include the Advanced Clean Trucks regulation, which requires manufacturers to sell an increasing percentage of zero-emission trucks by 2035.

California On-Road Heavy-Duty Vehicle Program

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures. The ARB has also adopted programs and regulations to reduce emissions from in-use heavy-duty vehicles, including the Advanced Clean Truck Regulation described below.

Advanced Clean Truck Regulation

On June 25, 2020, the ARB adopted the Advanced Clean Truck Regulation. The goal of this proposed strategy is to achieve NO_x and GHG emission reductions through advanced clean technology, and to increase the penetration of the first wave of zero-emission heavy-duty technology into applications that are well suited to its use.

The regulation has two components. First, manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines would be required to sell zero-emission trucks as an increasing percentage of their annual California sales. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b-3 truck sales, 75% of Class 4-8 straight truck sales, and 40% of truck tractor sales. Second, large employers, including retailers, manufacturers, brokers, and others would be required to report information about shipments and shuttle services.

The ARB anticipates that by 2040, the Advanced Clean Truck Regulation would reduce NO_x emissions by approximately 16% from baseline, PM2.5 emissions by approximately 14.5% from baseline, and GHG emissions by approximately 7% below baseline. "Baseline" is the anticipated emissions that would occur with implementation of other emission reduction regulations adopted by the State (ARB 2020b). The proposed regional commercial center is the land use most likely to generate traffic by trucks subject to this regulation.

San Joaquin Valley Air Pollution Control District

Projects within the Air Basin are subject to the regulatory authority of the San Joaquin Valley Air Pollution Control District (SJVAPCD), which implements and enforces air quality regulations in eight counties, from San Joaquin County in the north to western Kern County in the south. The SJVAPCD's responsibilities include air quality standard attainment planning, regulation of emissions from non-transportation sources, and mitigation of emissions from on-road sources.

Air Quality Plans

Air quality plans adopted by the SJVAPCD to meet Clean Air Act standards, including those designed to protect human health, are presented in Table 6-4 below. All the plans include federal, State, and local measures that would be implemented through rule making or program funding to reduce air pollutant emissions in the Air Basin.

TABLE 6-4
SUMMARY OF SJVAPCD AIR QUALITY PLANS

Pollutant	Plan	Objective
Ozone	2022 Plan for the 2015 8-Hour Ozone Standard	Attainment of the federal 2015 standard for ozone (70 parts per billion).
	2023 Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard	Maintenance of attainment of the federal 1-hour ozone standard.
Particulate Matter	2007 PM_{10} Maintenance Plan	Continued attainment of federal PM_{10} standard met by the Air Basin.
	2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards	Attainment of federal health-based 1997, 2006, and 2012 standards for fine particulate matter.

The San Joaquin Valley will not be able to attain stringent health-based federal air quality standards without significant reductions in emissions from heavy heavy-duty trucks, the single largest source of NO_x emissions in the San Joaquin Valley. The SJVAPCD's 2018 $PM_{2.5}$ Plan will obtain significant new reductions in emissions from heavy-duty trucks, including emissions reductions by 2023, through the implementation of the ARB's Statewide Truck and Bus Regulation, which requires truck fleets operating in California to meet the 2010 0.2 grams per brake horsepower-hour (g/bhp-hr) NO_x standard by 2023. Additionally, to meet the federal air quality standards by the 2020 to 2024 attainment deadlines, the 2018 $PM_{2.5}$ Plan relies on a significant and immediate transition of heavy-duty truck fleets to zero or near-zero emissions technologies, including the near-zero truck standard of 0.02 g/bhp-hr NO_x established by the ARB, primarily through the deployment of incentive-based measures. Under this plan, the San Joaquin Valley will attain all federal ambient air quality standards for $PM_{2.5}$ by the end of 2025 (SJVAPCD 2018).

SJVAPCD Rules and Regulations

SJVAPCD has adopted several regulations that are applicable to the project. These regulations are summarized below.

Regulation VIII (Fugitive Dust PM_{10} Prohibitions)

Rules 8011-8081 which are, together, Regulation VIII, are designed to reduce PM_{10} emissions, predominantly dust/dirt, generated by human activity, including construction and demolition, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc.

Rule 4101 (Visible Emissions)

Rule 4101 prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants.

Rule 4601 (Architectural Coatings)

Rule 4601 limits emissions of volatile organic compounds from architectural coatings by specifying storage, clean up and labeling requirements. Under this rule, no person within the SJVAPCD shall apply any flat architectural coating with a volatile organic compound (VOC) content that exceeds 50 grams per liter. VOCs are carbon compounds that can emit ROG, an ozone precursor.

Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations)

Rule 4641 limits emissions of volatile organic compounds by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. A person shall not manufacture for sale nor use rapid cure cutback asphalt, medium cure cutback asphalt, Slow cure asphalt containing more than 0.5 percent of organic compounds which evaporate at 500°F or lower, or emulsified asphalt containing organic compounds in excess of three percent by volume which evaporate at 500°F or lower.

Rule 9410 (Employer Based Trip Reduction)

The purpose of Rule 9410 is to reduce vehicle miles traveled (VMT) by private vehicles used by employees to commute to and from their worksites, which in turn would reduce emissions of NO_x, volatile organic compounds (a component of ozone), and particulate matter. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate participation in the development of an ETRIP by providing information to its employees explaining the requirements and applicability of this rule. A SJVAPCD staff report indicates that a comprehensive trip program similar to ETRIP typically reduces peak-hour automobile trips by 5-20%, and more if supported by regional transportation demand management strategies.

Under Rule 9410, employers are required to collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined by using either the mandatory commute verification method or a representative survey method. An ETRIP for each worksite must be submitted to the SJVAPCD, and the ETRIP must be updated annually. Annual reporting includes the results of the commute verification for the previous calendar year, along with the measures implemented and, if necessary, any updates to the ETRIP. As with other air district rules, penalties shall be imposed for noncompliance with Rule 9410 in accordance with California Health and Safety Code Sections 42402-42403.

Rule 9510 (Indirect Source Review)

Rule 9510, also known as the Indirect Source Rule, is intended to reduce or mitigate emissions of NO_x and PM_{10} from new development in the SJVAPCD including construction and operational emissions. This rule requires specific percentage reductions in estimated on-site construction and operation emissions, and/or payment of mitigation fees for required reductions that cannot be met on the project site. The mitigation fees are used to fund off-site emissions reduction projects. Construction emissions of NO_x and PM_{10} exhaust must be reduced by 20% and 45%, respectively. Operational emissions of NO_x and PM_{10} must be reduced by 33.3% and 50%, respectively. Rule 9510 applies to light industrial development projects of 25,000 square feet and larger, so the project would be subject to this rule.

Health Risk Assessment

The SJVAPCD recommends that projects that could emit substantial amounts of carcinogens conduct a Health Risk Assessment if there are nearby sensitive receptors. To determine if a Health Risk Assessment would be necessary, a "facility prioritization" is conducted on all sources of potential toxic emissions, based on their estimated emissions. If a project has a cancer facility prioritization score of 10 or more, or a chronic or acute score of 1 or greater, then a Health Risk Assessment is required to further evaluate the potential health effects of a project, both carcinogenic and non-carcinogenic. The Health Risk Assessment is conducted on an individual project basis, and not at a plan level.

Ambient Air Quality Analysis

An Ambient Air Quality Analysis uses air dispersion modeling to determine if emissions from a project will cause or contribute to a violation of the ambient air quality standards. The SJVAPCD recommends that an Ambient Air Quality Analysis be performed for a project if emissions exceed 100 pounds per day of any pollutant. This analysis is conducted on an individual project basis, and not on a plan level.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The air quality impact analysis is based on the methodology defined in the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). The analysis includes consideration of both project construction and long-term operation effects on criteria pollutants and air toxics.

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of an applicable air quality plan,
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state

ambient air quality standard [see Chapter 18.0, Cumulative Impacts, for an analysis of potential cumulative air quality impacts],

- Expose sensitive receptors to substantial pollutant concentrations, or
- Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.

CEQA Guidelines Appendix G states that, where available, significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make significance determinations. In 2015, the SJVAPCD adopted a revised Guide for Assessing and Mitigating Air Quality Impacts, which defines methodology and thresholds of significance for the assessment of air quality impacts for projects within SJVAPCD's jurisdiction, along with mitigation measures for identified impacts. Tables 6-5 and 6-6 shows the significance thresholds established by SJVAPCD for project emissions from construction and operations, respectively, as set forth in the GAMAQI.

The SJVAPCD's significance thresholds for criteria pollutants are applied to evaluate regional impacts of project-specific emissions of air pollutants. The SJVAPCD significance thresholds are based on offset thresholds established under SJVAPCD Rule 2201 - New Source Review. Rule 2201 is a major component of the SJVAPCD's attainment strategy as it relates to growth and applies to new and modified stationary sources of air pollution. Under Rule 2201, all new permitted sources with emission increases exceeding two pounds per day, for any criteria pollutant is required to implement Best Available Control Technology. Furthermore, all permitted sources emitting more than the Rule 2201 thresholds for any criteria pollutant must offset all emission increases that exceed threshold levels. The SJVAPCD's attainment plans, developed to meet air quality standards designed in part to protect human health, demonstrate that project-specific emissions below the offset thresholds would have a less-than-significant impact on air quality (SJVAPCD 2015).

The project's construction and operational emissions were calculated using the California Emissions Estimator Model (CalEEMod) computer program, a modeling program recommended by SJVAPCD. The CalEEMod results are shown in Appendix C of this report. Construction emissions are the maximum estimated for a calendar year during the construction period that extends from 2023 to 2025. An assumed scenario for construction is provided in the discussion of Impact AIR-1 below. Operational emissions are estimates of ongoing annual emissions from the proposed development; the assumed operational scenario is full buildout of the CTSP

Although the SJVAPCD is in regional attainment for carbon monoxide (CO), CO emissions may still exceed standards where a large volume of traffic is highly congested. The project's impact on CO emissions is considered significant if the project would:

- Degrade operation of an intersection to Level of Service (LOS) E or F, or substantially worsen an intersection already operating at LOS F, and

- The *Transportation Project-Level Carbon Monoxide Protocol* or CALINE4 modeling indicates that CO standards would be exceeded adjacent to an impacted intersection. [See Chapter 16.0, Transportation, for a description of LOS.]

Based on the GAMAQI, air toxics exposure will be considered significant if they would result in:

- A lifetime cancer risk for sensitive land uses, such as residential, that exceeds 10 in one million.
- Ground-level concentrations of non-carcinogenic toxic air contaminants that would result in a Hazard Index greater than one (1).

Impact AIR-1: Emissions from Project Construction

Adoption of the CTSP and subsequent development in the CTSP Area would result in new construction activity. Construction would generate particulate matter and ozone precursor emissions from heavy equipment operation and fugitive dust from earth moving activities. As noted in GAMAQI, construction activities such as grading, excavation and travel on unpaved surfaces can generate substantial amounts of dust and can lead to elevated concentrations of PM_{10}. The Pocket Area, because of its mostly developed state, is not expected to contribute significantly to construction emissions. Therefore, the focus of this analysis is construction emissions that would be generated in the CTSP Area.

The CTSP does not include a formal phasing or construction schedule, providing no basis for estimation of construction air quality impacts in any given year; the 2,392 residential units and 1.17 million square feet of commercial development allowed by the CTSP could occur over the potential buildout period. To quantify potential construction emissions, a "maximum construction year" scenario was analyzed. This scenario assumes conservatively the construction of about 20% of the total allowable development under the CTSP – approximately 478 residential units and 233,917 square feet of commercial development.

Construction impacts of this scenario were quantified using the CalEEMod modeling program, with default modeling assumptions and no assumed mitigation. Table 6-5 displays the results of the model run; detailed model results are shown in Appendix D. The CalEEMod results indicate that maximum year construction would result in pollutant emissions that are well below the GAMAQI significance thresholds.

All construction activities are subject to the requirements of SJVAPCD Regulation VIII. The rules embodied in Regulation VIII require dust control measures that limit visible dust emissions to 20% opacity or less. Dust control measures must include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers and restricting access to inactive sites. For larger projects, the applicant must submit a Dust Control Plan for the review and approval of the Air Pollution Control Officer and then implement the plan in accordance with all relevant requirements.

TABLE 6-5
AIR EMISSIONS FROM CONSTRUCTION, MAXIMUM DEVELOPMENT YEAR

	Pollutants					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Significance Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Estimated Emissions	3.64	1.21	2.01	0.01	0.31	0.12
Significant Impact?	*No*	*No*	*No*	*No*	*No*	*No*
ISR Mitigated	-	0.97	-	-	0.30	-

Note: All figures are in tons per year.
Sources: CalEEMod v. 2022.4.0, SJVAPCD 2015.

Along with Regulation VIII, project construction would be required to comply with other applicable SJVAPCD rules - Rule 4101 (Visible Emissions) and Rule 4601 (Architectural Coatings). In addition, Rule 9510 applies to construction activities, especially on large projects; ongoing enforcement of this rule would reduce NO_x and PM_{10} exhaust emissions by 20% and 45%, respectively. These reductions are typically achieved by substitution of less-polluting equipment and construction site practices that the contractor commits to. Compliance with Rule 9510 requirements would reduce potential NOx and PM_{10} construction emissions during the maximum construction year to 1.83 and 0.81 tons per year, respectively, as indicated in Table 6-4. The City typically requires projects to comply with these existing SJVAPCD rules and regulations. It is recommended that the CTSP be amended, or a condition of approval added to the project, that would require project conformance with existing SJVAPCD rules and regulations including Regulation VIII and Rule 9510 as discussed above.

In summary, project construction activities within the CTSP Area are not anticipated to result in emissions that exceed SJVAPCD significance thresholds. Project impacts would be less than significant assuming compliance with the applicable SJVAPCD rules and regulations.

Level of Significance: Less than significant

Mitigation Measures: None required due to requirements of existing rules and regulations

Recommendation: The CTSP and/or conditions of approval should specifically require project conformance with existing SJVAPCD rules and regulations, including Regulation VIII and Rule 9510, as shown in the following measures:

AIR-1: Prior to the issuance of a Grading Permit for each phase of the Project, the Project Proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.

AIR-2: During all construction activities, the Project Proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.

AIR-3: During all construction activities, the Project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).

a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.

b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.

c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.

d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.

e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.

f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.

g. Limit traffic speeds on unpaved roads to 5 mph.

h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

AIR-4: Asphalt paving shall be applied in accordance with APCD Rule 4641, the purpose of which is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations. The applicant shall coordinate with the APCD, prior to paving activities and provide the City of Ceres with evidence of consultation with the APCD, including confirmation of compliance with APCD Rule 4641.

Impact AIR-2: Criteria Pollutant Emissions from Project Operations

As the CTSP Area develops over time, the occupancy and use of new land uses would result in new emissions of criteria air pollutants. Emissions from increased traffic, known as "mobile source" emissions, generated by development in the CTSP Area would be the major source of "operational" emissions. Other emissions would result from use of natural gas and other fuels by new land uses, primarily space and water heating; these are referred to as "area source" emissions. Air pollutants of concern are primarily ROG, NOx and PM. Operational emissions also include relatively small amounts of carbon monoxide, sulfur dioxide and diesel particulate matter. The Pocket Area, because of its mostly developed state, is not expected to contribute significantly to operational emissions.

The CalEEMod model was used to describe the operational air quality impacts of the CTSP, excluding the two existing schools in the CTSP Area. The model generates pollutant emission estimates using project land use data from which vehicle fleet, trip length, and trip-start information is generated. Vehicle trip generation used data from the Transportation Impact Analysis prepared for the CTSP (see Chapter 16.0, Transportation). Although some inputs were adjusted within the model, the potential impacts of the CTSP were generated using mostly default model assumptions. CalEEMod model was run for full buildout of the CTSP, which was assumed to occur in the year 2050 as that year is the last possible analysis year for CalEEMod. CalEEMod was run without mitigation and then again with consideration of following mitigation measures included in the CTSP or City of Ceres development review, including:

- Improved pedestrian and bicycle network
- Energy efficiency above Title 24
- Water conservation 20% indoor and 20% outdoor
- Solid waste recycling rate of 75% for commercial and multifamily residential

The estimated annual operational emissions associated with the CTSP at buildout are shown in Table 6-6, along with a comparison to total emissions by development under the Ceres General Plan as provided in the GPEIR. CTSP emissions of ROG, NO_x, CO, and PM_{10} would substantially exceed the SJVAPCD significance thresholds, and CalEEMod mitigations would not reduce these emissions below their thresholds. Participation in the ISR program would produce 33% and 50% reductions in NO_x and PM_{10} emissions, but neither pollutant would be reduced to below the significance threshold, although both only

slightly exceed their respective thresholds. Air pollutant emissions above their established thresholds would result in potentially significant air quality impacts.

TABLE 6-6
ESTIMATED ANNUAL OPERATIONAL EMISSIONS
IN CTSP AREA AT BUILDOUT

	Pollutants					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Significance Thresholds	**10**	**10**	**100**	**27**	**15**	**15**
Estimated Emissions (unmit.)	41.2	17.5	142	0.37	34.0	11.4
Significant Impact?	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*No*
Estimated Emissions (mit.)	40.2	16.5	136	0.35	32.0	10.9
ISR Mitigated	-	11.0	-	-	16.0	-
Significant Impact?	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*No*
GPEIR Emissions	188	769	328	1.9	75	23

Note: All figures are in tons per year.
Sources: CalEEMod v. 2022.4.0, SJVAPCD 2015, City of Ceres 2018a.

Future development projects are required to apply for an ISR permit if they exceed the ISR permitting thresholds - 50 residential units or 2,000 square feet of commercial space. The ISR program requires that unmitigated operational NOx and PM emissions be reduced by 33.3% and 50%, respectively. Required emission reductions can be accomplished by incorporation of on-site mitigation measures into the project, which are credited to the reductions required by the ISR. Any emission reductions that are not accomplished through on-site mitigation require payment of a per-ton fee; ISR fees are used to achieve off-site emission reductions by funding clean air projects. The current fees are $9,350 per ton of NOx and $9,011 for PM; for operational emissions, the fee is assessed for ten years of emissions.

Table 6-6 shows the targeted ISR percentage reduction for the CTSP Area as a whole and the resulting emission amounts. To fulfill the requirements of the ISR, a project applicant will need to demonstrate that emissions will be further reduced or the required fee will need to be paid. The NO_x and PM_{10} emission reductions sought by the ISR program would be achieved in either event, directly through on-site mitigation or indirectly through off-site mitigation purchased by the SJVAPCD with fee payment funds collected from project developers. As noted with respect to construction emissions, the City typically requires projects to comply with SJVAPCD rules and regulations; these requirements are also recommended below for inclusion in the CTSP or as conditions to CTSP approval.

The CTSP would retain and reinforce General Plan objectives for, and policies supporting development of, new job and shopping opportunities, thereby potentially reducing existing commute and shopping travel outside the City. The CTSP also proposes an extensive pedestrian and bicycle system that would internally connect neighborhoods, retail centers, and existing schools. CTSP streets would include pedestrian-friendly details such as street-side and median landscaping, sidewalks, and shade tree plantings. Green building, in particular energy and water conservation, would be incorporated in new residential and commercial development, in accordance with the adopted California Green Building Standards Code (CALGreen). These potential additional mitigating effects are discussed further in Chapter 10.0, Greenhouse Gas Emissions; Chapter 17.0, Transportation; and Chapter 19.0, Cumulative Impacts.

The potential air quality effects of urban development in the Ceres Planning Area were considered in the GPEIR. Potential emissions were identified as significant. Despite the implementation of General Plan policies, SJVAPCD regulations, Title 24 energy efficiency standards, and other measures, the air quality impacts of General Plan development were identified as significant and unavoidable.

Planned development within the CTSP Area would contribute to the air quality impact identified in the GPEIR, but it is not anticipated that it would introduce new or more severe impacts than those analyzed in the GPEIR. Features of proposed CTSP development, such as more intensive residential development, may reduce air quality impacts in the CTSP Area from those anticipated in the GPEIR. Also, future development would be required to comply with energy efficiency standards more stringent than those in effect at the time the GPEIR was prepared. State regulations requiring vehicles that would emit fewer pollutants, such as electric vehicles, would further reduce impacts of CTSP development. Development in the CTSP Area will also be subject to General Plan policies that intend to reduce air emissions.

Individual future development projects within the CTSP or Pocket Areas, would be subject to CEQA analysis, including an analysis of their air quality impacts. Project construction and operational emissions are estimated and compared with the SJVAPCD significance thresholds. As noted, project emissions that do not exceed these thresholds are considered consistent with SJVAPCD air quality attainment plans and therefore would not have a significant impact. For emissions that do exceed SJVAPCD significance thresholds, mitigation measures specific to these projects would be required to reduce these emissions below these thresholds. Also, applicable SJVAPCD rules and regulations would apply to the projects, further reducing their impacts. It is expected that individual projects within the project site would not exceed SJVAPCD significance thresholds, either by themselves or with applicable mitigation.

In summary, the project would not contribute new or more severe air quality impacts than those analyzed in the GPEIR, and it may reduce some of those predicted impacts. In addition, individual projects would be subject to CEQA review and potential additional mitigation requirements, if necessary. Therefore, project impacts related to operational emissions are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AIR-3: Exposure of Sensitive Receptors to Criteria Pollutants

The SJVAPCD is in attainment of carbon monoxide standards on a regional basis, but the potential exists for localized exceedances in areas of high traffic congestion. Potentially significant CO effects could result from the CTSP if it would result in high traffic congestion. As noted, the screening threshold for potentially significant CO impacts is whether the project would cause the predicted level of service at intersections to degrade to LOS E or F, or substantially worsen traffic at intersections already operating at LOS E or F. If such intersections are near sensitive receptors, the project would result in a significant air quality effect.

This analysis of potential CO effects is based on the Transportation Impact Analysis for the CTSP, which is discussed in Chapter 16.0, Transportation. The analysis indicates that LOS on local street segments or intersection would not degrade to unacceptable levels of LOS. Therefore, the project would not likely result in areas of high congestion at intersections, and thus no elevated CO concentrations. Impacts related to exposure of sensitive receptors to criteria pollutants would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact AIR-4: Exposure of Sensitive Receptors to Toxic Air Contaminants

The proposed project would involve the development of retail commercial, institutional, and residential uses. The proposed CTSP does not specifically authorize any manufacturing, fuel handling or other land use that would generate substantial air toxic emissions. It is conceivable but unlikely that future proposed land uses could involve toxic air emissions; such potential effects would be identified and addressed during the City's land use permit review.

SR 99 has been identified as a source of diesel particulate matter, mainly from emissions by truck traffic. Diesel particulate matter is classified as a TAC, and prolonged exposure of sensitive receptors to these emissions could pose a health risk. However, the nearest sensitive receptor to the project site that would be placed by the project – proposed high-density residential development – would be approximately 900 feet from the edge of SR 99. The ARB's *Air Quality and Land Use Handbook* recommends avoiding the siting of new sensitive land uses within 500 feet of a freeway (ARB 2005). Therefore, the potential exposure of the proposed high-density land uses would be minimal, and other residential development would be set back further away from SR 99.

Another source of diesel particulate matter emissions would be construction equipment. Such emissions would be temporary and would cease when construction work is completed. Adverse impacts associated with diesel particulate matter emissions are generated by long-term exposure, which would not occur with this source. Therefore,

project impacts related to exposure of sensitive receptors to toxic air contaminants would be less than significant.

Most of the proposed land uses, such as residential development and parks, would not generate TACs in any amounts that could present a risk to human health. Most of the likely Regional Commercial land uses would likewise not generate significant TAC emissions, other than possibly from truck traffic. Emissions from this source would come under more stringent regulations such as the Advanced Clean Truck Regulation, so the amount of TAC emissions from this source would be reduced.

The Regional Commercial designation in the CTSP allows for service stations with a Conditional Use Permit. Service stations, through the delivery and dispensing of fuels, can generate TACs such as benzene, toluene, and xylene. The ARB and the California Air Pollution Control Officers Association have developed a Gasoline Service Station Industrywide Risk Assessment Look-up Tool to screen service stations for their cancer and other risks. The tool takes the estimated fuel throughput (i.e., amount of fuel dispensed at a given time) of the proposed service station and estimates the potential increase in risk from emissions associated with fuel dispensing based on distances to the nearest sensitive receptors. The health risk scores are compared with the appropriate thresholds established by SJVAPCD. Mitigation described below would require the use of this Look-Up Tool to analyze potential TAC impacts of a service station as part of the CEQA review that would be conducted during the Conditional Use Permit review process.

In summary, development in the CTSP Area and the Pocket Area is unlikely to generate or be exposed to TACs at a level that can present a risk to human health. Projects that could generate potentially significant amounts of TACs would be subject to City review, including an analysis of potential air toxics impacts. Therefore, project impacts related to TACs are considered less than significant with application of the following mitigation measure for proposed service stations.

Level of Significance: Potentially significant

Mitigation Measures:

AIR-5: For service station projects, as part of the Conditional Use Permit evaluation process, the SJVAPCD Gasoline Service Station Industrywide Risk Assessment Look-up Tool shall be used to screen service stations for their cancer and non-cancer chronic and acute risks. If the results of the Look-up Tool indicate that the proposed service station would not exceed the significance thresholds for cancer and non-cancer chronic and acute risks, as set by the San Joaquin Valley Air Pollution Control District (SJVAPCD), then no further action need be taken. However, if the service station project exceeds one or more of these thresholds, particularly the cancer risk threshold, then the project shall be required to prepare a formal Health Risk Assessment. The Health Risk Assessment shall quantify the health risks associated with the project and identify project or design changes sufficient to reduce these risks to levels below their respective significance thresholds.

These recommendations shall be incorporated as conditions of approval for the Conditional Use Permit and shall be implemented upon permit approval.

Impacts After Mitigation: Less than significant

Impact AIR-5: Odor Emissions

While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often resulting in citizen complaints to local governments and the SJVAPCD. Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (City of Ceres 2018a). Ceres General Plan Policy 4.G.8 does not permit new residential development within a half-mile radius of emitters of noxious odors. Development under the Ceres General Plan, which would include the CTSP if adopted, would be required to meet all local, State, and federal regulations related to odor control, including permit requirements. The CTSP would not allow or promote development of odor sources. Planned new development consists of retail commercial, institutional and residential development, which are not typically sources of objectionable odors. Some new retail commercial development may consist of restaurants, which may result in the generation of food service-related odors. However, these odors are localized and generally are not considered unpleasant.

The Pocket Area already contains substantial development, including light industrial development that may allow for odor-generating activities. Future development in this area would be subject to CEQA review, which would analyze the potential for an odor-generating activity. Since most of the Pocket Area is zoned for non-industrial uses, it is not likely that significant odor-generating activities would locate there.

Overall, project impacts related to odors are considered less than significant with compliance with Ceres General Plan Policy 4.G.8.

Level of Significance: Less than significant

Mitigation Measures: None required

7.0 BIOLOGICAL RESOURCES

ENVIRONMENTAL SETTING

Vegetation

The Ceres General Plan EIR defined several habitat types in the Ceres Planning Area based on the predominant vegetation. Of these habitat types, the project site contains two: (1) Deciduous Orchard, Evergreen Orchard, Vineyard, and Irrigated Row and Field Crops, and (2) Urban (City of Ceres 2018a).

The Deciduous Orchard, Evergreen Orchard, Vineyard, and Irrigated Row and Field Crops habitat type is related to agriculture and is found throughout the Planning Area, primarily in the area outside of City limits. The orchards are typically single species tree-dominated habitats. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Vineyards are composed of single species planted in rows, where the understory often consists of bare soil or a cover crop of herbaceous plants. Vegetation in irrigated crops vary in size, shape, and growing pattern. The majority of agriculture in the CTSP Area is deciduous orchards and livestock grazing with lesser amounts of row crop area.

The structure of Urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. Typically, in cities, vegetative cover is least dense in the central downtown area and gradually increases towards the edge. The Pocket Area and developed portions of the CTSP Area are classified as Urban.

Wildlife

Some species of birds and mammals have adapted to these habitats. Wildlife such as deer and rabbits browse on the trees and crops. Others, such as squirrels and numerous birds, feed on fruit or nuts. In orchards, some wildlife species are more passive in their use of the habitat for cover and nesting sites. Many wildlife species act as biological control agents by feeding on weed seeds and insect pests.

In urban areas, species become richer and more diverse where vegetative cover is denser. Typically, in cities, this follows a concentric pattern where cover is least dense in the central downtown area and gradually increases towards the edge.

Special-Status Species

Special-status species are plants and animals that are legally protected under the federal and California Endangered Species Acts or other regulations (see below). Special-status species also include other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and

other essential habitat. Special-status plants are those which are designated rare, threatened, or endangered and candidate species for listing by the U.S. Fish and Wildlife Service (USFWS), along with considered rare or endangered under the conditions of CEQA Guidelines Section 15380, such as plant species identified on Lists 1A, 1B and 2 in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society. They also may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on California Native Plant Society List 3.

Ceres is a developed area that is surrounded by cultivated agricultural land; therefore, it is not an ideal habitat for many species. Nonetheless, certain special-status species have been known to occur in the Planning Area (City of Ceres 2016a). A search of the California Natural Diversity Database (CNDDB) was undertaken to identify special-status species that have been previously documented in the greater project vicinity or have the potential to occur based on presence of suitable habitat and geographical distribution. The results of the CNDDB search are available in Appendix B, and Table 7-1 summarizes the results. Table 7-1 lists special-status species that have been documented or could potentially occur in the project vicinity, along with their status, habitat, and likelihood of occurrence on the project site.

TABLE 7-1
SPECIAL STATUS PLANT AND WILDLIFE SPECIES POTENTIALLY OCCURRING IN THE CTSP VICINITY

Common Name	Scientific Name	Fed. Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence
Plants						
Heartscale	*Atriplex cordulata var cordulata*	None	None	1B	In sandy, alkaline soils of saltbrush scrub and grasslands.	Unlikely: the CTSP Area does not provide suitable habitat for this species.
Subtle orache	*Atriplex subtilis*	None	None	1B	Grasslands, often in the vicinity of vernal pools.	Unlikely: the CTSP Area does not provide suitable habitat for this species.
Birds						
Tricolored blackbird	*Agelaius tricolor*	None	T	N/A	Nests in dense brambles and emergent wetland vegetation associated with open water habitat.	Unlikely: the CTSP Area does not provide suitable habitat for this species.
Swainson's hawk	*Buteo swainsoni*	None	T	N/A	Breeds in stands of tall trees in	Possible: this species has been

Common Name	Scientific Name	Fed. Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence
					open areas. Requires adjacent suitable foraging habitats such as grasslands or alfalfa fields supporting rodents.	observed along the Tuolumne River. Existing agricultural areas may provide suitable foraging habitat, and some trees in the area may support nesting hawks.
Burrowing owl	*Athene cunicularia*	None	SC	N/A	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Unlikely: the CTSP Area does not provide suitable habitat for this species.
Mammals						
Townsend's big-eared bat	*Corynorhinus townsendii*	None	SC	N/A	Desert scrub, mixed conifer forest, and pinyon-juniper or pine forest; primarily roosts in caves, mines, and buildings.	Unlikely: the CTSP Area does not contain suitable roosting habitat.
Fish						
Chinook salmon – Central Valley fall/late fall run ESU	*Oncorhynchus tschawytscha pop. 13*	None	SC	N/A	Spawning habitat in Sacramento and San Joaquin River basins.	None: there is no aquatic habitat in the CTSP Area.
Steelhead - Central Valley DPS	*Oncorhynchus mykiss irideus pop. 11*	T	None	N/A	Riffle and pool complexes with adequate spawning substrates within Central Valley drainages.	None: there is no aquatic habitat in the CTSP Area.
Hardhead	*Mylopharodon conocephalus*	None	SC	N/A	Clear, deep pools with sand and gravel bottoms in tributaries to the San Joaquin and Sacramento River.	None: there is no aquatic habitat in the CTSP Area.
Riffle sculpin	*Cottus gulosus*	None	SC	N/A	Headwater streams with cold water;	None: there is no aquatic habitat in the CTSP Area.

Common Name	Scientific Name	Fed. Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence
					rocky or gravelly substrate throughout Central Valley and coastal drainages.	
Invertebrates						
Oregon floater	*Anondonta oregonensis*	None	None	N/A	Found more commonly in ponds, lakes, and reservoirs but can also occur in low gradient reaches of streams and silty substrates and sandbars at stream confluences.	None: there is no aquatic habitat in the CTSP Area.
Western ridged mussel	*Gonidea angulata*	C	None	N/A	Prefers runs and riffles in low- to mid-gradient streams.	None: there is no aquatic habitat in the CTSP Area. Considered extirpated from the Central Valley.
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	None	N/A	Elderberry shrubs in the Central Valley and surrounding foothills.	Possible: the Ceres General Plan EIR identified this species as potentially occurring in the CTSP Area (City of Ceres 2016a).
Moestan blister beetle	*Lytta moesta*	None	S2	N/A	Grasslands in Central Valley and Sierra Nevada foothills	Unlikely: although the Ceres General Plan EIR identified this species as potentially occurring in the Planning Area (City of Ceres 2016a), the CTSP Area does not provide suitable habitat for this species.
Crotch bumble bee	*Bombus crotchii*	None	CE	N/A	Open grassland and scrub	Unlikely: the CTSP Area does

Common Name	Scientific Name	Fed. Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential for Occurrence
					habitats throughout California; rarely found in the Central Valley.	not provide suitable habitat for this species.
American bumble bee	*Bombus pensylvanicus*	None	None	N/A	Favors prairies and grasslands, but also associated with farmlands and open fields.	Possible: the CTSP Area may provide suitable habitat for this species. However, this is a transitory species that can find suitable habitat readily available in the project vicinity.
Obscure bumble bee	*Bombus caliginosus*	None	None	N/A	Prefers relatively humid and often foggy areas along the coast.	Unlikely: although the Ceres General Plan EIR identified this species as potentially occurring in the Planning Area (City of Ceres 2016a), the CTSP Area does not provide suitable habitat for this species.

[1] T = Threatened; E = Endangered; C = Candidate.

[2] T = Threatened; E = Endangered; CE = Candidate Endangered; SC = Species of Special Concern, R = Rare; S2 = Imperiled Species.

[3] 1B = Rare, threatened, or endangered in California and elsewhere; N/A = not applicable.

Source: CDFW 2023.

Waters of the U.S. and Wetlands

Waters of the U.S. include navigable waterways, their tributaries, and adjacent wetlands. More specifically, Waters of the U.S. encompass territorial seas, tidal waters, and non-tidal waters. Other jurisdictional wetlands and Waters of the U.S. include, but are not limited to, perennial and intermittent creeks and drainages; lakes, seeps, and springs; emergent marshes; riparian wetlands; and seasonal wetlands. State and federal agencies regulate these waters (see below). The limit of federal jurisdiction of Non-Tidal Waters of the U.S. extends to the "ordinary high water mark," which is established by physical characteristics such as a natural water line impressed on the bank, presence of shelves, destruction of terrestrial vegetation, or the presence of litter and debris.

Wetlands are vegetated areas that meet specific vegetation, soil, and hydrologic criteria defined by the Wetlands Delineation Manual and Regional Supplement of the U.S. Army Corps of Engineers (Corps). Wetlands that are adjacent to and hydrologically very closely associated with jurisdictional lakes, rivers, streams, and tributaries can also fall under Corps jurisdiction as "adjacent wetlands". Geographically and hydrologically isolated wetlands are outside federal jurisdiction but are regulated as a "Water of the State" by the jurisdictional Regional Water Quality Control Board (RWQCB).

The USFWS maintains the National Wetlands Inventory database, which contains records of various types of streams, wetlands, and other water features. Results of a search of this database are available in Appendix D. Three features classified as "Riverine" were identified as traversing or bordering the project site. These features correspond to the TID Lower Lateral 2, the Ceres Main Canal, and another TID facility. No natural streams or wetlands were recorded on the project site (USFWS 2023).

REGULATORY FRAMEWORK

Federal Endangered Species Act

The federal Endangered Species Act protects fish and wildlife species, subspecies, or distinct population segments that are listed as endangered or threatened, along with their habitats. "Endangered" species are in danger of extinction through all or a significant portion of their range, while "threatened" species are likely to become endangered in the near future. The USFWS and the National Marine Fisheries Service are responsible for implementation of the Endangered Species Act, depending on the species. Section 9 of the Endangered Species Act prohibits the take of any fish or wildlife species listed as endangered. "Take" is defined as an action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species, as well as the destruction of habitat that prevents the species' recovery.

When a species is proposed for listing as endangered or threatened under the Endangered Species Act, specific areas are identified that are considered essential to the conservation of the listed species; they are called "critical habitat." The USFWS maintains maps of designated critical habitats. The project site is not within the designated critical habitat of any federally listed species.

California Endangered Species Act (CESA)

The CESA establishes State policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. It mandates that State agencies should not approve projects that jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a species that is on the federal and State lists, compliance with the federal Endangered Species Act satisfies CESA if the CDFW determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. For projects that would result in the take of only a State-listed species, the project proponent must apply for a take permit under Fish and Game Code Section 2081(b).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (16 United States Code 703 *et seq.*) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the former Soviet Union. It prohibits the take, possession, import, export, transport, selling, purchase, or barter of any migratory birds or their eggs, parts, or nests except as authorized under a valid permit. Offering the same for sale, purchase, or barter is likewise prohibited. Executive Order 13186 directs each federal agency taking actions that have or may have a negative effect on migratory bird populations to work with USFWS to develop a memorandum of understanding that will promote the conservation of migratory bird populations.

Clean Water Act

The federal Clean Water Act is the primary federal law regulating water quality. The objective of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Waters of the U.S., including wetlands, are broadly defined in 33 Code of Federal Regulations Part 328.3(a) to include navigable waterways, their tributaries, and adjacent wetlands, as well as other waters described in the Environmental Setting portion of this chapter. Implementing the Clean Water Act is the responsibility of the EPA, but the EPA depends on other agencies, such as individual state governments and the Corp, to assist in implementation.

The definition of Waters of the U.S., and thereby the jurisdiction of the EPA and the Corps, has been the subject of legal and regulatory controversy over the past approximate three decades. On May 25, 2023, the U.S. Supreme Court, in its decision in *Sackett v. EPA,* held that the Clean Water Act's definition of Waters of the U.S. extends to only those "wetlands with a continuous surface connection to bodies that are 'waters of the United States' in their own right," so that they are "indistinguishable" from those waters. Based on the Supreme Court's decision, the Clean Water Act covers only adjoining wetlands, a reading that excludes wetlands separated from jurisdictional waters by man-made dikes or barriers, natural river berms, beach dunes, and the like that had previously been protected. In response, the EPA and the Corps issued a rule on September 8, 2023, to conform the regulatory definition of Waters of the U.S. to the *Sackett* decision.

Sections 401 and 404 of the Clean Water Act apply to activities that would impact waters in the United States, such as creeks, ponds, and wetlands. For waters subject to federal jurisdiction, a permit under Section 404 of the Clean Water Act, issued by the Corps, must be secured prior to the discharge of dredged or fill materials into these waters. Projects requiring a Section 404 permit also must obtain a Water Quality Certification in accordance with Section 401 of the Clean Water Act; the Central Valley RWQCB would issue the Section 401 certification, if required.

Section 404

The Corps is responsible under Section 404 of the Clean Water Act for regulating the discharge of fill material into Waters of the U.S. and their lateral limits. As noted, the lateral limits of jurisdiction for a non-tidal stream are measured at the line of the "ordinary high water mark" or at the limit of adjacent wetlands. Any permanent extension of the limits of an existing water of the United States, whether natural or human-made, results in a similar extension of Corps jurisdiction.

In general, a permit must be obtained from the Corps before an individual project can place fill or grade in wetlands or other Waters of the U.S that are subject to Section 404. Along with general permits, the Corps has Nationwide Permits that apply to specific actions. Mitigation for such actions will be required based on the conditions of the Corps permit. The Corps is required to consult with the USFWS and/or the National Marine Fisheries Service under Section 7 of the Endangered Species Act if the action being permitted could affect federally listed species.

Section 401

Pursuant to Section 401 of the Clean Water Act, projects that require a Corps permit for discharge of dredge or fill material must also obtain a Water Quality Certification that confirms the project complies with State water quality standards before the Corps permit becomes valid, or a waiver or no-action determination. State water quality is regulated and administered by the SWRCB through the RWQCB with jurisdiction over the project. As noted, the project site is within the jurisdiction of the Central Valley RWQCB. Projects requiring a Section 401 Water Quality Certification must demonstrate compliance with CEQA.

Waters of the State

Under the Porter-Cologne Water Quality Control Act, "Waters of the State" fall under the jurisdiction of the SWRCB and the RWQCB with jurisdiction over the affected water. The RWQCBs are required to prepare and periodically update water quality control basin plans, which set forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect Waters of the State may also be required to meet Waste Discharge Requirements set by the RWQCB. SWRCB's Resolution 2008-0026 identified a need to protect Waters of the State that are not subject to Section 404 permitting and associated Section 401 Water Quality Certification.

In April 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Materials to Waters of the State (Procedures), which became operative on May 28, 2020 and were subsequently revised on April 6, 2021 (SWRCB 2021). The Procedures consist of four major elements:

- A wetland definition that is broader than the one for Waters of the U.S.,
- A framework for determining if a feature that meets the wetland definition is a Water of the State,
- Wetland delineation procedures, and
- Procedures for application submittal and the review and approval of Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Applicants proposing to discharge dredged or fill material are required to comply with the Procedures unless an exclusion applies, or the discharge qualifies for coverage under a SWRCB General Order. The Central Valley RWQCB is expected to require issuance of Waste Discharge Requirements that authorize the impacts of filling isolated wetlands that

are not subject to Section 404 permitting, or in some cases granting a waiver. It should be noted that these Procedures are the subject of ongoing litigation, and the 2021 revisions to the Procedures were adopted in part in response to this litigation.

CDFW Streambed Alteration Agreement

Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks or the outer edge of riparian vegetation, whichever is wider.

California Fish and Game Code

The California Fish and Game Code provides protection from take for a variety of wildlife species designated as "fully protected" species. Section 3511 lists fully protected species and prohibits their take. The California Fish and Game Code defines "take" as hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. There are currently 34 wildlife species designated as fully protected species: 9 fish, 3 amphibians, 2 reptiles, 11 birds, and 9 mammals.

Until recently, all take of fully protected species was prohibited except when related to scientific research. On July 10, 2023, Governor Newsom signed into law SB 147, which creates a temporary, 10-year permitting regime that allows proponents of specific renewable energy and infrastructure projects to pursue authorization from the CDFW to proceed even when take of one or more fully protected species would occur. The CTSP would not qualify for this permitting process.

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 prohibits the take, possession, or destruction of any raptor bird species, specifically those in the orders Falconiformes (falcons, hawks, eagles) or Strigiformes (owls) or of their nests or eggs.

Ceres General Plan

The Ceres General Plan contains the following goals and policies on the protection of biological resources that are applicable to the project area:

- Goal 4.C. Protect, restore, and enhance habitats and wildlife corridors that support fish and wildlife species to maintain populations at viable levels.
- Goal 4.D. Protect environmentally sensitive lands and rare, threatened, or endangered plant and animal communities.
- Policy 4.D.1 Special-Status Species. Support the preservation of habitats of rare, threatened, endangered, and other special-status species. Require development in areas known to have value for wildlife to be carefully planned and, where possible, sited to maintain reasonable wildlife value of the habitat.

- Policy 4.D.3 Significant Biological Resources. Support and cooperate with the efforts of other local, State, and federal agencies and private entities engaged in the preservation and protection of significant biological resources from incompatible land uses and development, including efforts involving a Habitat Conservation Plan or other plan for habitat management or restoration. Significant biological resources include endangered, threatened, or rare species and their habitats, wetland habitats, wildlife migration corridors, and locally-important species/communities.

- Policy 4.D.5 Swainson's Hawk Protection. Require that proposed development projects adhere to the following steps in order to ensure the protection of Swainson's hawk in the Planning Area:

    - If ground-disturbing activities would take place on sites where suitable nesting habitat may exist, a survey for nesting Swainson's Hawks shall be conducted by a qualified wildlife biologist following survey methods developed by the Swainson's Hawk Technical Advisory Committee (2000) prior to undertaking any ground-disturbing activities. The survey shall include recommended mitigation measures for any potential impacts from the project.

    - If ground disturbing activities would take place during the nesting season (March 1 through August 31) and Swainson's hawk nests are found to be present, a no-disturbance buffer of a minimum of 0.5 miles shall be established around active nests 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 care for survival. If the 0.5-mile buffer is not feasible, the project proponent must consult with the California Department of Fish and Wildlife to determine if a smaller buffer would avoid take. If it is determined that take cannot be avoided, the project proponent must acquire authorization through an Incidental Take Permit from the California Department of Fish and Wildlife in accordance with the California Endangered Species Act in order to continue.

- Policy 4.D.6 Swainson's Hawk Habitat Mitigation. Require mitigation for projects that would result in the loss of Swainson's hawk foraging habitat within 10 miles of an active nest tree, which may include but is not limited to:

    - For projects within one mile of an active nest tree, provide a minimum of one acre of habitat management land for each acre of development.

    - For projects within between one and five miles of an active nest tree, provide a minimum of 0.75 acres of habitat management land for each acre of development.

    - For projects within between five and 10 miles of an active nest tree, provide a minimum of 0.5 acres of habitat management land for each acre of development.

Alternative mitigation strategies are acceptable if approved by the California Department of Fish and Wildlife.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS,
- 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 CDFW or USFWS,
- Have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means,
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites,
- Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following analysis of environmental impacts focuses on the CTSP Area. The Pocket Area, which is already substantially developed, does not have substantial biological resources; therefore, project impacts on biological resources in that area would be less than significant.

Impact BIO-1: Special-Status Species

As indicated in Table 7-1, a CNDDB search found two special-status plant species and 15 special-status wildlife species that could potentially occur in the project vicinity. Most of these species, including both special-status plant species, are considered unlikely to occur in the CTSP Area due to lack of suitable habitat.

The CTSP proposes urban development in a predominantly rural area. As discussed in Chapter 5.0, Agricultural Resources, the CTSP anticipates the conversion of 319.5 acres of agricultural lands, mostly orchards, to urban development. This agricultural land conversion would be accompanied by a loss of associated biological values. These would include potential nesting and foraging habitat for special-status species such as Swainson's

hawk, listed as threatened under the California Endangered Species Act, and American bumble bee. Loss of habitat for these species is considered a potentially significant impact. However, while Swainson's hawk is considered a species that would occur in the area on more than a transitory basis, the American bumble bee is a transitory species that can find suitable habitat readily available in the project vicinity. Therefore, impacts on American bumble bee are considered less than significant.

Since the CTSP Area is mostly cultivated and has some urban development, there are very few natural lands there. However, it is possible that some portions of the CTSP Area may have natural vegetation such as blue elderberry shrubs. These shrubs provide habitat for the valley elderberry longhorn beetle, a species listed as threatened under the federal Endangered Species Act. Loss of elderberry shrubs would be considered a potentially significant impact.

Ceres General Plan Policy 4.D.5 requires that proposed development projects adhere to specified procedures to ensure the protection of Swainson's hawk. These procedures are incorporated within one of the mitigation measures described below. Additional mitigation describes procedures to be followed should future development projects encounter blue elderberry shrubs. Implementation of these mitigation measures would reduce impacts on special-status species to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

BIO-1: If ground-disturbing activities would take place on sites where suitable nesting habitat may exist, a survey for nesting Swainson's hawks shall be conducted by a qualified wildlife biologist, consistent with survey methods developed by the Swainson's Hawk Technical Advisory Committee (2000) prior to ground-disturbing activities. The biologist shall recommend mitigation measures for any potentially significant impacts resulting from the project.

If ground disturbing activities would take place during the nesting season (March 1 through August 31) and Swainson's hawk nests are found to be present, mitigation measures may include establishing a no-disturbance buffer around active nests until the breeding season has ended or a qualified biologist determines that the birds have fledged.

BIO-2: Prior to the start of construction activities for an approved development project, a survey shall be conducted by a qualified biologist for blue elderberry (*Sambucus mexicana*) shrubs. Should such shrubs be discovered by the survey, the development project shall avoid removal of these shrubs to the extent feasible. If avoidance is not feasible, then the biologist shall recommend actions to be taken to minimize or to compensate for any impacts on blue elderberry shrubs in accordance with the applicable state or federal guidelines.

Impacts After Mitigation: Less than significant

Impact BIO-2: Riparian Areas and Other Sensitive Natural Communities

As noted, no natural streams have been recorded in the CTSP or Pocket Area. The TID canals in the CTSP Area are maintained clear of vegetation. As such, there are no riparian areas on the project site. The CNDDB search did not identify any sensitive natural communities in the area, and none were identified in the Ceres General Plan EIR. Based on this, the project would have no impact on riparian areas or other sensitive natural communities.

Level of Significance: No impact

Mitigation Measures: None required

Impact BIO-3: Wetlands and Waters of the U.S.

As noted, no natural streams or wetlands have been recorded in the CTSP or Pocket Area. The CTSP Area is presently developed with agricultural land use and limited urban uses, and the Pocket Area is predominantly urbanized and without water features; therefore, the project area does not have wetlands or waters that would be subject to Clean Water Act regulations.

The TID canals are potential jurisdictional Waters of the U.S., as they convey water from a reservoir that would be considered a jurisdictional water (Turlock Lake), and water from the canals is eventually discharged into another jurisdictional water (San Joaquin River). It is expected that future development would not directly affect the TID canals. However, the City proposes future storm drainage infrastructure serving future development in the CTSP Area that may include outfalls to the canals.

These outfalls may be subject to the Section 404 permitting process of the Corps. Corps permits typically contain conditions that are designed to minimize the environmental impacts of the permitted activity on the affected jurisdictional water. In addition, any physical changes to the canals would require permission from TID. As such, project impacts on wetlands and Waters of the U.S. are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact BIO-4: Migration Corridors and Nursery Sites

Well-developed riparian corridors are often utilized for movement by a wide range of wildlife species such as deer, coyote, red fox, and bobcat, as well as a variety of amphibians, reptiles, and fish. There are no riparian corridors in either the CTSP or Pocket Area. There are no continuous areas of native vegetation that would constitute potential wildlife movement corridors. Due to the lack of streams on or near the project, there are no fish movement corridors.

Existing trees within the CTSP Area could be used by migratory birds for roosting and nesting. It is possible that ground-nesting birds may nest in the CTSP Area, as well as songbirds in areas of dense grasses and weeds. Some of these birds could be protected by the Migratory Bird Treaty Act and the California Fish and Game Code. Mitigation

presented below would avoid significant effects on nesting birds in the CTSP Area. Implementation of this mitigation measure would reduce impacts on nesting birds to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

BIO-3: If construction of a development project is to commence during the general avian nesting season (March 1 through July 31), a pre-construction survey for all species of nesting birds shall be conducted by a qualified biologist. If active nests are found, work in the vicinity of the nests shall be delayed until the young have fledged as determined by the biologist. No survey is required if construction is to occur outside the general avian nesting season.

Significance After Mitigation: Less than significant

Impact BIO-5: Local Policies and Ordinances

The Ceres General Plan has goals and policies intended to protect biological resources. Applicable goals and policies are listed in the Regulatory Framework section above. Through its development plan and regulatory framework, the CTSP implements the goals and policies of the City's General Plan by providing specific direction for development activity in the CTSP Area. These include protection of biological resources. As noted in Impact BIO-1, impacts of the CTSP on Swainson's hawk would be reduced through the implementation of Mitigation Measure BIO-1, which is consistent with Ceres General Plan Policy 4.D.5.

Neither the City of Ceres nor Stanislaus County has ordinances protecting biological resources, such as a tree preservation policy. Therefore, the project would not conflict with any such ordinances. Overall, project impacts related to local policies and ordinances on biological resources would be less than significant with mitigation.

Level of Significance: Potentially significant

Mitigation Measures: Implementation of Mitigation Measure BIO-1

Significance After Mitigation: Less than significant

Impact BIO-6: Conflict with Adopted Habitat Conservation Plan or Natural Community Conservation Plan

Pacific Gas & Electric (PG&E) has prepared a multi-species Habitat Conservation Plan (HCP) for PG&E's natural gas and electrical transmission and distribution facilities, the lands owned by PG&E and/or subject to PG&E easements for these facilities, private access routes to infrastructure associated with operation and maintenance activities, minor facility expansion areas, and mitigation areas for impacts resulting from covered activities. The HCP covers portions of nine counties, including Stanislaus County. However, the project site does not have any PG&E facilities. As discussed in Chapter 17.0, Utilities and Energy, electrical service is provided by TID, and TID facilities are not covered by any

HCP. PG&E has interregional natural gas mains along the SR 99 corridor, but future development under the CTSP or in the Pocket Area is not expected to affect these mains.

There are no other HCPs applicable to the project site, and the project site is not covered by any Natural Community Conservation Plan or by any regional or local conservation plan. Therefore, the project would not conflict with any type of habitat conservation plan. The project would have no impact on this issue.

Level of Significance: No impact

Mitigation Measures: None required

8.0 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

ENVIRONMENTAL SETTING

Prehistoric Setting

The City of Ceres and the surrounding area are part of the ethnographic territory of the Northern Valley Yokuts, who inhabited the Central Valley from the Diablo Range in the west to the Sierra Nevada foothills in the east. The Yokuts were divided into 50 tribelets, based on linguistic variations, and primarily lived in large settlements along the banks of rivers and their tributaries.

The Yokuts used several dwelling types, including a mat-covered, gabled kawi, or communal dwelling; a wedge-shaped tule house, in which only one family lived; small, elliptical tule houses; conical, tule-covered dwellings that were placed in rows; and a bark house called a samish. A wide variety of foods were available to the Yokuts, who gathered many varieties of plants and seeds, in addition to hunting small game, fishing, and shellfishing. Where acorns were available, they served as a primary component of their subsistence. The Yokuts maintained trade links with coastal villages where they traded furs and other materials for shells, such as abalone and clams. Shell disks and dentalium beads, as well as polished, cylindrically-shaped magnesite rocks and bivalves, were used as money.

The late prehistoric Yokuts may have been the largest ethnic group in pre-contact California. European settlement of the territory led to a rapid decline in the Yokuts population due to conflicts, disease epidemics, and other forms of upheaval (City of Ceres 2018a). Despite this, the Yokuts tribe continues to exist today; the Nototomne/North Valley Yokut Tribe, Inc., represents the Northern Valley Yokuts in the region.

Historic Setting

The Euro-American presence in the area began with infrequent excursions by Spanish explorers traveling through the Sacramento-San Joaquin Valleys in the late 1700s to early 1800s. The City of Ceres was founded by Daniel Whitmore, who arrived in the Ceres area in 1867. The Whitmore family eventually acquired 9,000 acres, which included what would later become the town site of Ceres. By 1875, Daniel Whitmore's brother, R.K. Whitmore, had surveyed the area, and a map was filed for the layout of the town. In 1872, the railroad crossed the Tuolumne River into Ceres, and the town became a flag stop. A few years later, a depot was built, and Mr. Whitmore had petitioned for a post office. The town was named "Ceres" - the name Daniel Whitmore had used in commenting on the first wheat crops - by Elma Carter, one of the town's residents.

In the late 1880s, in response to thriving agriculture, the Modesto and Turlock Irrigation Districts were created to allow local farmers to irrigate crops more efficiently and effectively. Dairy farming was also introduced into the area during this period. By the early 1900s, Ceres was still a small town, yet its population was growing at a steady rate. Ceres was incorporated in 1918 with a population of 1,000.

Ceres had a population of 1,332 before World War II, but the population nearly doubled after the postwar boom and reached 2,351 by 1950. Like most California cities, Ceres experienced residential growth during the post-World War II period. Subdivisions, including the Caswell Tract and Morrow Village, were established and new elementary and middle schools and a hospital were built. In 1968, Caltrans modernized SR 99, which traveled through the community of Ceres. The highway project bisected Ceres and resulted in the demolition of most of the central business district. However, the improved highway also brought growth and expansion to the city. By 1970, the population reached a high of 6,000. Ceres continued to grow in the 1980s, and by 1990 its population was 25,000. (City of Ceres 2018a).

During the preparation of this EIR, BaseCamp contacted the Central California Information Center (CCIC) at CSU Turlock to obtain a search of historical and archaeological records for the project area; the CCIC is a part of the California Historical Resources Information System (CHRIS). The CCIC search included:

CCIC map files

National Register of Historic Places (NRHP)

California Register of Historical Resources (CRHR)

California Inventory of Historic Resources (1976)

California Historical Landmarks

California Points of Historical Interest listing

Office of Historic Preservation Built Environment Resource Directory (BERD) and the Archaeological Resources Directory Survey of Surveys (1989)

Caltrans State and Local Bridges Inventory

General Land Office Plats

Other pertinent historic data

The results of this search were provided by CCIC in a letter, which is available in Appendix E. The CCIC noted that there are no formally recorded prehistoric or historic archaeological resources within the search area. There are 20 historic buildings (single family properties) and two historic structures (Southern Pacific Railroad and the TID Ceres Main Canal) formally recorded on or adjacent to the project area; a list of these properties is provided in the CCIC report. Nineteen of the single-family properties and the Southern Pacific Railroad are referenced in the Office of Historic Preservation BERD with the

evaluation status of "6Y", which are properties determined ineligible for the National Register listing by consensus through the Section 106 process; these properties have not been evaluated for the California Register of Historical Resources listing or for local listing.

As documented in the CCIC report, despite the fact that numerous archaeology and historic resource studies have occurred in and near the CTSP Area over the years 1980-2017no archaeological resources have been recorded within the project vicinity (CCIC 2023).

On May 23, 2024, the City provided AB 52/SB 18 notice of the project to tribes having previously requested it in conjunction with the Notice of Preparation for the project, as well as to other tribes on a contact list provided by the NAHC; AB 52 and SB 18 requirements are discussed in detail in the following section. In all, a total of seven tribes were contacted: Amah Mutsun, Calaveras Band of Mi-Wuk, California Valley Miwok, Northern Valley Yokuts, Southern Sierra Miwuk, Tule River, and Wuksachi/Eshom Valley Band. No correspondence, requests for information or consultation or any other indications of tribal cultural resources concern were received by the City from the contacted tribes. Therefore, the City considers its AB 52/SB 18 obligations fulfilled.

REGULATORY FRAMEWORK

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 to encourage the preservation and wise use of the country's historic resources. The Act defines historic preservation to include "the protection, rehabilitation, restoration, and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, or culture."

The Act established the NRHP. The eligibility criteria for the NHRP are quoted in full, as follows:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. That are associated with the lives of significant persons in or past; or
>
> C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D. That have yielded or may be likely to yield, information important in history or prehistory.

Previous surveys have been conducted that determined the eligibility of sites in the Ceres area for NRHP listing (Figure 8-1). The Daniel Whitmore Home, at 2928 5th Street, is listed on the NRHP, none within the project area. Numerous other buildings were determined to not be eligible for NRHP listing (City of Ceres 2016a), including those listed in the CCIC report.

California Office of Historic Preservation

The California Office of Historic Preservation offers four different historical resource registration programs: California Historical Landmarks, California Points of Historical Interest, CRHR, and the NRHP in cooperation with the National Park Service. Each registration program is unique in the benefits offered and procedures required. If a resource meets the criteria for registration, it may be nominated by any individual, group, or local government to any program at any time. Resources do not need to be locally designated before being nominated to a state program, nor do they need to be registered at the state level before being nominated to the NRHP.

The CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and affords certain protections under CEQA. Resources on the CRHR have met criteria for designation or have been included due to their presence on the NRHP, the State Historical Landmark program, or the California Points of Historical Interest program. The Daniel Whitmore Home and the 7th Street Bridge (the Lion Bridge) over the Tuolumne River are listed on the CRHR.

CEQA Guidelines Section 15064.5

Criteria specified in CEQA Guidelines Section 15064.5 suggest that an "important historical or archaeological resource" is one which generally meets the criteria for listing in the CRHR, including the following:

- Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- Is associated with the lives of persons important in California’s past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

If a resource does not meet any of the above criteria, it does not preclude a lead agency from determining that a resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

SB 18

SB 18, which became effective in 2005, permits California Native American tribes recognized by the Native American Heritage Commission (NAHC) to hold conservation easements on terms mutually satisfactory to the tribe and the landowner. "California Native American tribe" is defined to include federally recognized California Native American tribes and non-federally recognized California Native American tribes that are on a contact list maintained by the NAHC. SB 18 requires that, prior to the adoption or amendment of a general plan or a specific plan, the city or county consult with California Native American tribes for the purpose of preserving specified places, features, or objects located within the city's or county's jurisdiction. The planning agency shall provide the tribes specified by the NAHC with opportunities for involvement in the preparation of the general plan or specific plan.

AB 52

In 2014, the California Legislature enacted Assembly Bill (AB) 52, which requires CEQA consultation with Native American tribes on projects that could potentially affect resources of value to the tribes. The intent of this consultation is to avoid or mitigate potential impacts on "tribal cultural resources," which are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

Under AB 52, consultation with tribes on a notice list shall be initiated prior to the release of the CEQA document for public review. When a tribe requests consultation, the lead agency must provide the tribe with notice of a proposed project within 14 days either of a project application being deemed complete or when the lead agency decides to undertake the project if it is the agency's own project. The tribe has 30 days from receipt of the notification letter to respond in writing, including the designation of a lead contact person. If the tribe requests consultation, then the lead agency has up to 30 days after receiving the tribe's request to initiate formal consultation. The consultation process ends when either (1) the resource in question is not considered significant, (2) the parties agree to mitigate or avoid a significant effect on a tribal cultural resource, or (3) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. Regardless of the outcome, a lead agency is still obligated under CEQA to mitigate any significant environmental effects, as explicitly noted in AB 52.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5,

- Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5,

- Disturb any human remains, including those interred outside of formal cemeteries.

Also, a project may have a significant impact on the environment if it would cause a substantial adverse change in the significance of a tribal cultural resource, defined in California Public Resources Code Section 21074 as a site, feature, place, sacred place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, or object with cultural value to a California Native American tribe, and that is:

- 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

- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c). In applying the Section 5024.1(c) criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

Impact CULT-1: Historical Resources

The Ceres General Plan EIR evaluated the presence of existing historical resources in the Planning Area, including the project site. Within the Planning Area, only four historical resources were identified: the Whitmore Mansion, the Daniel Whitmore Home, the Seventh Street Bridge, and the site of the Davis and Maze Ferry. None of these resources are located within or near the CTSP Area.

The CTSP Area contains existing residences, some of which may be considered historical resources. Under criteria established by the National Register of Historic Places, a historical property generally must be at least 50 years old to be considered for inclusion. It is possible that some existing residences within the CTSP Area are at least 50 years. Demolition or other alteration of such buildings that are eligible for listing on either the National or California Register could constitute a potentially significant cultural resource impact under CEQA. The mitigation measure below would identify potential historical resources and procedures to address potential impacts. Implementation of this mitigation measure would reduce project impacts on historical resources to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

CULT-1: Based on a determination of potential historical value by the Community Development Director, existing buildings or other structures on the site that are 50 years of age or older that are planned to be removed shall be evaluated by a qualified architectural historian

to determine if they are eligible for listing on the National Register of Historic Places and/or the California Register of Historical Resources. This evaluation shall be conducted prior to issuance of a demolition permit. Should any buildings be found eligible for such designation(s), then the architectural historian shall make recommendations concerning the disposition of the identified buildings, which shall be implemented by the project developer. Recommendations may include, but are not limited to, preservation of the existing structure or reuse of the structure in accordance with historic property standards of the U.S. Secretary of the Interior.

Significance After Mitigation: Less than significant

Impact CULT-2: Archaeological Resources

The GPEIR evaluated the potential presence of archaeological and historic resources in the Planning Area, including the project area. The Ceres General Plan and EIR indicate that unspecified prehistoric and historic archaeological resources have been found in the Ceres Planning Area. There is the potential for the discovery of archaeological resources near the Tuolumne River (City of Ceres 2018a).

A data base search conducted during the preparation of this EIR found that no known archaeological resources have been recorded within the CTSP Area. The City provided notice of the project to a total of seven tribes during the preparation of this EIR; however, o correspondence, requests for information or consultation or any other indication of tribal concern were submitted by the contacted tribes. Therefore, the City considers the project area to be of relatively low tribal sensitivity and considers its AB 52/SB 18 obligations fulfilled.

The potential for encounter of archaeological resources or tribal cultural resources to be relatively low. Nonetheless, project construction activities have the potential to unearth and disturb previously undiscovered and potentially significant subsurface archaeological resources. Should this occur without adequate protection plans, this would be a potentially significant impact. Mitigation measures below outline procedures for inadvertent discovery of previously unknown archaeological resources. Implementation of these measures would reduce project impacts on archaeological resources to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

CULT-2: If subsurface cultural resources are encountered within the Copper Trails Specific Plan area during project construction, the City of Ceres Community Development Department shall be immediately notified of the discovery, and all construction activity within 50 feet of the find shall be halted. A qualified archaeologist shall examine the find and determine its significance. If the find is determined to be significant, then the archaeologist shall recommend measures that would reduce

potential effects on the find to a level that is less than significant. Construction activities in the vicinity of the find shall not resume until the mitigation measures are established. The project developer shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in a written report to the City's Community Development Department, consistent with the requirements of the CEQA Guidelines.

Significance After Mitigation: Less than significant

Impact CULT-3: Tribal Cultural Resources

As noted, tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe. The GPEIR stated that a search of the Sacred Lands File maintained by the NAHC in 2017 yielded negative results for the Planning Area. Given this and the lack of responses from local tribes to invitations to consult on the project per AB 52/SB 18, it is unlikely that any tribal cultural resources would be affected by the project.

As with archaeological resources, construction activities have the potential to unearth and disturb previously undiscovered and potentially significant subsurface tribal cultural resources, including Native American burials. The procedures required to be followed when unknown cultural resources are encountered outside a dedicated cemetery are defined in State law and encompassed by the following mitigation measure CULT-3.

California Health and Safety Code Section 7050.5 describes the procedure to be followed when human remains are uncovered in a location outside a dedicated cemetery. All work in the vicinity of the find shall be halted and the County Coroner shall be notified to determine if an investigation of the death is required. If it is determined that the remains are Native American in origin, then the provisions of California Health and Safety Code Section 7050.5 must be observed. The County Coroner is required to contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission is required to identify the Most Likely Descendants of the deceased Native American, and the Most Likely Descendants may make recommendations on the disposition of the remains and any associated grave goods with appropriate dignity. If a Most Likely Descendant cannot be identified or fails to make a recommendation, or the landowner rejects the recommendations of the Most Likely Descendant, then the landowner must rebury the remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance.

Overall, it is not likely that project development would encounter any tribal cultural resources. However, should such resources be encountered, implementation of Mitigation Measure CULT-3, along with compliance with State codes applicable to the discovery of human remains, would reduce project impacts on tribal cultural resources to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

CULT-3: If any human burials and/or associated funerary objects are encountered during construction, all construction activities within a 50-foot radius of the encounter shall be halted until the County Coroner and the City have been notified, If the Coroner determines that the remains are Native American in origin, then the Coroner must contact the Native American Heritage Commission within 24 hours and take other steps as required by California Health and Safety Code Section 7050.5.

A qualified archaeologist shall be retained by the contractor to examine the materials, evaluate their significance. and, in consultation with a tribal representative if needed, recommend mitigation measures needed to reduce potential effects to a level that is less than significant in a written report to the City. Construction activities in the area of the find shall not resume until the mitigation measures are established. The contractor shall be responsible for retaining qualified professionals, implementing recommended mitigation measures, and documenting mitigation efforts in written reports to the City.

Significance After Mitigation: Less than significant

9.0 GEOLOGY AND SOILS

ENVIRONMENTAL SETTING

Topography and General Geology

The CTSP area, together with the City of Ceres, is near the center of California's Central Valley, a large, northwest-trending, sediment-filled trough, which extends more than 400 miles from the Tehachapi Mountains in the south to the Cascade Range on the north. More specifically, the project site is in the San Joaquin Valley, the portion of the approximate southern portion of the Central Valley drained by the San Joaquin River. The San Joaquin Valley is a basin filled with deep layers of sediment accumulated over geologic time; surface soils consist mainly of alluvial sediments from the Sierra Nevada and Coast Ranges. The topography of Ceres and its surroundings is nearly flat, with elevations of about 80 to 100 feet above sea level (City of Ceres 2018a). The entire project site likewise has a nearly flat topography, with elevations ranging from 80 to 90 feet above sea level.

The Geologic Map of the San Francisco-San Jose Quadrangle shows that the project site is underlain mainly by the Modesto Formation (Wagner et al., 1991). The Modesto Formation is composed of arkosic alluvial deposits of tan and light gray gravely sand, silt, and clay. The Modesto Formation can be differentiated into an upper member and a lower member. The upper member consists of fine to medium sand and is exposed in some terraces and fans associated with major Sierra Nevada rivers, including the Tuolumne River north of Ceres. The lower member consists primarily of sand, with stratified deposits of silt and fine sand, and is associated with alluvial fans covering an extensive part of the northeastern San Joaquin Valley (City of Ceres 2018a).

Seismicity and Other Geological Conditions

The nearest “active” faults (those that have been active in the last 200 years) are about 40 miles away from the Ceres area - the Greenville Fault and Los Positas Fault near Livermore. Nearby potentially active faults that have not had displacement in the past 200 years include much of the Greenville Fault 30 miles west of Ceres and the Ortigalita Fault 25 miles to the southwest. The nearest potentially active fault line is about 11 miles northwest of Ceres (City of Ceres 2018a). Due to the absence of active faults in the Ceres area, the risk of surface rupture, or the breaking of the ground along a fault during an earthquake, is practically nonexistent.

Because there are no known active earthquake faults in the Ceres area, seismic activity is considered minimal. However, the active and potentially active faults in the region can subject Ceres to substantial groundshaking. Groundshaking effects can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material, and can result in damage to or the collapse of buildings and other structures. On September 18-19, 2023, a series of earthquakes occurred in southwestern Stanislaus County, including one of 4.5 magnitude centered approximately nine miles

southwest of the community of Westley. No damage or injuries were reported to have occurred in Ceres from these earthquakes.

Types of seismic ground failure include liquefaction, lateral spreading, subsidence, and landslides. Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment, such as silt and sand, into a fluid state as a result of severe ground motion. Lateral spreading refers to a type of landslide that forms on gentle slopes and has rapid fluid-like movement. Factors determining the potential for liquefaction and lateral spreading are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Due to the well-drained, relatively stable soils, distance from active faults, and depth of the groundwater table (at least 20 feet), the risk of liquefaction and lateral spreading in the Ceres area is low (City of Ceres 2018a).

Subsidence occurs when a large portion of land is displaced vertically. This typically is due to the withdrawal of groundwater, oil, or natural gas. In the Ceres area, this would most likely occur with the removal of groundwater from the Turlock Groundwater Subbasin. Chapter 12.0, Hydrology and Water Quality, discusses the Turlock Subbasin in detail.

Shrink-Swell of soils is more likely to occur in soils with high clay content, as these soils have a higher potential for aquifer compaction. Soils in the Planning Area, however, have low clay content, and thus have a lower potential for shrink-swell concerns (City of Ceres 2018a).

A landslide is the downhill movement of masses of earth material under the force of gravity. Landslides are most likely to occur on sloped areas. As the Ceres area is relatively flat, it has almost no potential for landslides, except for steep banks along the Tuolumne River (City of Ceres 2018a). As noted, the project area is nearly flat and is approximately three miles from the Tuolumne River.

There are no other geological hazards identified in the Ceres area. The nearest site identified with volcanic activity – the Long Valley Caldera in Mono County – is approximately 120 miles to the east. The Ceres area is not subject to tsunami or seiche hazards, as it is not located near any large bodies of water where such events may occur.

Soils

Soil types within the project site are identified in the Natural Resource Conservation Service Web Soil Survey, based on information in the Soil Survey of the Eastern Stanislaus Area (SCS 1964, NRCS 2023). Technical soils information is provided in Table 9-1 below, and Figure 9-1 shows locations of these soil types. Determination as to whether a soil is prime agricultural soil is made based on Stanislaus LAFCo Policies and Procedures, which defines "prime agricultural land" in part as land that qualifies, if irrigated, for rating as class I or class II in the Natural Resources Conservation Service land use capability classification. The land does not actually have to be irrigated, only that irrigation of the land is feasible (Stanislaus LAFCo 2020).

TABLE 9-1
SOILS ON PROJECT SITE

Name	Capability Class	Prime Ag Land	Drainage	Permeability	Erosion Hazard	Runoff
DkA- Dello loamy sand	Class 3 (irrigated)	No	Imperfect to very poor	Very rapid	None	Very slow
DrA – Dinuba sandy loam	Class 2 (irrigated)	Yes	Imperfect	Moderate	Slight	Very slow
DuA- Dinuba sandy loam, poorly drained	Class 3 (irrigated)	No	Poor	Moderate	None	Ponded
DwA- Dinuba sandy loam, slightly saline-alkali	Class 2 (irrigated)	Yes	Imperfect	Slow	Slight	Very slow
HdA – Hanford sandy loam (0-3% slopes)	Class 1 (irrigated)	Yes	Good	Rapid	Slight	Very slow
HdB – Hanford sandy loam (3-8% slopes)	Class 2 (irrigated)	Yes	Good	Rapid	Slight	Slow
HdpA – Hanford sandy loam, moderately deep over silt	Class 2 (irrigated)	Yes	Good	Rapid	Slight	Very slow
TuA – Tujunga loamy sand	Class 3 (irrigated)	No	Somewhat excessive	Very rapid	Slight, moderate wind erosion on fans	Very slow

Sources: SCS 1964, Stanislaus LAFCo 2020, NRCS 2023.

The predominant sandy loam soils (Dinuba and Hanford) are prime soils for agriculture, while the loamy sand soils (Dello and Tujunga) are not considered prime agricultural soils. This classification roughly corresponds to the state mapping of Prime Farmlands and Farmlands of Statewide Significance discussed in Chapter 5.0, Agricultural Resources. Existing agricultural use of the CTSP Area and the potential impacts of the project on that use are addressed in more detail in Chapter 5.0.

Expansive soils have shrink-swell capacity, meaning they may swell when wetted and shrink when dried. Expansive soils can be a hazard for built structures, and may cause cracks in building foundations, distortion of structural elements, and warping of doors and windows, along with potential damage to infrastructure. The higher the clay content of a soil, the higher its shrink-swell potential. Soils in the Ceres area, including those on the project site, have relatively low clay content and therefore low shrink-swell potential (City of Ceres 2018a).

Paleontological Resources

Paleontological resources are fossils or groups of fossils that are unique, unusual, rare, uncommon, or important, and those that add to an existing body of knowledge in specific areas. Surface examination of a study or project area often does not reveal whether paleontological resources are present. The University of California Museum of Paleontology database contains 765 records of vertebrate fossils found in Stanislaus County. California's Pleistocene sedimentary units—especially those that, like the Modesto and Riverbank Formations, record deposition in continental settings—are typically considered highly sensitive for paleontological resources because of the large number of recorded fossil finds in such units throughout the state (Stanislaus County 2016b). As noted, the project site is underlain by the Modesto Formation. However, no known paleontological resources have been uncovered in the Ceres area to date (City of Ceres 2018a).

Mineral Resources

The predominant mineral resources in Stanislaus County are sand and gravel, also known as "aggregate." Aggregate resources are important because of their key role in most construction; aggregate typically cannot be replaced with other products and are most economical when used close to the area where they are mined because of the high cost of transportation. Mining activities occur primarily within fluvial deposits along river and stream drainages (Stanislaus County 2016b). The Ceres General Plan does not identify any mineral resources in the Planning Area, which includes the project site (City of Ceres 2018b).

Oil and natural gas deposits have been identified throughout the Central Valley; however, there are few active fields within Stanislaus County. The nearest active field to the project site is the Oakdale natural gas field, approximately 12 miles to the northeast. The project site does not contain any oil or natural gas fields (DOGGR 2023).

REGULATORY FRAMEWORK

Federal

National Pollution Discharge Elimination System

In California, the SWRCB and, in the Ceres area, the Central Valley Regional Water Quality Control Board (RWQCB) administer the National Pollution Discharge Elimination System (NPDES) program. The NPDES permit system was established as part of the Federal Clean Water Act to regulate both point source discharges and non-point source discharges to surface water of the United States, including the discharge of soils eroded from construction sites.

The NPDES program consists of characterizing receiving water quality, identifying harmful constituents (including siltation), targeting potential sources of pollutants (including excavation and grading operations), and implementing a comprehensive stormwater management program. Construction and industrial activities typically are

regulated under statewide general permits that are issued by the SWRCB. Additionally, the SWRCB issues Waste Discharge Requirements that also serve as NPDES permits under the authority delegated to the RWQCBs, under the Clean Water Act. Chapter 12.0, Hydrology and Water Quality, provides more information about the NPDES.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act, enacted in 1972 and subsequently amended, prohibits the location of most structures for human occupancy across the traces of active faults, thereby mitigating the hazard of fault rupture. Under the Act, the State Geologist is required to delineate Earthquake Fault Zones along known active faults in California. Cities and counties affected by the zones must regulate certain development projects within the zones, withholding development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting (Bryant and Hart 2007).

The project site Is not within an area mapped by the State Geologist as a "Zone of Required Investigation," which includes Alquist-Priolo Earthquake Fault Zones. A Zone of Required Investigation is established where required to reduce the threat to public health and safety and to minimize the loss of life and property posed by earthquake-triggered ground failures (California Geological Survey 2024).

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 to address earthquake hazards such as seismically induced liquefaction and landslides, with the purposes of reducing the threat to public health and safety and minimizing the loss of life and property that may result from earthquake-triggered ground failure. Under the Act, seismic hazard zones are mapped through the Seismic Hazards Zonation Program of the California Geological Survey to identify areas prone to earthquake-induced liquefaction, landslides, and amplified ground shaking. Section 2697(a) of the Act states that, prior to the approval of a project located in a seismic hazard zone, cities and counties shall require a geotechnical report defining and delineating any seismic hazard. As noted, the project site is not within an area mapped by the State Geologist as a Zone of Required Investigation, which includes Seismic Hazards Mapping Act zones.

California Building Code

The California Building Code is in Title 24 of the California Code of Regulations and incorporates the International Building Code, a model building code adopted across the United States. The California Building Code is updated every three years, and the 2022 version took effect January 1, 2023. The City of Ceres has adopted the 2022 California Building Code by reference.

The California Building Code contains building requirements that address likely ground shaking hazards that may occur in the Ceres area. It can require detailed soils and/or geotechnical studies in areas of suspected geological hazards, such as unstable geologic

units that may be subject to collapse, subsidence, landslides, liquefaction, or lateral spreading.

Construction General Permit

Construction projects that involve one acre or more of ground disturbance are required to obtain a Construction General Permit, issued by the SWRCB. Discharges subject to the Construction General Permit must develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP includes a site map and description of construction activities and identifies the Best Management Practices (BMPs) that will be employed to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. A monitoring program is generally required to ensure that BMPs are implemented according to the SWPPP and are effective at controlling discharges of stormwater-related pollutants.

Modifications to the Construction General Permit in 2010 established BMPs and monitoring requirements through a "risk-based" approach. Construction activities would be assessed for the risk that erosion and sedimentation generated by the activity would pose to water quality in the area, based on potential rainfall likelihood and intensity and on the sensitivity of waters receiving runoff from the construction site.

Surface Mining and Reclamation Act

As mandated by the Surface Mining and Reclamation Act, the California Geological Survey has classified mineral resource development potential of lands in counties into an appropriate Mineral Resource Zone (MRZ), in accordance with the California Mineral Land Classification System. Local agencies are required to use this information when developing land use plans and when making land use decisions. The MRZ classifications include:

MRZ-1–- Areas of No Mineral Resource Significance

MRZ-2–- Areas of Identified Mineral Resource Significance

MRZ-3–- Areas of Undetermined Mineral Resource Significance

MRZ-4–- Areas of Unknown Mineral Resource Significance

Neither the City of Ceres nor the Stanislaus County General Plans have identified any mineral resources on or near the project site in accordance with MRZ designations.

Local

Ceres Municipal Code

Section 17.05.040(D)(9) requires an applicant for a subdivision map to submit a preliminary soil report, prepared by a State registered civil engineer. The report shall be based on adequate test borings or excavations. If the preliminary soils report indicates the presence of critically expansive soils or other soil problems that would lead to structural defects if not corrected, the Community Development Director may require a soils

investigation covering each lot in the subdivision as a precedent to consideration of the tentative map. The soils investigation shall be done in the manner provided in Government Code Section 66491, part of the Subdivision Map Act. Section 17.05.040(D)(11) also requires a preliminary grading plan; however, this plan may be waived by the Community Development Director when it is determined that the submittal of said plan is not required for proper grading, flood hazard mitigation, and erosion control of the proposed subdivision.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on geology, soils, and mineral resources if it would:

- Indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), or landslides.
- Result in substantial soil erosion or the loss of topsoil,
- 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,
- 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,
- 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 [Since the project would connect to the City's wastewater system; it would not use septic tanks or alternative wastewater disposal systems. Therefore, this issue is not analyzed in this EIR],
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature,
- Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state, or
- 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.

Impact GEO-1: Fault Rupture, Seismic Shaking, and Seismically Induced Failure

There are no active or potentially active faults located on or in the vicinity of the project site. New development would be exposed to potential ground shaking associated with earthquake activity occurring on more distant fault systems. However, routine implementation and enforcement of the California Building Code adopted at the time of proposed development, including its seismic safety provisions that address design specifications related to seismic forces, would reduce the potential for earthquake damage to a level that is generally regarded by structural engineers throughout California as acceptable. Therefore, project impacts are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact GEO-2: Soil Erosion

Planned development of the CTSP and Pocket Areas would involve ground disturbance during mass grading and other construction activities. While soils would be exposed to potential water and wind erosion, the site is relatively flat, and the sandy loams and loamy sands of the project area are not highly susceptible to erosion. In the Pocket Area, new development would be limited, as most of this area is already developed.

New development would be required to comply with the City's Storm Water Management Program, which is further discussed in Chapter 12.0, Hydrology and Water Quality. Among other requirements, the program requires the incorporation of construction and post-construction BMPs that limit soil erosion. In addition, development projects of one acre or more would be required to obtain a Construction General Permit from the SWRCB, provisions of which include preparation of a SWPPP. Compliance with these requirements would mitigate potential erosion impacts to a level that is less than significant. Potential erosion-associated water quality impacts and the application of the referenced storm water requirements are discussed in more detail in Chapter 12.0, Hydrology and Water Quality.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact GEO-3: Exposure to or Effects on Unstable Geologic Units or Soils

Some improvements associated with implementation of the CTSP could be located on geologic units or soils that are unstable, or that could become unstable and result in geologic hazards if not addressed appropriately. Areas with underlying materials that include undocumented fills, soft compressible deposits, or loose debris could be inadequate to support development, especially multi-story buildings.

The potential hazards of unstable soil or geologic units would be addressed largely through the integration of geotechnical information in the planning and design process for projects to determine the local soil suitability for specific projects in accordance with standard industry practices and state-provided requirements, such as California Building Code

requirements that are used to minimize the risk associated with these hazards. In addition, Ceres Municipal Code Section 17.05.040 requires an applicant for a subdivision map to submit a preliminary soil report, prepared by a registered civil engineer who is registered by the State. If the preliminary soils report indicates the presence of critically expansive soils or other soil problems that would lead to structural defects if not corrected, the Community Development Director may require a soils investigation covering each lot in the subdivision as a precedent to consideration of the tentative map. Implementation of this Municipal Code provision would further reduce the potential for project exposure to any potential geologic hazards. Project impacts related to unstable soils would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact GEO-4: Expansive Soils

Soils located within the project site do not have a high shrink-swell potential, as they are sandy loams or loamy sands, which have a relatively low clay content. As noted, Ceres Municipal Code Section 17.05.040 requires the preparation of soil and/or geotechnical reports in conjunction with a tentative subdivision map. Applicants are held responsible for complying with recommendations in the soils and geotechnical reports. With implementation of geotechnical report recommendations, any potential expansive soil impacts would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact GEO-5: Adequacy of Soils for On-Site Wastewater Disposal Systems

Future development within the project site would be served by the City of Ceres wastewater collection and treatment system. As discussed in Chapter 17.0, Utilities and Service Systems, sufficient collection line and treatment capacity is or will be available to accommodate CTSP or Pocket Area development. Annexation and CTSP approval would not involve or further the use of on-site septic tanks or alternative wastewater treatment systems; therefore, the project would have no impact on this issue.

Level of Significance: No impact

Mitigation Measures: None required

Impact GEO-6: Paleontological Resources

The project site does not contain any known paleontological resources or unique geological features. However, the project site is underlain by the Modesto Formation, which has been known to yield fossils in the past. Therefore, it is conceivable that excavation associated with future land development activities could unearth paleontological materials of unknown significance. Mitigation described below would establish procedures to address paleontological discoveries if they should occur. Implementation of this mitigation

measure would reduce potential project impacts on paleontological resources to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

GEO-1: If paleontological resources are encountered during project construction, the City of Ceres shall be immediately notified of the discovery, and construction activity within 50 feet of the encounter shall cease until a qualified paleontologist examines the materials, determines their significance under CEQA, and recommends mitigation measures that would be necessary to reduce potentially significant effects to a level that is less than significant. The developer or its contractor shall be responsible for retaining a qualified paleontologist and for implementing recommended mitigation measures. Construction activities in the area of the find shall not resume until the mitigation measures are in place.

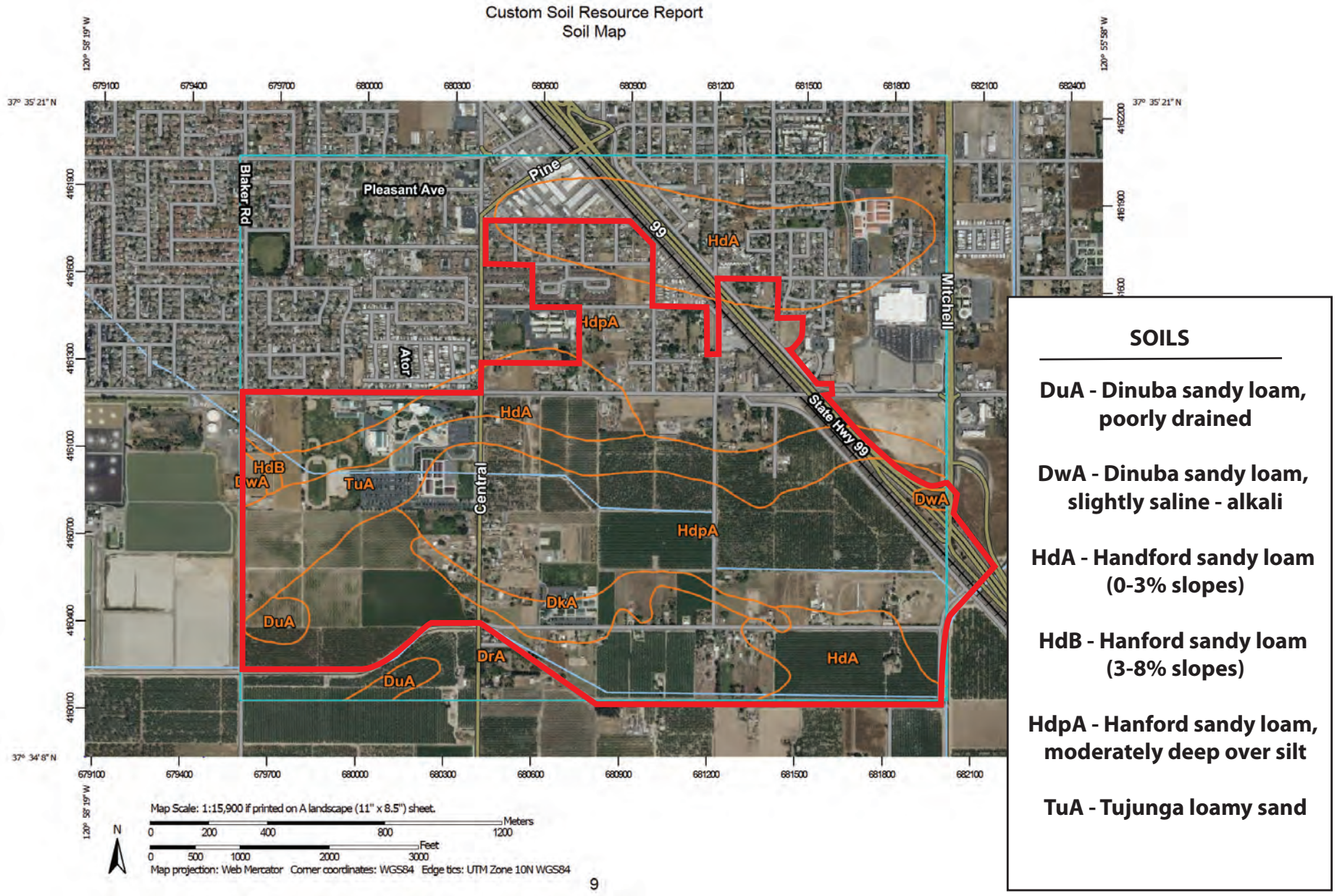
Significance After Mitigation: Less than significant

Impact GEO-7: Mineral and Energy Resources

As discussed in the Environmental Setting, there are no known mineral or energy resources present within the project site, including oil or natural gas deposits. As such, future development would not affect the availability of or access to mineral resources. The project would have no impact on this issue.

Level of Significance: No impact

Mitigation Measures: None required



SOILS

DuA - Dinuba sandy loam, poorly drained

DwA - Dinuba sandy loam, slightly saline - alkali

HdA - Handford sandy loam (0-3% slopes)

HdB - Hanford sandy loam (3-8% slopes)

HdpA - Hanford sandy loam, moderately deep over silt

TuA - Tujunga loamy sand

Figure 9-1
SOIL TYPES

10.0 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL SETTING

Global Climate Change and Greenhouse Gases

Global climate change is a change in the Earth's average weather conditions, as quantified by temperature, rainfall and other records, over a long period of time. Recent scientific observations and studies indicate that global climate change is now occurring and is linked to an increase in the average global temperature that has been observed. There is a consensus among climate scientists that the primary cause of this change is greenhouse gas (GHG) emissions generated primarily by human activities (CAPCOA 2009). A GHG is a gas that traps heat in the earth's atmosphere. GHGs include carbon dioxide, the most abundant GHG, along with methane, nitrous oxide, and less abundant gases. GHGs vary in their heat-trapping properties. Because of this, measurements of GHG emissions are commonly expressed in carbon dioxide equivalent (CO_2e), in which emissions of all other GHGs are converted to equivalent carbon dioxide emissions.

Concerns related to global climate change include the direct consequences of a warmer climate, but also include indirect effects such as reduced air quality, reduced snowpack, higher-intensity storms, and rising sea levels. All these changes have implications for the human environment, as well as existing ecosystems and the species that depend on them. The United Nations Intergovernmental Panel on Climate Change has concluded that stabilization of greenhouse gases at a concentration of 400-450 parts per million (ppm) CO_2e is required to keep mean global warming below 2° Celsius, which is considered necessary to avoid dangerous impacts of climate change (IPCC 2001). According to data collected by the National Oceanic and Atmospheric Administration, the monthly average carbon dioxide concentration in the atmosphere was 425.38 ppm in March 2024, an increase of 4.39 ppm from the monthly average in March 2023 (NOAA 2024).

The State of California has taken an active role in addressing climate change concerns. Among other activities, through a collaboration of three agencies, the State has prepared Climate Change Assessments that provide scientific assessments on the potential impacts of climate change in California and reports potential adaptation responses. The most recent reports include assessments of climate change impacts by region, including the San Joaquin Valley. Potential climate change impacts occurring in the San Joaquin Valley include the following (Fernandez-Bou et al. 2021):

- Higher temperatures.
- Increasing potential evapotranspiration from plants and soils.
- Longer and more severe droughts.
- Declining snowpack.

- More intense precipitation events.
- More frequent and extensive wildfires.

The consequences of these impacts would fall on the following sectors in the San Joaquin Valley. These would especially affect rural disadvantaged communities (Fernandez-Bou et al. 2021).

- Agriculture - fewer winter chill hours, shifts in water availability, and extreme heat have direct and indirect impacts such as changes in yield, crops water demand, increasing competition for water from other sectors, and reduced farm labor availability.
- Ecosystems - scarcer water supply will shape habitats and will be the determining factor for survival of many species, increases in soil salinity by saltwater intrusion, future droughts may lead to insufficient flooding and a decrease in food availability for waterfowl, warming in rivers contributing to local species extinction and facilitating the colonization by invasive species.
- Water resources - reduced water availability for irrigated agriculture, demand for groundwater for agriculture will increase while groundwater availability decreases, degradation of water quality.
- Infrastructure - accelerated deterioration of private property, canals, dams, roads, railways, and levees due to increasing land subsidence, droughts and associated over pumping, wildfires, and floods.
- Public health - more heat-related deaths and illnesses, illnesses caused by poor water quality, and other issues caused by droughts, wildfires, and some agricultural activities.

While many of these effects would not directly affect Ceres, several would involve indirect effects. For example, less precipitation and potentially reduced releases from Don Pedro Reservoir would mean less water for distribution or irrigation water by TID and potential recharge of the Ceres groundwater system. Portions of the City along the Tuolumne River could be more prone to flooding from extreme weather events, although the CTSP Area would likely be unaffected. Changes in agriculture would affect the Ceres community and the area economy. Increased heat, hot day frequency, and reduced air quality could negatively affect public health.

Although local activities can emit GHGs, the impacts of GHG emissions are global in character. While global climate change can influence regional and local environments, it is not possible to connect GHG emissions from an individual project to changes in the local environment that result from climate change, as these changes result from the cumulative accumulation of GHGs in the atmosphere. As such, this analysis of project impacts focuses on whether project GHG emissions would make a significant cumulative contribution to global GHG emissions, and therefore to cumulative GHG effects.

Existing GHG Emissions

GHG emissions in California in 2021, the most recent year for which data are available, were estimated at approximately 381.3 million metric tons CO_2e – a decrease of approximately 21.5% from the peak level in 2004 but an increase of approximately 3% from the 2020 emissions. Transportation was the largest contributor to GHG emissions in California, with 39% of total emissions. Other significant sources include industrial activities, with approximately 22% of total emissions, and electric power generation, both in-state and imported, with approximately 16% of total emissions (ARB 2023).

As part of the recent update to the Ceres General Plan, a GHG emissions inventory was conducted for the Planning Area, using a baseline year of 2014. The inventory found Planning Area GHG emissions in 2014 totaled 327,665 metric tons CO_2e annually. The transportation sector was the largest source of emissions, generating approximately 36 percent of total emissions. Transportation sector emissions were the result of diesel and gasoline combustion in vehicles traveling on both local roads and State highways that pass through the jurisdictional boundaries of the Planning Area. The second largest source of emissions was electricity and natural gas consumption within the residential sector, generating approximately 26 percent of the total. Electricity and natural gas use in the industrial sector, the third largest source, produced approximately 15 percent of total emissions (City of Ceres 2018a). More recent information on GHG emissions in Ceres is not available.

REGULATORY FRAMEWORK

Federal

As noted above, the EPA has found that GHG emissions endanger both the public health and public welfare under Section 202(a) of the Clean Air Act. However, the federal government currently does not have a comprehensive GHG strategy.

Some GHG emission reduction actions have been adopted at the federal level. In coordination with the U.S. Department of Transportation, EPA issued GHG emission and fuel economy standards for passenger vehicles and trucks that are intended to cut six billion metric tons of GHG emissions over the lifetimes of vehicles sold in model years 2012-2025. In 2010, the EPA set GHG emissions thresholds to define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2013, the EPA proposed standards to cut carbon emissions from new power plants, which were adopted in 2015. Also, in 2015, the EPA adopted the Clean Power Plan, which established guidelines for states in limiting carbon dioxide emissions from existing power plants. The Clean Power Plan was repealed in 2019, and a U.S. Supreme Court decision issued in 2022 limits EPA's authority to regulate GHG emissions from existing plants. However, the 2015 emission standards for new power plants remain in place.

In 2015, the Paris Agreement was reached among 196 countries, with each country pledging to take actions to decrease GHG emissions to reach the overall goal of limiting the increase in global temperature to no more than two degrees Celsius. The Paris Agreement does not set legally binding reduction targets; instead, all parties are to put forward their best efforts through "nationally determined contributions" and to strengthen these efforts in the years ahead. All parties are to report regularly on their emissions and their reduction implementation efforts. The United States was a signatory to the Paris Agreement, but it has not yet adopted a plan to meet the goals of the agreement.

State

California has addressed climate change on its own initiative as early as 1988, when the California Energy Commission was designated as the lead agency for climate change issues. However, the most significant state activities have occurred since 2005, when executive orders and State legislation established the current framework for addressing GHG emissions and climate change. Several of these actions are described below.

Executive Orders S-3-05 and B-30-15

Executive Order S-3-05, signed by Governor Schwarzenegger in 2005, established GHG emission reduction targets for California. Specifically, GHG emissions would be reduced to the level of emissions in the year 2000 by 2010, to the level of emissions in the year 1990 by 2020, and to 80% below the 1990 emissions level by 2050. The desired 2050 GHG emission reduction is consistent with the Intergovernmental Panel on Climate Change objectives for stabilizing global climate change. The 2020 reduction goal set forth by S-3-05 was codified by AB 32, which is described below.

On April 29, 2015, Governor Brown signed Executive Order B-30-15, which advanced the goals of Executive Order S-3-05 by establishing a GHG reduction target of 40% below 1990 emission levels by 2030. The 2030 reduction goal set forth by B-30-15 was codified by Senate Bill (SB) 32, which also is described below. In 2022, AB 1279 was enacted, requiring statewide GHG emissions to be reduced to at least 85% below 1990 levels by 2045. This magnifies and accelerates the 2050 reduction goal set forth in Executive Order S-3-05. The AB 1279 goals have been incorporated in the recently adopted 2022 Scoping Plan (see SB 32 discussion below).

AB 32

AB 32, the Global Warming Solutions Act of 2006, is State legislation that sets goals of reducing GHG emissions to year 2000 levels by 2010 and to year 1990 levels by 2020. These specific goals are directly related to the Governor's overall objectives established in Executive Order S-3-05. The State's initial planning efforts were oriented toward meeting the legislated 2010 and 2020 goals, while placing the State on a trajectory that will facilitate eventual achievement of the 2050 goal set forth in Executive Order S-3-05.

The ARB has primary responsibility for AB 32 implementation. ARB adopted a Climate Change Scoping Plan in 2008 with the purpose of meeting the AB 32 targets. The 2008 Scoping Plan proposed to reduce GHG emissions from the State's projected 2020 "business-as-usual" emissions by approximately 29%. Nearly 85% of the GHG reductions

would be achieved under a "cap-and-trade" program and "complementary measures," including expansion of energy efficiency programs, increase in the use of renewable energy sources, and low-carbon fuel standards, among others. The remaining 15% would include measures applicable to GHG sources not covered by the cap-and-trade program (ARB 2008b).

The cap-and-trade program was the centerpiece of the GHG reduction program set forth in the 2008 Scoping Plan. In general, the program sets a "cap" on the total GHG emissions that would be allowed in California, which gradually decreases over time. Allowances for GHG emissions are sold at auction to industrial activities and utilities that emit large quantities of GHGs, which in turn can sell allowances that are unused to other activities that need more allowances (the "trade" component). The State Legislature recently extended the cap-and-trade program from its original expiration in 2020 to 2030, as part of a strategy to meet GHG reduction targets set by SB 32 (see below).

In May 2014, the ARB approved the First Update to the Scoping Plan. The 2014 Update lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to the 2050 target set forth in Executive Order S-3-05. It recommended actions in nine sectors: energy, transportation, agriculture, water, waste management, natural and working lands, short-lived climate pollutants, green buildings, and the cap-and-trade program (ARB 2014).

According to the California Greenhouse Gas Emission Inventory, for the target year of 2020, state GHG emissions were 369.2 million metric tons CO2e, which was 35.3 million metric tons CO2e below 2019 emissions and 61.8 million metric tons CO2e below the AB 32 target. However, this substantial decrease was most likely caused by the lockdown ordered by the State that year in response to the COVID-19 pandemic. Economic recovery from the pandemic may result in GHG emission increases over the next few years (ARB 2022a). This observation appears to be confirmed by the 2021 figure mentioned above, which was an increase of 12.1 million metric tons CO2e from the 2020 figure.

SB 32

In 2016, SB 32 was enacted. SB 32 extends the GHG reduction goals of AB 32 by requiring statewide GHG emission levels to be 40% below 1990 levels by 2030, in accordance with the target established by Executive Order B-30-15. The State adopted an updated Scoping Plan in 2017 that sets forth strategies for achieving the SB 32 target. The 2017 Scoping Plan continues many of the programs that were part of the previous Scoping Plans, including the cap-and-trade program, low-carbon fuel standards, renewable energy, and methane reduction strategies. It also addresses for the first time GHG emissions from the natural and working lands of California, including the agriculture and forestry sectors. Both natural and working lands sequester carbon in trees, other vegetation, soils, and aquatic sediment. The 2017 Scoping Plan recommends protecting working lands from conversion, enhancing carbon sequestration, and encouraging innovation in the disposal of biomass from working lands (ARB 2017).

On December 15, 2022, ARB adopted an update to the Scoping Plan. The 2022 Scoping Plan assesses progress towards achieving the SB 32 2030 reduction target and lays out a path to achieve carbon neutrality no later than 2045, in accordance with Executive Order B-55-18 (see below). Proposed strategies to achieve these reductions include rapid movement to zero-emission transportation, phasing out fossil fuel use for heating homes and buildings, further restricting use of chemicals and refrigerants that are thousands of times more powerful at trapping heat than carbon dioxide, expanded development of renewable energy sources, increased use of natural and working lands for incorporating and storing carbon, and greater employment of carbon removal technology (ARB 2022b).

Executive Order B-55-18

In 2018, Governor Brown signed Executive Order B-55-18. This executive order set a statewide goal of achieving carbon neutrality no later than 2045. "Carbon neutrality" refers to achieving net zero carbon emissions (i.e., GHGs) by balancing a measured amount of carbon released with an equivalent amount sequestered or offset. After 2045, California shall achieve and maintain net negative GHG emissions, or greater GHG sequestration or offsets than emissions. The carbon neutrality goal set by Executive Order B-55-18 was codified this year with the signing of AB 1279.

Executive Order N-79-20

In 2020, Governor Newsom issued Executive Order N-79-20, setting new statewide goals for phasing out gasoline-powered cars and trucks in California. Under this order, 100% of in-state sales of new passenger cars and trucks are to be zero-emission by 2035; 100% of in-state sales of medium- and heavy-duty trucks and buses are to be zero-emission by 2045 where feasible; all drayage trucks are to be zero-emission by 2035; and 100% of off-road vehicles and equipment sales are to be zero-emission by 2035 where feasible. The Governor directed ARB and other state agencies to develop regulations or take other steps within existing authority to achieve these goals.

SB 375/Sustainable Communities Strategy

In 2008, the State enacted SB 375, which is discussed in more detail in Chapter 16.0, Transportation. Relevant to this chapter, SB 375 requires a metropolitan planning organization to include a Sustainable Communities Strategy (SCS) in its Regional Transportation Plan (RTP). The SCS demonstrates an approach to how land use development and transportation can work together to meet GHG emission reduction targets for cars and light trucks. These targets, set by ARB, call for the region to reduce per capita GHG emissions. If a metropolitan planning organization is unable to meet the targets through the SCS, then an alternative planning strategy must be developed which demonstrates how targets could be achieved.

StanCOG is the metropolitan planning organization for Stanislaus County and its incorporated cities. The ARB provided GHG reduction targets for the StanCOG region in 2019, setting them at a 12% per capita reduction relative to 2005 levels by 2020, and a 16% per capita reduction relative to 2005 levels by 2035 (StanCOG 2022b).

The 2022 SCS was adopted by StanCOG on August 17, 2022. The SCS includes strategies designed to attain the GHG per capita reduction targets, mainly through a Travel Demand Management program that intends to develop alternatives to single-occupancy vehicle travel, with the ultimate goal of reducing systemwide VMT, thereby reducing GHG emissions. Among the strategies that may be relevant to the project are investing in new and safe connections for walking and biking trips; promoting and encouraging "smart travel" through carpooling, vanpooling, riding transit, walking, and biking; and a VMT mitigation bank (StanCOG 2022a).

StanCOG has no authority to enforce the policies and strategies in the SCS; the ultimate authority regarding land use remains with the local governments. However, the Ceres General Plan has policies related to sustainability and multi-modal transportation objectives that would complement the goals and policies of the RTP/SCS (City of Ceres 2018a).

Renewables Portfolio Standard

Use of renewable energy sources (i.e., solar, wind, geothermal, hydroelectric from small generators, etc.) reduces the amount of energy generated by fossil fuels (i.e., coal, oil, and natural gas), the burning of which releases GHGs. In 2002, California adopted a Renewables Portfolio Standard, and subsequently modified it in 2006 and 2011. Under the 2011 modifications, all electricity retailers in the state must generate 20% of electricity they sell from renewable energy sources by the end of 2013, 25% by the end of 2016, and 33% by the end of 2020. As of the end of 2020, most retail electricity sellers, including all investor-owned utilities such as PG&E, have met or exceeded the 2020 target of 33 percent (CPUC 2021).

In 2015, SB 350 was signed into law, which increased the electricity generation requirement from renewable sources to 50% by 2030. In 2018, SB 100 was enacted. SB 100 accelerated the schedule for 50% electricity generation from renewable sources to the year 2026 and set a goal of 60% electrical generation from renewable sources by 2030. It also set the goal that zero-carbon resources will supply 100% of electricity to California by 2045. As of the end of 2022, most retail electricity sellers have met or exceeded the interim target for 2021, and all investor-owned utilities are on track to meet the overall 2021-2024 compliance period requirement of 44 percent (CPUC 2022).

TID is a public utility that provides electricity to the Ceres area. TID utilizes renewable energy sources such as solar, wind, and small hydroelectric. As of 2022, TID fully complied with renewable energy requirements by using generation from its current renewable resources and through the use of prior years' qualifying energy and credits (TID 2023).

In 2023, SB 1020 was enacted, which sets additional goals for electricity generation from renewable sources - 90% by the end of 2035 and 95% by the end of 2040. The goals of SB 100 and SB 1020 are consistent with the carbon neutrality goal of Executive Order B-55-18.

Other State Regulations

Chapter 6.0, Air Quality, describes the Advanced Clean Truck Regulation adopted by ARB. This regulation aims to reduce GHG emissions generated by trucks, which are a major source of transportation GHG emissions. It is anticipated that, by 2040, the Advanced Clean Truck Regulation would reduce GHG emissions by approximately 7% below baseline (ARB 2020b).

In 2009, the ARB adopted the Low Carbon Fuel Standard regulation, which was one of the early action measures specified in the 2008 Scoping Plan that implemented AB 32. The Low Carbon Fuel Standard is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. The standards are expressed in terms of the "carbon intensity" of gasoline and diesel fuel and their respective substitutes. In 2018, the ARB approved amendments to the regulation, which among others included strengthening and smoothing the carbon intensity benchmarks through 2030, in line with California's 2030 GHG emission reduction target enacted through SB 32. Cumulatively from 2019 through 2030, the 2018 amendments would provide an additional 97 million metric tons CO2e emission reductions as compared to the 2016 existing conditions baseline and an additional 63 million metric tons CO2e emission reductions as compared to the business-as-usual scenario (ARB 2018).

Regional and Local

San Joaquin Valley Air Pollution Control District

The SJVAPCD adopted a Climate Change Action Plan in 2008 and issued guidance for development project compliance with the plan in 2009. The guidance adopted an approach that relies on the use of Best Performance Standards to reduce GHG emissions. Projects implementing Best Performance Standards would be determined to have a less than cumulatively significant impact. Such standards have been established for fossil fuel-fired boilers, steam generators and process heaters; fossil fuel-fired cogeneration plants; landfill operations; and wastewater treatment operations among other stationary sources (SJVAPCD 2009).

For projects not implementing Best Performance Standards, such as development projects, demonstration of a 29% reduction in project-specific (i.e., operational) GHG emissions from business-as-usual conditions is required to determine that a project would have a less-than-significant cumulative impact (SJVAPCD 2009). However, the percentage reduction approach was called into question by the California Supreme Court in its 2015 decision on *Center for Biological Diversity v. California Department of Fish and Wildlife*, also referred to as the "Newhall Ranch case." The court held that the GHG analysis for the Newhall Ranch project, which used percentage reduction, lacked supporting substantial evidence and a cogent explanation correlating the project-specific reductions to AB 32's mandated state-wide reductions so as to demonstrate consistency with the latter's goals under the approved methodology.

Ceres General Plan

The City of Ceres does not have a Climate Action Plan or other formal GHG reduction plan. However, the Ceres General Plan contains policies relevant to the project that are intended to reduce GHG emissions. Among these policies are the following (City of Ceres 2018b):

- Policy 2.I.2 - Area-wide Plans. Use area-wide plans (i.e., master plans or specific plans) to comprehensively plan for new neighborhood developments. Each residential areawide plan should at minimum address the following:

  Provisions for linking residential neighborhoods, parks, schools, shopping areas, and employment centers through a system of pedestrian and bicycle pathways.

- Policy 2.I.3 - Pedestrian-Oriented Design. Promote architectural and landscape design features in new development that create more pedestrian-friendly neighborhoods, such as orientation to the street; rear, setback, or detached garages; front porches; tree-lined streets; and landscaped strips between streets and sidewalks.

- Policy 3.A.1- Multi-Modal Network. Provide for a comprehensive, integrated transportation network in accordance with the functional classification system described in this chapter and reflected in the Circulation Diagram with infrastructure and design that allows safe and convenient travel along and across streets for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility.

- Policy 4.G.5 - Reduce VMT. Emphasize transit-oriented, walkable, compact development patterns to reduce total vehicle miles traveled.

- Policy 5.E.1 - Green Building Code. Continue to implement and enforce the California Green Building Code to promote energy efficient building design and construction.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact related to GHG emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or

- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

This EIR conducts its GHG analysis in accordance with CEQA Guidelines Section 15064.4, which states that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. CEQA Guidelines Section 15064.4(b) states that a Lead Agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Some jurisdictions have established quantitative thresholds for determining the significance of project GHG emissions from construction activities and project operations. Neither the City nor SJVAPCD has established such quantitative significance thresholds. As noted, the SJVAPCD recommended a 29% reduction from business-as-usual GHG levels for project operational emissions to determine consistency with GHG reduction goals, but the California Supreme Court has indicated this approach is not valid.

Impact GHG-1: GHG Emissions from Construction Activities

GHG emissions would result from the construction of the land uses designated by the CTSP over the buildout period. Given the mostly developed state of the Pocket Area, construction GHG emissions anticipated to be generated from this area would be limited. Construction GHG sources would include construction employee travel, heavy equipment operation, and light vehicle and other equipment used in the construction process. Indirect GHG emissions would also result from electrical energy usage and construction materials manufacturing. This analysis is limited to direct emissions that can be readily modeled.

The CalEEMod model was used to estimate GHG emissions from the assumed "maximum construction year," as defined in Chapter 6.0, Air Quality. Default modeling assumptions were used, and no mitigation was assumed. The results of the CalEEMod run (see Appendix A) indicate that estimated GHG emissions from construction during the assumed maximum construction year would be 478 metric tons CO_2e.

As noted, a quantitative GHG significance threshold has not been established by the SJVAPCD or the City. However, the nearby Sacramento Metropolitan Air Quality Management District has established a quantitative threshold of 1,100 metric tons CO_2e to determine significance of project GHG emissions for CEQA purposes (SMAQMD 2021). This threshold applies to both construction and operational emissions. CEQA Guidelines Section 15064.7 allows for the use of significance thresholds established by other agencies. Based on this significance threshold, construction GHG emissions during the maximum construction year would be less than significant.

As noted in Chapter 6.0, some project construction of many projects in the CTSP Area would be required to comply with SJVAPCD Rule 9510, the ISR. The ISR requires a demonstration that construction NO_x and PM_{10} exhaust emissions will be reduced by 20% and 45% respectively, or payment of ISR fees in lieu of emission reductions. On-site mitigation measures that reduce these emissions would also likely result in reduced GHG emissions. To be more competitive, construction contractors are modifying their construction equipment fleet to reduce emissions and therefore ISR permitting costs, which also would likely reduce GHG emissions. Statewide GHG emission reduction and air quality improvement programs can also be expected to result in further reductions in GHG emissions from off-highway equipment use.

In its NOP comment letter, the SJVAPCD made the following suggestions to further reduce GHG generated by construction emissions:

- The project should utilize the cleanest available off-road construction equipment.
- The DEIR should include measures to ensure compliance with the state anti-idling regulation and discuss the importance of limiting the amount of idling, especially near sensitive receptors. In addition, the District recommends the City consider the feasibility of implementing a more stringent 3-minute idling restriction and requiring appropriate signage and enforcement of idling restrictions.

The City shall incorporate these recommendations from SJVAPCD as conditions of approval, even though construction GHG emission impacts have been determined to be less than significant. In any event, construction GHG emissions are short-term and would cease when construction work is completed, as opposed to long-term operational emissions that are discussed below. Project impacts related to construction GHG emissions are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact GHG-2: GHG Emissions from Project Operations

GHG emissions from various sources would result from future development under the CTSP. Given the mostly developed state of the Pocket Area, operational GHG emissions anticipated to be generated from this area are anticipated to change little from existing conditions. Operational GHG emissions are long-term, continuing indefinitely. "Area" GHG sources include use of natural gas for water and space heating in commercial and residential structures. Vehicle travel, considered a "mobile" GHG source, would emit tailpipe GHGs. Electrical heating, lighting, and other uses would indirectly produce GHG emissions from power generation plants, as would additional demands on water supply and waste disposal systems.

Operational GHG emissions were estimated at buildout of the CTSP Area, using the CalEEMod program. Emissions were modeled under unmitigated and mitigated conditions

using CalEEMod model default settings; both values are shown in Table 10-1. Mitigation measures used in the mitigated CalEEMod run are the same as those described in Chapter 6.0, Air Quality.

TABLE 10-1
GHG EMISSIONS FROM PROJECT OPERATIONS AT BUILDOUT

	Emissions at Buildout (metric tons/year CO2e)	
GHG Emission Type	**Unmitigated**	**Mitigated**
Area	1,596	1,596
Energy	15,410	15,078
Mobile	24,748	15,078
Waste	1,208	302
Water	656	525
Refrigerants	2,340	2,340
Total	**45,959**	**43,005**
Mitigation Reduction	**-**	**6.4%**

As shown by Table 10-1, mobile sources contribute the most GHG emissions; the second highest emissions are contributed by energy usage. Emissions for energy, mobile, and area sources individually exceed the 1,100-metric ton CO2e significance threshold, as well as total emissions under both unmitigated and mitigated conditions. Absent other considerations, GHG emissions from project operations would be considered significant. However, as discussed below, mitigated GHG emissions would be reduced from unmitigated emissions by a percentage that is consistent with the State's GHG reduction plans. Additional GHG reduction measures to be implemented by the State, such as the Clean Fleet regulations and the Renewables Portfolio Standard would further reduce GHG emissions.

Nevertheless, GHG emissions resulting from CTSP development would remain significant even with application of GHG reduction measures and regulations. Therefore, project impacts are considered significant and unavoidable.

Level of Significance: Significant and unavoidable

Mitigation Measures: None feasible

Impact GHG-3: Consistency with Applicable GHG Plans and Policies

As noted, the City of Ceres does not have a Climate Action Plan or other formal GHG reduction plan. The SJVAPCD has recommended a 29% reduction from business-as-usual GHG levels for project operational emissions to determine consistency with GHG

reduction goals, but the California Supreme Court has indicated this approach to evaluating project environmental impacts related to GHG emissions is not valid. Therefore, the analysis of consistency of the CTSP with GHG reduction plans shall focus on SB 32 and its Scoping Plan below.

The 2017 Scoping Plan proposes various measures to achieve the 2030 target. Most of these are State measures, such as use of the cap-and-trade program, the Short-Lived Climate Pollutant Plan, and achievement of the 50% renewable sources of electricity in the Renewables Portfolio Standard. Based on estimates in the 2017 Scoping Plan, State actions would account for 89.8% of GHG reductions needed by 2030, with local actions accounting for approximately 9.3% of reductions. Applying this ratio to the percentage reduction for 2030, then approximately 6.0% of the reduction from 2030 business-as-usual levels would be achieved by local measures. A project that can show GHG reductions greater than 6.0% can be said to be consistent with the reduction goals of SB 32. Project GHG operational emission reductions would be approximately 6.4%, thereby exceeding this percentage. Therefore, the project would be consistent with the reduction goals of SB 32.

Subsequent State legislation has established GHG emission reduction targets beyond 2030 to 2050. However, it is not clear at this time how these reduction targets would be achieved. The State has not yet prepared plans that specify the measures and actions that would be implemented to attain these targets. Because of this, it is not clear what actions that CTSP development needs to take to ensure consistency with the reduction targets set by the State. It is reasonably certain that CTSP implementation would be consistent with the reduction target set by SB 32, which does have its Scoping Plan. As noted above, the mitigated GHG emissions of the CTSP reduces emissions from unmitigated levels by an amount consistent with the Scoping Plan.

As previously noted, the Ceres General Plan contains policies intended to reduce GHG emissions. The policies and CTSP consistency are presented below:

- Policy 2.I.2 - Area-wide Plans. *Consistent.* The CTSP comprehensively plans for new neighborhood developments, and it includes provisions for linking residential neighborhoods, parks, schools, shopping areas, and employment centers through a system of pedestrian and bicycle pathways.
- Policy 2.I.3 – Pedestrian-Oriented Design. *Consistent.* The CTSP includes design standards that promote more pedestrian-friendly neighborhoods.
- Policy 3.A.1- Multi-Modal Network. *Consistent.* The CTSP proposes a circulation system that integrates vehicular and non-vehicular traffic, including bicyclists, pedestrians, and transit vehicles.
- Policy 4.G.5 - Reduce VMT. *Consistent.* The CTSP includes land use design and circulation features that emphasize walkable, compact development patterns and use of non-vehicle transportation to reduce total vehicle miles traveled.
- Policy 5.E.1 – Green Building Code. *Consistent.* Project development within the CTSP Area would comply with the California Green Building Code.

Based on the analysis presented above, the CTSP would be consistent with the GHG reduction policies of the Ceres General Plan.

In summary, the project would be consistent with applicable GHG reduction policies and plans. Therefore, project impacts related to consistency with applicable GHG emission reduction plans are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

11.0 HAZARDS AND HAZARDOUS MATERIALS

This chapter identifies and considers existing or potential future conditions that could present a health or safety concern with respect to railroad and airport operations, waterways, environmental contamination or hazardous waste sites, and wildfires. Chapter 12.0, Hydrology and Water Quality, discusses potential flooding concerns. Potential concerns related to geologic hazards are addressed in Chapter 9.0, Geology and Soils. Air toxic emissions are discussed in Chapter 6.0, Air Quality.

ENVIRONMENTAL SETTING

Hazardous Materials

Hazardous materials are defined as substances or combinations of substances that may contribute to increases in serious illness or mortality or may pose a substantial hazard to human health or the environment when improperly treated, stored, transported, or disposed. Hazardous wastes are contaminated materials that no longer have a practical use. Hazardous materials or wastes are generally classified as toxic, ignitable, corrosive, or reactive. Although distinct from hazardous materials as defined, petroleum products such as motor vehicle fluids also represent potential concerns for health and environmental contamination.

As described in Chapter 5.0, Agricultural Resources, agricultural activities currently occur on lands within the project site. These activities typically involve the use of pesticides and other chemicals, which may be considered hazardous materials and can contaminate soil and water if not properly applied. There are no other activities, either on or immediately adjacent to the project site, that involve activities that handle substantial amounts of potentially hazardous materials, such as industrial land uses.

Data on hazardous waste and hazardous material use and transportation sites are kept in the GeoTracker database, maintained by the SWRCB, and in the EnviroStor database, maintained by the California Department of Toxic Substances Control (DTSC). GeoTracker and EnviroStor map the locations and provide the names and addresses of hazardous material sites, along with their contamination history and cleanup status. A search of both databases indicated no record of active hazardous material sites within one-half mile of the CTSP or Pocket Areas (SWRCB 2023, DTSC 2023). The Envirostor database contains five records of investigations of school sites on or near Central Valley High School. In all these cases, no further action was required (DTSC 2023).

A list of potentially hazardous solid waste disposal sites identified by SWRCB did not contain any locations in the project vicinity (CalEPA 2021a); listed sites exhibit waste constituent levels outside the waste management unit as being above hazardous waste screening criteria. Likewise, an SWRCB list of sites under Cease and Desist Orders and

Cleanup and Abatement Orders showed no locations on or near the project site (CalEPA 2021b).

Transportation of Hazardous Materials

Within the Ceres area, hazardous materials may be transported by vehicle along roadways or through transmission lines such as pipelines. Pipelines are discussed in more detail in Chapter 17.0, Utilities and Energy. Major transportation routes include SR 99 and surface streets, particularly arterials and expressways that accommodate truck traffic such as Hatch Road, Whitmore Avenue, Service Road, Morgan Road, Central Avenue, and Mitchell Road (City of Ceres 2018a). SR 99 is adjacent to the northeast portions of the project site. Service Road marks the northern boundary of the proposed CTSP Area, and Central Avenue traverses its center.

The Union Pacific Railroad maintains railroad tracks parallel with and adjacent to SR 99, on its west side. The CTSP Area would share a portion of its eastern boundary with these railroad tracks. This line supports several train trips per day, some of which would have cars and/or tankers transporting hazardous materials.

Airport Hazards

Development near airports is potentially subject to hazards arising from airport operations. In general, development that concentrates residents and employees near airports is discouraged, both to avoid potential hazards associated with aircraft takeoffs and landings and to reduce exposure to noise associated with aircraft. Chapter 14.0, Noise, discusses potential noise impacts related to airport operations.

The closest public airport to the project site is the Modesto City-County Airport, approximately three miles to the north. The airport is owned by the City of Modesto; however, a nine-member committee appointed by the Modesto City Council, Stanislaus County Board of Supervisors, and the Cities of Ceres and Turlock act in an advisory capacity on airport policy matters (Stanislaus County 2016). Modesto City-County Airport provides general aviation and charter flight services; commercial passenger air service is currently not offered.

The project site is not within either the safety zones or the land use compatibility planning area for Modesto City-County Airport, as designated by the Stanislaus County Airport Land Use Compatibility Plan (ALUCP) and by the Ceres General Plan (Stanislaus County 2016c, City of Ceres 2018b). However, the northern and eastern sections of the project site are within the Airport Influence Area of the airport as designated in the ALUCP (Figure 11-1). The Airport Influence Area is an area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses. CEQA requires environmental documents for projects situated within an Airport Influence Area to evaluate whether the project would expose people residing or working in the project area to excessive levels of airport-related noise or to airport-related safety hazards (Public Resources Code Section 21096).

Wildfire Hazards

Wildland fires occur in rural or heavily vegetated areas where abundant surface fuels are available to sustain a fire. Ceres and its surrounding Planning Area are at very low risk for wildland fires, due to the lack of forest, brush, or grasslands in the vicinity. The Planning Area has minimal surface fuels due to the developed nature of the city and irrigated croplands, and therefore has a low fire hazard (City of Ceres 2018a).

The Fire and Resource Assessment Program, managed by the California Department of Forestry and Fire Protection (Cal Fire), identifies the potential fire threat for an area based on two factors: fire frequency and potential fire behavior. These two factors are used to determine Fire Hazard Severity Zones, with designations of Moderate, High, and Very High. The Fire Hazard Severity Zones are mapped for State Responsibility Areas, where the State of California is financially responsible for the prevention and suppression of wildfires. The CTSP Area and surrounding lands are not within a State Responsibility Area and have not been placed in a Fire Hazard Severity Zone (Cal Fire 2022).

Waterways

An existing TID irrigation lateral is located along the southern boundary of the CTSP Area - Lower Lateral 2. The CTSP proposes development of a sidewalk and open space corridor along the TID lateral that would provide for both recreation and stormwater storage. Potential hazards have been identified with irrigation canals and laterals, including the following:

- Canals contain water that is quickly moving, and fast-moving water in a narrow channel can cause a person to lose balance and be carried away, even by water that is only one foot deep.
- Canals can have deep water. If a person cannot swim or is hurt, falling into deep water could prove fatal. In addition to swift currents, irrigation canals may have undertows and turbulence that could drag even a strong swimmer under water.
- Canals have steep slopes and slippery walls. The concrete or earthen sides of ditches and canals are sometimes steep and possibly slippery, making it difficult for a person to climb out.

Because of these and other hazards, TID does not allow any swimming, fishing, playing, or other recreational activities in or around its canals.

Railroad Hazards

The project site is adjacent to the Union Pacific Railroad (UPRR) tracks, which run parallel to and southwest of SR 99. As noted above, the railroad tracks may transport hazardous materials. In addition, potential accidents may also occur at railroad crossings where conflicts with vehicles may occur and with persons along the alignment trespassing on the railroad tracks. A search of the Federal Railroad Administration database revealed that there were six accidents on the UPRR tracks in Stanislaus County in 2022. All six accidents involved trespassers; four of these accidents were fatal (FRA 2023).

REGULATORY FRAMEWORK

Federal

At the federal level, the principal agency regulating the generation, transport and disposal of hazardous substances is the U.S. Environmental Protection Agency (EPA), under the authority of the Resource Conservation and Recovery Act (RCRA). The RCRA established a federal hazardous substance "cradle-to-grave" regulatory program that regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. Under RCRA, individual states may implement their own hazardous substance management programs if they are consistent with, and at least as strict as, the RCRA and if they receive EPA approval.

The EPA regulates hazardous substance sites under the Comprehensive Environmental Response Compensation and Liability Act, commonly referred to as Superfund. The purpose of Superfund is to provide authorities with the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. The subsequent Superfund Amendments and Reauthorization Act amended Superfund to, among other things, expand EPA's response authority, strengthen enforcement activities at Superfund sites, and broaden the application of the law to include federal facilities. In addition, new provisions were added dealing with emergency planning and community right-to-know.

The U.S. Department of Transportation regulates the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act. This act specifies driver-training requirements, load labeling procedures, and container design and safety specifications. Transporters of hazardous wastes must also meet the requirements of additional statutes such as RCRA.

State

Several state agencies regulate the transportation and use of hazardous materials to minimize potential risks to public health and safety, including the California Environmental Protection Agency and the Office of Emergency Services. The California Highway Patrol and Caltrans enforce regulations related to hazardous materials transport.

The DTSC is part of the California Environmental Protection Agency. It has the primary authority to enforce hazardous materials regulations for the generation, transport, and disposal of hazardous wastes under the authority of the Hazardous Waste Control Law, with delegation of enforcement to local jurisdictions that enter into agreements with the agency. DTSC is also responsible for overseeing the evaluation and cleanup of contaminated properties throughout California, including military facilities, school construction and expansion projects, and permitted facilities.

Under both RCRA and the Hazardous Waste Control Law, the generator of a hazardous substance must complete a manifest that accompanies the waste from the point of generation to the ultimate treatment, storage, or disposal location. The manifest describes the waste, its intended destination, and other regulatory information about the waste.

Copies must be filed with the DTSC. Generators must also match copies of waste manifests with receipts from the treatment, storage, or disposal facility to which it sends waste.

California Fire Code

California Code of Regulations Title 24, Part 9 contains the California Fire Code, which is revised approximately every three years by the California Building Standards Commission. It incorporates, by adoption, the International Fire Code of the International Code Council, with California amendments. This is the official Fire Code for the State and all political subdivisions. The City of Ceres has adopted the 2022 version of the California Fire Code, with amendments, as Chapter 15.08 of the Ceres Municipal Code.

Local

Certified Unified Program Agency (CUPA)

The Unified Hazardous Waste and Hazardous Management Regulatory Program, enacted in 1993, is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and hazardous materials management. The California Environmental Protection Agency adopted implementing regulations for the Unified Program in 1996.

The Unified Program is implemented at the local level by a Certified Unified Program Agency (CUPA). The Stanislaus County Environmental Resources Department was approved by the State as the CUPA for the County and its incorporated cities. In that role, the County Environmental Resources Department administers the California Accidental Release Prevention, Hazardous Waste Generator, Aboveground Petroleum Storage Act, and Underground Storage Tank programs.

The CUPA also provides the management and record keeping of hazardous materials through its Hazardous Materials Program. This program inspects businesses for compliance with the Hazardous Waste Control Law and issues hazardous materials/waste permits to businesses that handle quantities greater than or equal to 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a compressed gas at any given time. Businesses issued these permits are required to submit a Hazardous Materials Business Plan, which includes an inventory of hazardous materials and hazardous wastes, and an emergency response plan for incidents involving hazardous materials and wastes.

Stanislaus County Emergency Operations Plan

An update to the Stanislaus County Emergency Operations Plan, prepared by the County Office of Emergency Services, was adopted in 2021. The Emergency Operations Plan addresses the County's planned response to extraordinary emergency situations associated with natural disasters or human-caused emergencies in or affecting Stanislaus County. The top five risks identified are floods, wildfires, landslides, earthquakes, and dam failure. The plan establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Stanislaus County, and it identifies the roles and responsibilities required to protect the health and safety of Stanislaus County residents,

public and private property, and the environmental effects of natural, man-made, and technological emergencies and disasters (Stanislaus County OES 2021).

The Emergency Operations Plan notes that the State Highways and Interstate 5 are the major transportation routes through the county. These major highway/freeway routes would be highly utilized by both County residents and tourists as possible evacuation routes. SR 99 near the project site would be one of those highways (Stanislaus County OES 2021).

County Agricultural Commissioner

The County Agricultural Commissioner is directed by the County Office of Emergency Services to track agricultural uses and issue use permits for pesticide application on agricultural land. The Commissioner's staff conducts routine inspections to ensure that farm operations comply with the requirements set forth in the Federal Insecticide, Fungicide, and Rodenticide Act, the main federal statute governing agricultural chemical use. This act, among other provisions, requires users to register when purchasing pesticides; later amendments to the law require users to take exams for certification as pesticide applicators.

Stanislaus County Airport Land Use Compatibility Plan

The ALUCP was adopted by the Stanislaus County Airport Land Use Commission in 2016 and subsequently amended in 2018. The basic function of the ALUCP is to promote compatibility between the three public use airports in the County and the land uses surrounding them to the extent that these areas have not already been devoted to incompatible uses. The ALUCP accomplishes this function through establishing a set of compatibility criteria applicable to new development around the airports. Neither the ALUCP nor the Airport Land Use Commission have authority over existing land uses or over operation of the airports. However, projects that could potentially affect airport operations are subject to review by the Airport Land Use Commission for consistency with the ALUCP prepared for the airport and to ensure that the project does not interfere with airport operations (Stanislaus County 2016c).

The three public use airports for which the ALUCP was prepared are the Modesto City-County Airport, the Oakdale Municipal Airport, and the former Crows Landing Air Facility in southwestern Stanislaus County. As noted, the project site is not within either the safety zones or the land use compatibility planning area for Modesto City-County Airport, the nearest public airport. However, the northern and eastern sections of the project site are within the Airport Influence Area of the airport. Projects affecting land within an Airport Influence Area – adoption or amendment of general plans, specific plans, zoning ordinances, or building codes – are subject to Airport Land Use Commission review. If the Commission determines that a proposed land use action, regulation, or permit is inconsistent with the ALUCP, the local government may override the inconsistency determination.

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials,
- 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,
- Emit hazardous emissions or handle hazardous or acutely hazardous materials within one-quarter mile of an existing or proposed school,
- Be located on a site included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and as a result create a significant hazard to the public or the environment,
- For a project located within an airport land use plan or within two miles of a public or public-use airport if no plan has been adopted, result in a safety hazard or excessive noise for people residing or working in the project area,
- Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan, or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Impact HAZ-1: Hazardous Material Transportation

The CTSP proposes development in the vicinity of SR 99 and the UPRR railroad corridor south of SR 99. Both transportation facilities are used to transport hazardous materials that could be released during accidents, spills, or derailments. In addition, certain project site activities may require transportation of hazardous materials within the CTSP Area, such as fertilizers for the park areas and cleaners and solvents for commercial activities.

Development in the immediate vicinity of SR 99 and the UPRR tracks would be commercial in nature, while planned residential development would be set back more than 500 feet. For hazardous material spills or releases that may occur on these facilities or roads within the CTSP Area, the County Department of Environmental Resources maintains hazardous materials response teams to assist public and fire agencies during chemical spills. The City of Modesto Fire Department, which now provides fire protection services for the City of Ceres (see Chapter 15.0, Public Services and Recreation), has hazardous materials specialists and technicians who handle minor local hazardous materials incidents.

All transportation of hazardous materials would be required to comply with applicable local, state, and federal regulations. These requirements would include preparation and

implementation of a Hazardous Materials Business Plan for activities that would transport or store specified quantities of hazardous materials, as described in the Regulatory Framework above. Compliance with these requirements would reduce impacts related to routine transport, use, and storage of hazardous materials to a level that would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HAZ-2: Hazardous Material Storage and Use

Future development proposed by the CTSP may require the storage, use, and disposal of hazardous materials, generally cleaning products, fuels, and solvents. Depending on the type of commercial activity, substantial quantities of hazardous materials may be used and stored.

It should be noted that current agricultural uses within the CTSP Area most likely use and store chemicals such as pesticides, herbicides, and fertilizers. Such chemicals, if not properly applied or stored, could lead to contamination of soil and water. With the proposed CTSP development, agricultural uses would be eliminated, as would agricultural chemical use and storage.

Project site activities that would store hazardous materials would be required to do so in compliance with applicable local, state, and federal regulations. These requirements would include preparation and implementation of a Hazardous Materials Business Plan for activities that would store quantities of hazardous materials, as specified in the Regulatory Framework above. Compliance with these requirements would reduce impacts related to routine transport, use, and storage of hazardous materials to a level that would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HAZ-3: Hazardous Material Releases

Construction activities on the project site may involve the use of hazardous materials such as fuels and solvents, and thus create a potential for hazardous material spills. Construction and maintenance vehicles would transport and use fuels in ordinary quantities. Fuel spills, if any occur, would ordinarily be minimal and would not typically have significant adverse effects. Potential hazardous materials spills during construction are addressed in the required SWPPP, described in Chapter 9.0, Geology. In accordance with SWPPP requirements, contractors have absorbent materials at construction sites to clean up minor spills. Other substances used in the construction process would be stored in approved containers and used in relatively small quantities, in accordance with the manufacturers' recommendations and/or applicable regulations. Per SWPPP requirements, if a discharge violation occurs, the contractor shall immediately notify the City, and the City shall file a

violation report electronically to the RWQCB within 30 days of identification of non-compliance.

As noted in the Impact HAZ-1 discussion, hazardous materials transportation and storage on the project site would be subject to federal, state, and local regulations that would ordinarily prevent release of hazardous materials to the soil and/or groundwater and the creation of new hazardous material or waste sites. These include preparation and implementation of a Hazardous Materials Business Plan. In case of hazardous materials release, the City and County have emergency response teams that would respond to incidents involving hazardous materials.

If the project does not propose to store hazardous materials in quantities requiring a Hazardous Materials Business Plan, the most likely source of releases would be leaks of fluids from motor vehicles and spills of cleaning products and solvents used in commercial operations. Spills of these materials would be minimal, and the building floors and pavement would prevent these materials from directly entering the soil.

As previously noted, a project may have significant impacts if it would emit hazardous emissions or handle hazardous or acutely hazardous materials within one-quarter mile of an existing or proposed school. As has been noted, there are two existing schools within the CTSP Area – Central Valley High School and Hidahl Elementary School. However, as noted above, future development is either not expected to use hazardous materials in substantial quantities or would be required to prepare and implement a Hazardous Material Business Plan. The CTSP does not propose any land uses, such as industrial, that may use acutely hazardous materials.

Overall, future development under the proposed project either would not use substantial amounts of hazardous materials or would be subject to regulations and requirements that would minimize the impacts of potential releases. Therefore, project impacts regarding hazardous material releases would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required.

Impact HAZ-4: Hazardous Material Sites

As noted, a search of the EnviroStor and GeoTracker databases revealed no records of active hazardous materials sites within the project site. A search of other SWRCB lists likewise found no record of hazardous material sites.

As noted, agricultural activities that are currently being conducted within the CTSP Area likely use agricultural chemicals such as pesticides and herbicides. Residues from these chemicals may be present in the soils of agricultural lands. These residues, if present, may involve a hazard to future residents of the CTSP Area.

Development of agricultural, largely vacant, and previously used properties may involve demolition of existing structures and potential for releases of asbestos-containing material (ACM) and lead-based paint (LBP), both of which pose a health risk. Existing structures

have not been assessed for ACM or LBP. Newer structures are unlikely to have these substances; however, demolition of older structures could potentially release ACM and LBP into the environment.

Mitigation measures described below would require that future development projects conduct a Phase I Environmental Site Assessment and comply with requirements for any necessary Phase II remediation prior to project approval. In addition, an ACM and LBP assessment shall be conducted for structures proposed for demolition, and these materials if present must be handled in accordance with applicable regulations. Implementation of these mitigation measures would reduce project impacts related to hazardous material sites to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

HAZ-1: Prior to approval of a site plan or a tentative subdivision map for future development, a Phase I Environmental Site Assessment shall be conducted and submitted to the Community Development Department. The Phase I Assessment shall evaluate the site for potential contamination, including residues of agricultural chemicals on sites of previous agricultural land use. If the Phase I Assessment determines the potential presence of any hazardous material contamination, then a Phase II Environmental Site assessment shall be conducted to identify the type and extent of hazardous material contamination. If necessary, the Phase II report shall include remediation measures. Project approval shall include requirements for completion of any Phase II remediation needed to permit the proposed land use under existing applicable regulations.

HAZ-2: If evidence of unusual odors or soil discoloration is noted during construction, construction shall be halted, and the City shall be notified. The property owner or responsible party shall contact a qualified environmental professional to evaluate the situation and act as required by applicable environmental regulations. Construction work at the identified site shall not resume until the site is either remediated or found to pose no risk to worker health.

HAZ-3: Demolition permits shall be obtained from the City for structures to be removed from development sites. Demolition would occur in accordance with the conditions of the City Demolition Permit, which shall include a Demolition Plan that is reviewed and approved by the Building Official. The Demolition Plan shall include the required qualifications of demolition contractors, demolition procedures, safety requirements, testing for hazardous materials that shall include asbestos-containing material and lead-based paint, waste disposal worker and public health, and environmental

protections. Permit applications for uses regulated shall include a Demolition Permit Release Form from the SJVAPCD.

Significance After Mitigation: Less than significant

Impact HAZ-4: Airport Hazards

As noted, a portion of the project site is within the Airport Influence Area of the Modesto City-County Airport as delineated within the Stanislaus County ALUCP. The predominant land use proposed by the CTSP within the Airport Influence Area would be Regional Commercial. Low Density Residential and High Density Residential land uses are also proposed. Both residential and commercial development are allowed outside the safety zones established for the Modesto Airport, so long as such development does not present a height obstruction or visual or electronic hazard to airport traffic.

It is unlikely that proposed development within the CTSP Area covered by the Airport Influence Area of the Modesto City-County Airport would present any obstacles to airport operations. Nevertheless, proposed development within the Airport Influence Area would be subject to Airport Land Use Commission review, which would be triggered during the City site plan and design review process. Mitigation prescribed below sets forth this requirement, along with a requirement that recommendations of the Airport Land Use Commission be implemented unless overridden by the City. Implementation of this mitigation would reduce potential impacts of the project related to airport operations to a level that would be less than significant.

Level of Significance: Potentially Significant

Mitigation Measures:

HAZ-4: For projects located within the Airport Influence Area of the Modesto City-County Airport, as delineated within the Stanislaus County Airport Land Use Compatibility Plan, site plan and design review submittals for the project shall be referred to the Stanislaus County Airport Land Use Commission for its review and recommendations. Implementation of applicable recommendations of the Airport Land Use Commission shall be made a condition of City approval unless the City overrides any recommendation in accordance with State law.

Significance After Mitigation: Less than significant

Impact HAZ-5: Interference with Emergency Vehicle Access and Evacuations

Construction work associated with development within the CTSP Area would mostly occur off existing roads. However, the project would also include improvements to existing roadways, including frontage improvements, installation and modification of utility lines along roadways, and widening of existing roadways. Such work could potentially interfere with emergency vehicle access and evacuations in the area. Under existing conditions in the CTSP Area, this is not as significant an impact due to lack of substantial development,

although emergency access to the two existing schools could be affected. However, as development occurs, this impact would become more significant, as more residents and businesses would be affected by lack of emergency access and interference with evacuations.

Work within the public right-of-way would require an encroachment permit from the City or County as applicable. Mitigation presented below reiterates this requirement, with an additional requirement that preparation and implementation of a Traffic Control Plan be incorporated as a condition of the encroachment permit. The Traffic Control Plan would ensure that emergency vehicle access would be provided. Implementation of the mitigation measure would reduce project impacts on emergency vehicle access or emergency evacuation plans to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

HAZ-5: Encroachment permits for work within the public right-of-way shall be obtained from the City of Ceres. As a condition of the permit, and prior to the start of project construction, the permittee shall prepare and implement a Traffic Control Plan, which shall include such items as traffic control requirements, resident notification of access closure, and daily access restoration. The contractor shall specify dates and times of road closures or restrictions, if any, and shall ensure that adequate access will be provided for emergency vehicles. The Traffic Control Plan shall be reviewed and approved by the City Department of Public Works and shall be coordinated with the Ceres Police Department and the applicable firefighting agency if construction will require road closures or lane restrictions.

Significance After Mitigation: Less than significant

Impact HAZ-6: Wildfire Hazards

The Pocket Area is mostly developed with a few vacant lots. As this portion is within a mostly developed area, the wildfire hazard is considered low.

As has been noted, the CTSP Area currently is mostly rural and agricultural, although two schools have been developed. Agricultural land typically has a low wildfire hazard. As noted, the project site is not within a State Responsibility Area nor is it within a designated Fire Safety Hazard Zone, which are the primary concerns of the recently updated CEQA Guidelines Appendix G.

As discussed in Chapter 15.0, Public Services, fire protection services to the project site would be provided by the Modesto Fire Department under contract with the City once the project site is annexed. As development occurs within the CTSP Area, the amount of agricultural land – already considered to have a low wildfire hazard – would be reduced, providing even less opportunity for wildfires to start or spread.

Overall, the project would not be subject to a significant wildfire risk. Project impacts related to wildfires would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HAZ-7: Waterway Hazards

Planned residential development under the CTSP would involve substantial increases in resident populations in the proposed CTSP Area. Along with proposed trail development, this could potentially lead to increased access to and along TID Lower Lateral 2, which is a public safety concern.

Cross sections of development along the TID lateral indicate that a barrier would be placed between the lateral and the proposed trail. In a comment letter on the NOP for this EIR (see Appendix A), TID states that its standards require the construction of a concrete or masonry wall at a minimum six feet in height on developed property that adjoins a canal. Construction of a wall in accordance with TID standards would minimize potential trespassing. Moreover, TID noted in its NOP comment letter that any proposed trails that adjoin TID's right-of-way along its canals will be subject to TID review and approval. This requirement is incorporated in the mitigation measure below. Implementation of this mitigation measure would reduce potential waterway hazard impacts to a level that would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

HAZ-6: Prior to the start of development within the Copper Trails Specific Plan area, design plans for any trails along Turlock Irrigation District (TID) canals shall be submitted to TID for its review and approval. TID approval shall be obtained for any trail construction along the TID canals.

Significance After Mitigation: Less than significant

Impact HAZ-8: Railroad Hazards

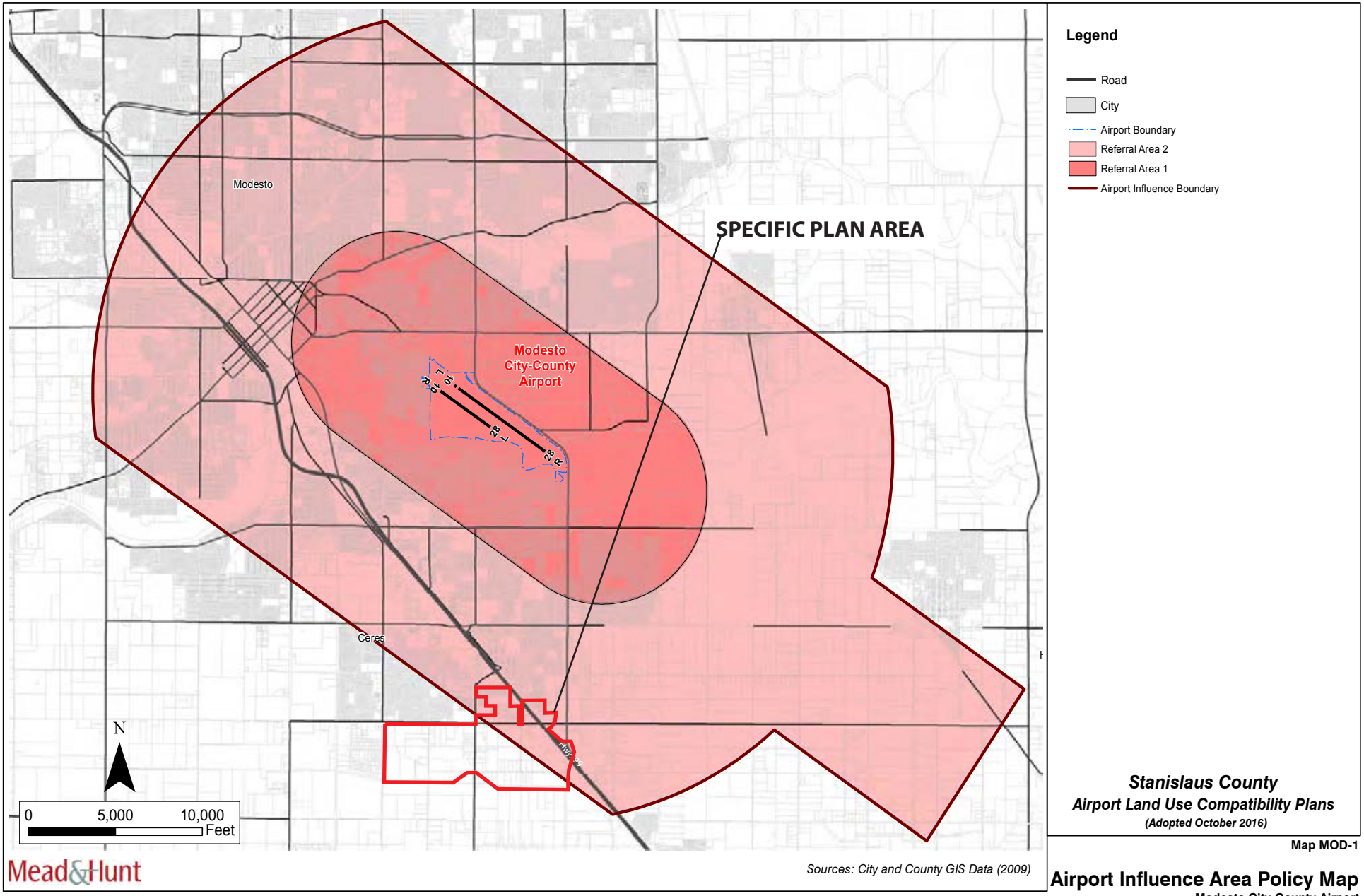
As has been noted, accidents have occurred along the UPRR tracks in Stanislaus County, some of which were fatal. The CTSP Area would be adjacent to the UPRR tracks along SR 99. Future residential development would place more residents near these tracks, and development in general would generate increased vehicle traffic that may cross these tracks.

The proposed residential development in the CTSP Area would be set back approximately 900 feet from the UPRR tracks at its closest point. An overpass on Service Road would provide a crossing over the tracks and SR 99, which would be a more convenient facility to use, as crossing the tracks would also mean crossing SR 99 to get to the area to the east. Vehicle traffic would be routed to existing roads and railroad crossings, particularly to the

overpass on Service Road. Therefore, it is expected that the project would not lead to an increase in pedestrian or vehicle accidents on the UPRR tracks. Project impacts would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required



BaseCamp Environmental

FIGURE 11-1
AIRPORT INFLUENCE AREA MAP

12.0 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL SETTING

Surface Waters

The Tuolumne River is the primary surface water resource in the Ceres area. The river forms the approximate northern boundary of the City, dividing it from the City of Modesto to the north. The Tuolumne River arises in the Sierra Nevada mountains and flows for approximately 149 miles before discharging into the San Joaquin River approximately 12 miles west of Ceres. The project site is approximately three miles south of the Tuolumne River. There are no other natural surface water features in the Ceres area, including within the CTSP Area.

Drainage patterns on the Ceres area are influenced by the relatively flat topography, which means that that precipitation either percolates into the ground or flows to ditches. These patterns have been extensively modified by agricultural and urban development. The project site is within the TID irrigation system, which is operated seasonally to provide irrigation water to agricultural lands within and outside the CTSP area. TID operates Lower Lateral 2, located along the southern boundary of the CTSP Area. Lower Lateral 2 is the only significant surface water feature within the project area. Chapter 17.0, Utilities and Energy, discusses the TID irrigation system in more detail.

Groundwater

The City currently relies on groundwater for all its water supply (see Chapter 18.0, Utilities and Energy). Groundwater levels at the project site ranged from 40 to 60 feet below ground surface in 2017, the most recent year for which data are available (WTSGSA/ETSGSA 2022).

The project site, along with the Ceres area, is in the Turlock Subbasin of the San Joaquin Valley Groundwater Basin. The Turlock Subbasin is bounded by the Tuolumne River on the north, the Merced River on the south, and the San Joaquin River on the west, covering approximately 544 square miles. Three principal aquifers were defined in the Turlock Subbasin, based on the existence of the Corcoran Clay geological units: the Western Upper Principal Aquifer above the Corcoran Clay, the Western Lower Principal Aquifer below the Corcoran Clay, and the Eastern Principal Aquifer east of the Corcoran Clay. (WTSGSA/ETSGSA 2022). The Subbasin is relatively isolated from other subbasins. Groundwater from the Turlock Subbasin is used to supply both agricultural and urban water demand. In addition to the City of Ceres, four agricultural water districts and nine communities withdraw water from the Subbasin (City of Ceres 2018a).

Discharges from the subbasin occur from well pumping; groundwater seepage to the Tuolumne, Merced, and San Joaquin Rivers; discharges from subsurface agricultural drains; and water use by riparian vegetation. The majority of groundwater recharge in the Subbasin results from agricultural and landscape irrigation. Approximately 72 percent of total recharge within the Subbasin has been attributed to cropland irrigation. Other sources of recharge include precipitation, percolation from the Tuolumne and Merced Rivers flow, leakage from Turlock Lake, underflow from the Sierra Nevada foothills, and upward seepage from deep geologic fractures (City of Ceres 2018a).

The California Department of Water Resources (DWR) estimated a volume of fresh groundwater in storage between about 23 million acre-feet and 30 million acre-feet in the Turlock Subbasin as of 2006. According to a recently prepared Groundwater Sustainability Plan for the Turlock Subbasin, the historical average inflow to the subbasin from the 1991 to the 2015 water years was approximately 533,400 acre-feet per year. The average outflow, which included pumping for agricultural and urban uses, was 597,300 acre-feet per year, leading to an average reduction in groundwater storage of approximately 63,900 acre-feet per year. Pumping in the Eastern Principal Aquifer has created a cone of depression of groundwater in the central Subbasin. Despite this, no land subsidence has been recorded (WTSGSA/ETSGSA 2022).

Data indicate that the groundwater level at the project site has varied from approximately 40 feet above mean sea level to more than 60 feet above mean sea level. Land elevation is approximately 80 feet above mean sea level (WTSGSA/ETSGSA 2022). This indicates that the groundwater table may at times be at a depth of 20 feet below the ground surface. It should be noted that a drainage well, operated by TID, is located on Blaker Road near the intersection with Service Road. A drainage well is used to lower groundwater levels in localized, high-groundwater areas and to supplement other irrigation water supplies (TID 2021). This may indicate that localized groundwater levels may be relatively shallow.

Flooding

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps identify flooding hazards of various intensities, including 100-year and 500-year flood zones. The 500-year flood zone indicates those areas that have a 0.2 percent chance of flooding in a given year, and the 100-year flood zone indicates those areas having a 1.0 percent chance. In the Ceres area, the risk of flooding is limited predominantly to property in the vicinity of the Tuolumne River. Within the City of Ceres, small areas of residential development along River Road are in the 500-year flood zone, and larger areas in Modesto where SR 99 crosses the river are in the 100-year and 500-year flood zones, as indicated in Figure 12-1 (City of Ceres 2018a). FEMA Map No. 6099C0555F indicates no designated flood zones within the CTSP Area (FEMA 2021).

Senate Bill (SB) 5, also known as the Central Valley Flood Protection Act, was signed into law in 2007. A key feature of SB 5 and related legislation was to restrict urbanization within the 100-year standard areas potentially subject to 200-year frequency flooding, a more stringent standard than imposed by FEMA. The DWR has compiled Best Available Mapping in response to SB 5, including U.S. Army Corps of Engineers and FEMA 100-year, 200-year, and 500-year floodplain maps. The CTSP Area is not within a 200-year

flood area (DWR 2023) and therefore future development is not subject to SB 5 requirements.

Dam failure is the collapse or failure of a water impoundment that causes significant downstream flooding. Stanislaus County has mapped potential dam inundation areas in the Ceres area along the Tuolumne River. Dams that may pose a risk of inundation in the Ceres area include the Don Pedro Dam, the New Exchequer Dam, the San Luis Dam, and the New Melones Dam. The project site is not within any of the mapped potential inundation areas of these dams (City of Ceres 2018a).

Water Quality

Water quality in the surface and groundwater systems can be affected by point and non-point sources of pollution. Point sources are single identifiable sources of pollution, such as a pipe or a drain, and can be agencies, businesses, or other parties discharging pollutants directly to a water body. Non-point pollution comes from many diffuse sources, and generally results from runoff, drainage, seepage, or hydrologic modification. Activities common in Ceres, including driving, farming, and lawn maintenance, produce non-point source pollutants that can enter surface water or groundwater through runoff. Stormwater runoff during storm events and runoff from irrigation and other urban uses of water carry contaminants such as gasoline, oil, pesticides, herbicides, and fertilizer into the river or groundwater supply (City of Ceres 2018a).

The Central Valley RWQCB has identified the lower Tuolumne River from Don Pedro Reservoir to the San Joaquin River as an impaired water body under Section 303(d) of the federal Clean Water Act for the following constituents: chlorpyrifos, diazanon, and Group A pesticides - chemicals associated with agricultural operations. The river is also impaired for mercury, water temperature, and toxicity (SWRCB 2022). As noted, there are no surface water features on the project site, and the project site is not adjacent to the Tuolumne River.

Potential constituents of concern identified in groundwater within the Turlock Subbasin include naturally occurring arsenic, uranium, manganese, sulfur, and total dissolved solids. Anthropogenic-sourced contamination includes nitrates, salinity, 1,2,3-trichloropropane (1,2,3-TCP), tetrachlorethylene (PCE), and dibromochloropropane (DBCP), all from various agricultural or industrial-related land uses (WTSGSA/ETSGSA 2022). 1,2,3-TCP has been detected in some of the City's wells used for drinking water; otherwise, groundwater meets drinking water standards (see Chapter 18.0, Utilities and Energy). All water used as drinking water is treated and disinfected before it is distributed to residents (City of Ceres 2022).

REGULATORY FRAMEWORK

Federal

Clean Water Act

The Clean Water Act, as administered by the EPA, seeks to restore and to maintain the chemical, physical, and biological integrity of the nation's waters. It employs a variety of

regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, to finance municipal wastewater treatment facilities, and to manage polluted runoff.

Section 303(d) requires that each state identifies water bodies or segments of water bodies that are "impaired" - not meeting one or more of the water quality standards established by the State. These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. The intent of the 303(d) list is to identify water bodies that require future development of a Total Maximum Daily Load for the pollutants causing the conditions of impairment. The Total Maximum Daily Load is the maximum amount of a pollutant that a water body can receive and still meet water quality standards. Typically, it is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The Tuolumne River is on the Section 303(d) list as having impaired water quality, as discussed earlier in this chapter.

National Pollutant Discharge Elimination System

The Clean Water Act authorizes the EPA to implement water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program, established under Section 402(p) of the Clean Water Act, controls water pollution by regulating stormwater discharges into the waters of the United States. California has an approved State NPDES program. The EPA has delegated authority for regulating stormwater discharges to the SWRCB, which in turn delegates this authority to the RWQCBs. The City of Ceres is regulated under the SWRCB Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004. A description of the City's permit program is provided later in this section.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate FEMA to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps for local and regional planners to promote sound land use and floodplain development by identifying potential flood areas based on the current conditions. To delineate these maps, FEMA conducts engineering studies referred to as Flood Insurance Studies. Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas on Flood Insurance Rate Maps. The Special Flood Hazard Area is the area where the floodplain management regulations of the National Flood Insurance Program must be enforced and the area where the mandatory purchase of flood insurance applies. These areas typically coincide with the 100-year floodplains. The most recent maps for the City of Ceres were completed and published in 2021.

State

Water Quality Control Plan (Basin Plan)

The Central Valley RWQCB has prepared a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan). The Basin Plan identifies water quality standards that support beneficial uses and help maintain water quality objectives for those uses. Beneficial uses listed for surface water bodies in the vicinity of the project site include municipal and domestic supply, agriculture supply, wildlife habitat, warm and cold

freshwater habitat, contact and non-contact recreation, warm and cold-water migration of aquatic organisms and spawning, industrial process and service supply, and groundwater recharge (RWQCB 2015). The City achieves consistency with the standards of the Basin Plan through implementation of the City's MS4 permit program, which is described below, as well as compliance with Waste Discharge Requirements applied to its wastewater treatment system, which is described in Chapter 18.0, Utilities and Energy.

SWRCB General Permits

SWRCB has adopted a general permit for construction activity to maintain surface water quality. As described in Chapter 9.0, Geology and Soils, project construction that causes one acre of ground disturbance or more is required to obtain a Construction General Permit, conditions for which include preparation of a SWPPP. Also, the SWRCB had issued NPDES General Permit No. CAS000004 for municipal storm drainage systems. A description of the City's permit program is provided below.

Sustainable Groundwater Management Act

In 2014, the California Legislature passed the Sustainable Groundwater Management Act (SGMA), the purpose of which is to give local agencies greater authority to manage groundwater supplies. The legislation requires the formation of local Groundwater Sustainability Agencies (GSAs) that must assess conditions in their local water basins and adopt locally based management plans. The Turlock Subbasin is covered by two GSAs: the West Turlock Subbasin GSA and the East Turlock Subbasin GSA. The West Turlock Subbasin GSA has ten member agencies, two of which are the City of Ceres and Stanislaus County.

Under SGMA, Groundwater Sustainability Plans for critically overdrafted basins are to be adopted by January 31, 2020, while other groundwater basins are required to adopt plans by January 31, 2022. The Turlock Subbasin was not designated a critically overdrafted basin; however, it was designated a "high priority" basin that required submittal of a Groundwater Sustainability Plan for the Subbasin by the 2022 deadline. A Groundwater Sustainability Plan for the Turlock Subbasin, involving both Turlock GSAs, was adopted and submitted to the DWR on January 6, 2022. In a letter dated January 18, 2024, DWR determined the plan was "incomplete", identifying deficiencies that needed to be addressed. The DWR stated that the plan must provide more detailed explanation and justification regarding the selection for the sustainable management criteria for the chronic lowering of groundwater sustainability indicator. The plan also must provide specific details of feasible projects and management actions that will be implemented to mitigate overdraft and that will raise groundwater levels from interim milestones towards the minimum thresholds and measurable objectives to achieve sustainability in the Subbasin (DWR 2024).

The Groundwater Sustainability Plan follows the method prescribed by SGMA to measure undesirable results, which involves setting minimum thresholds and measurable objectives for representative wells. Groundwater level monitoring networks were developed for measurement of groundwater levels, and a separate network was established for groundwater quality monitoring. The C2VSim-TM modeling program was used to model

the Subbasin hydrological system and to develop water budgets from which sustainable groundwater use was developed. Based on these analyses, the sustainable yield for long-term groundwater production would be approximately 310,700 acre-feet per year (WTSGSA/ETSGSA 2022).

Achieving sustainability in the Turlock Subbasin would require implementation of projects and management actions. These include water supply projects that either directly recharge groundwater, promote in-lieu groundwater recharge, or conserve water. A final list of 23 projects is included in the Groundwater Sustainability Plan. One of these is a Regional Surface Water Supply Project, an in-lieu groundwater recharge project involving the cities of Turlock and Ceres. The Regional Surface Water Supply Project would provide treated drinking water from the Tuolumne River to supplement both cities' existing groundwater supplies. Other projects involve proposed facilities and activities for TID, the Eastside Water District, the Cities of Modesto and Turlock, and the community of Hickman (WTSGSA/ETSGSA 2022).

Local

Storm Water Management Program

As noted above, the City is regulated under NPDES General Permit No. CAS000004. The General Permit describes Waste Discharge Requirements for stormwater discharges from small municipal separate storm sewer systems (MS4s). A MS4 is defined as a system of conveyances which includes roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, channels, or storm drains. On December 8, 1999, the EPA issued Phase II regulations, which requires permits for stormwater discharges from small MS4s and from construction sites disturbing between one and five acres of land.

Ceres is a co-participant, along with the Cities of Newman, Patterson, and Riverbank, in a Storm Water Management Program prepared in compliance with the SWRCB General Permit for Small Cities under NPDES Phase II. Ceres is an automatically designated small MS4 operator. MS4 operators are required to develop a plan to undertake Minimum Control Measures, performance standards, and a work plan. The six categories of Minimum Control Measures that are included in the program consist of public outreach and education, public participation and involvement, illicit discharge elimination, BMPs for construction sites more than one-acre, post-construction BMPs, and municipal activities. The program contains specific objectives for each measure (City of Ceres 2018a).

The City defers to Stanislaus County for post-construction standards. The applicable County post-construction standards depend on the size of the project. For "small projects", which install between 2,500 and 5,000 square feet of impervious surface, the standards require a project proponent to select and implement one or more of the following site design measures: stream setbacks and buffers, soil quality improvement and maintenance, tree planting and preservation, rooftop and impervious area disconnection, porous pavement, green roofs, vegetated swales, and rain barrels and cisterns. For "regulated projects", which install more than 5,000 square feet of impervious surface, the project proponent must identify potential sources of pollutants and to include in the design the appropriate BMPs/Source Controls consistent with the recommendations provided in the appropriate

Storm Water BMP Handbook prepared by the California Stormwater Quality Association. In addition, the project must incorporate Low Impact Development design standards, as well as select one or more of the site design measures (Stanislaus County 2015).

Ceres Municipal Code

Ceres Municipal Code Chapter 13.20 is the City's Storm Water Management and Discharge Control Ordinance. The purpose of this ordinance is to protect and promote the health, safety, and general welfare of the citizens of the City by controlling non-storm water discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than storm water, and by reducing pollutants in urban storm water discharges to the maximum extent practicable. Among other provisions, the ordinance may require any business in the City engaged in activities that may result in pollutant discharges to develop and implement a storm water pollution prevention plan, and it requires any person performing construction activities in the City to prevent pollutants from entering the storm water conveyance system and comply with all applicable federal, State, and local laws, ordinances or regulations, including but not limited to the Construction General Permit.

Municipal Code Chapter 18.100 is the City's Floodplain Management and Flood Hazard Identification Regulations Ordinance. This ordinance promotes public safety with provisions designed to minimize the need for flood control projects and damage to buildings and utilities due to flooding. The ordinance also ensures that potential buyers and occupiers of areas of special flood hazard are aware of the property's location in the hazardous area and assume responsibility for their occupation thereof.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality,
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin,
- Substantially alter the existing drainage pattern of the 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 result in substantial erosion or siltation on- or off-site, impede or redirect flood flows, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff,

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation, or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impact HYDRO-1: Surface Water Features and Quality

As noted, there are no existing natural surface water features located within the project site. Neither the CTSP Area nor the Pocket Area involves any off-site elements located in or near existing surface waters. Therefore, the project would have no direct effect on existing natural surface water features.

Development under the proposed CTSP would generate new surface runoff. A substantial water quality concern associated with urban areas is pollutants carried by storm water from construction sites and post-construction areas of buildings, pavement, and landscaping. This "urban runoff" conveys these pollutants to the City's storm drainage system, and eventually to the terminal surface waters. Urban runoff pollutants may include sediments, heavy metals, petroleum hydrocarbons, microbial pathogens, pesticides, materials toxic to aquatic life, and nutrients that may contribute to decreased dissolved oxygen levels. Residential development generates urban runoff from streets, driveways and parking areas, and yard areas may produce fertilizer wastes and/or bacterial contamination from animal excrement.

As described in more detail in Chapter 17.0, Utilities and Energy, storm water runoff from the City of Ceres is disposed of in part by discharge to four TID canals at 25 locations, and discharge in four locations to the Tuolumne River. Runoff from the CTSP area would not be discharged to the Tuolumne River, so there would be no direct impact on water quality of the river. Urban runoff discharged to the TID laterals would directly affect water quality in these channels. Future development under the CTSP is anticipated to involve drainage infrastructure that would lead to discharges into Lower Lateral 2, as indicated in a draft version of the City's Storm Drain Master Plan (City of Ceres 2024a). Runoff from the CTSP Area would be subject to the City's Storm Water Management Program and the provisions of Ceres Municipal Code Chapter 13.20, which would reduce the pollutants received by the TID channels. Runoff from the Pocket Area parcels would also be subject to the City's storm water requirements.

As discussed in Chapter 3.0, Project Description, the CTSP would include on-site construction of stormwater quality treatment facilities, as part of connection to the City's storm drainage system. The City maintains its system in accordance with State and Federal law, through implementing the provisions of Municipal Code Chapter 13.20, and future CTSP development is expected to do the same.

As noted in Chapter 9.0, Geology and Soils, construction activities associated with this development could disturb and loosen soils, which could be transported off-site by runoff and could eventually enter surface waters. Construction may also result in releases of other pollutants to the soil and the storm drainage system, including oil and gas, chemical substances used in the construction process, accidental discharges, waste concrete and

wash water. Chapter 9.0 notes that construction activities would be subject to the Construction General Permit, conditions of which include implementation of a SWPPP and of BMPs to reduce potential erosion issues. Also, as discussed in Chapter 11.0, Hazards and Hazardous Materials, in accordance with SWPPP requirements, contractors have absorbent materials at construction sites to clean up minor spills. Other substances used in the construction process would be stored in approved containers and used in relatively small quantities, in accordance with the manufacturers' recommendations and/or applicable regulations.

As noted, the City participates in a Storm Water Management Program prepared in compliance with the SWRCB General Permit for Small Cities under NPDES Phase II. The City is required to develop a plan to undertake Minimum Control Measures, including BMPs for construction sites more than one acre, and post-construction BMPs. BMPs for construction sites include

In summary, the CTSP and development pursuant to the CTSP would not be expected to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water quality, with implementation of State permit conditions and existing City requirements. Project impacts on surface waters and their water quality would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HYDRO-2: Groundwater Resources and Quality

The project would lead to further urbanization of the CTSP Area, which would eventually result in the elimination of existing agricultural and vacant land as well as remaining vacant lands within the Pocket Area. Although the CTSP Area is presently served with irrigation water supplied by TID, elimination of agricultural use may also involve cessation of groundwater withdrawals from agricultural and residential wells within the CTSP Area. Existing groundwater withdrawals in the project area are, for the purposes of this EIR, assumed to be small.

Planned development of the CTSP Area would result in increased potable and non-potable water consumption, which would be supplied from the City's existing water systems. Development of the CTSP Area lead to or require the installation of new municipal wells as part of the City's potable water system, in accordance with the City's adopted Water Master Plan. These water needs will be met from the underlying groundwater system. Chapter 17.0, Utilities and Energy, describes the potential water demands associated with CTSP development, along with available water supplies to satisfy these demands. It was found that these needs can be met without affecting the stability or sustainability of the groundwater system underlying the City. As a result, the CTSP would have a less-than-significant effect on groundwater quantity.

The presence of a TID drainage well off Blaker Road indicates the potential for relatively shallow groundwater levels in portions of the CTSP Area. Development work, including excavation, could intercept groundwater, thereby leading to potential groundwater

contamination, along with construction issues. A construction dewatering permit from the RWQCB is required for construction activities such as excavating and trenching in areas with shallow groundwater. Dewatering is regulated under state requirements for stormwater pollution prevention and control. Discharge of non-stormwater from an excavation or trench that contains sediments or other pollutants to water bodies is prohibited. Discharge of uncontaminated groundwater from an excavation or trench is a conditionally exempted discharge by the RWQCB. Since the removed water could be contaminated by chemicals released from construction equipment, disposal of this water would require permits either from the RWQCB for discharge to surface creeks or local agencies for discharge to sewers. Dewatering operations would require a NPDES permit, or an exemption, from the RWQCB, which would establish discharge limitations for specific chemicals, as applicable. Mitigation presented below would require a construction dewatering permit in areas with shallow groundwater.

Proposed development of the CTSP Area would result in additional buildings and pavement on previously undeveloped lands and the diversion of rainfall that would otherwise have percolated into soils, and eventually to the groundwater system, into the City storm drainage system. This would involve a direct and potentially significant reduction in groundwater recharge. In addition, the conversion of land from agricultural production would mean no cropland irrigation, which has been identified as a major source of recharge in the Turlock Subbasin (City of Ceres 2018a).

However, the project proposes approximately 42 acres of parks and other open space areas that would allow continued percolation and groundwater recharge. In addition, the GPEIR noted that General Plan policies would assist in preserving permeable surfaces, thereby supporting continued groundwater recharge. These policies include promoting the use of permeable surfaces for hardscape and minimizing the area of impervious surfaces. The GPEIR concluded that no additional mitigation would be required regarding groundwater recharge (City of Ceres 2018a). Since the project would have no impacts different from those described in the GPEIR, then impacts related to groundwater recharge would be less than significant.

As noted in the discussion under Impact HYDRO-1, development under the proposed CTSP would generate urban runoff that contains pollutants that could be conveyed to the City's storm drainage system, and eventually to the terminal surface waters. Urban runoff also could percolate into the ground, and pollutants in urban runoff could reach underlying aquifers. New development would include storm water management BMPs that may include infiltration or detention of storm waters. Prevention of impacts on groundwater is ordinarily achieved by maintaining adequate separation between the ground surface and the groundwater table. Adequate separation for such filtering is typically in the range of about five to ten feet, depending on soil conditions. As noted, the groundwater table is 40-60 feet below the ground surface in the project vicinity. As a result, infiltration of onsite storm water should not result in significant effects on groundwater quality.

Sewage disposal for new residential development would be to the City's collection and treatment system, and not to individual on-site septic systems that could be a potential source of groundwater contamination. Proposed residential uses would involve the application of fertilizers and pesticides to landscaping, but this is not expected to involve

potentially significant contributions to degradation of groundwater quality. Proposed commercial uses would not be expected to involve any substantial use of hazardous materials use; any such use would be subject to state and federal controls on hazardous materials use, storage and waste management as well as CUPA hazardous materials reporting containment and cleanup requirements. The proposed land uses in the CTSP Area are not expected to result in any substantial degradation of groundwater quantity.

Groundwater wells provide potable water to existing residences in the CTSP Area. Upon development, future land uses would be connected to the City's water system. Therefore, existing groundwater wells would need to be plugged and abandoned to prevent contaminants from entering the underlying aquifers through these wells. Mitigation described below would require groundwater well abandonment prior to the start of development. Implementation of this mitigation measure would ensure that project impacts on groundwater quality would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

HYDRO-1: Prior to the start of development within any portion of the Copper Trails Specific Plan area, any remaining existing groundwater wells shall be plugged and abandoned in accordance with the requirements of the Stanislaus County Department of Environmental Resources and the provisions of California Water Code Section 13751.

HYDRO-2: For areas containing a shallow groundwater table, a dewatering permit shall be obtained from the RWQCB prior to the start of construction activities. Dewatering shall be done in accordance with the conditions of the permit.

Significance After Mitigation: Less than significant

Impact HYDRO-3: Exposure to Flooding Hazards

As noted, the project site is not within a designated flood zone. CTSP development would not involve new contribution to flood flows in the Tuolumne River or other waterways. As noted, Ceres is exposed to potential flooding from catastrophic failure to large dams located in the foothill areas to the east of the City. However, the CTSP Area is not within a predicted flood hazard area that has been identified for these dams. In any case, the risk of failure of these facilities has been judged to be low.

The project site is not next to an ocean or other large body of water. Therefore, it would not be at any substantial risk of exposure to seiches or tsunamis. Overall, flooding impacts of the project would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact HYDRO-4: Conflict with Water Plans

As discussed under previous topic headings, the project would be required by City ordinance to comply with water quality provisions in the City's Storm Water Management Program, including post-construction BMPs. These provisions are designed to ensure the City complies with the conditions of its NPDES MS4 permit. In turn, compliance with storm water requirements would ensure consistency with the water quality objectives and standards of the Basin Plan.

As noted, the Groundwater Sustainability Plan for the Turlock Groundwater Subbasin has been submitted to DWR, which determined it had deficiencies that needed to be addressed. The project, as described above, could place significant new demands on groundwater supplies. However, the Regional Surface Water Supply Project is expected to provide an alternative source of water. This project is one of the projects described in the Groundwater Sustainability Plan for the Turlock Subbasin. The project and its planned water supplies do not involve any known conflicts with the Regional Surface Water Supply Project or any other projects described in the Groundwater Sustainability Plan. Moreover, the Groundwater Sustainability Plan incorporated information from the current Ceres General Plan, which proposed development in the CTSP Area. The water budget used in the plan assumed projected water usage based on General Plan buildout of the jurisdictions within the Subbasin, including Ceres.

The deficiencies identified by the DWR are mainly deficiencies in detailed information on measuring sustainability and on project implementation. It is not expected that CTSP and Pocket Area development would conflict with the proposed actions of the Groundwater Sustainability Plan, since the current Ceres General Plan was used in preparation of the plan. Project impacts related to water quality and groundwater management plans would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

13.0 LAND USE, POPULATION, AND HOUSING

ENVIRONMENTAL SETTING

Existing Land Uses

Both the CTSP and Pocket Areas are adjacent to and south of the City of Ceres in unincorporated Stanislaus County. As noted in Chapter 1.0, Introduction, both areas are within the City's Sphere of Influence. The Sphere of Influence covers areas outside the City limits that are most likely to be included in the City's boundaries within the next 20 years (City of Ceres 2012). The City's current Sphere of Influence was approved by the Stanislaus LAFCo in 2012.

As described in Chapter 1.0, Introduction, land uses in the CTSP Area are mainly agricultural fields of row crops and orchards. However, substantial residential, light industrial, and institutional development has occurred in the area. The most prominent developed features are Central Valley High School, adjacent to the intersection of Service Road and Central Avenue, and Hidahl Elementary School, located along East Redwood Road. As indicated in Chapter 4.0, Aesthetics, the Pocket Area contains a mix of residential and commercial uses, and vacant land.

Both the CTSP and Pocket Areas are adjacent to the City; thus, existing land uses to the north of the project site are associated with City development. These include industrial, commercial, and residential land uses, including some mixed use residential. The land use becomes more predominantly single-family residential with distance from SR 99. Land uses to the south of the CTSP Area, across TID Lower Lateral 2, are predominantly agricultural with intermixed rural residential areas. To the west, industrial development has occurred between Morgan Road and Crows Landing Road adjacent to Service Road. Also in that area is the Ceres Wastewater Treatment Plant immediately west of Blaker Road.SR 99 is located along the eastern boundaries of the CTSP and Pocket Areas; the prevailing land uses east of SR 99 include the intermixed residential and commercial areas of the Ceres downtown and more recent regional commercial development along Mitchell Road.

As noted in Chapter 12.0, Hydrology and Water Quality, the project site is within the boundaries of the TID. Existing TID laterals, most notably the Ceres Main Canal and Lower Lateral 2, provide irrigation water to agricultural lands in and near the CTSP Area. Although TID is the primary source of irrigation water for the area, domestic wells serve some existing uses in the area. Additional information on agriculture and Williamson Act contracts is provided in Chapter 5.0, Agricultural Resources.

Population Trends

The population of Ceres has increased by about 1,000% between 1960 and 2015, increasing from approximately 4,400 residents to nearly 46,900 in 2015. In comparison, the population of Stanislaus County increased by about 250 percent, growing from

approximately 158,000 in 1960 to 530,000 in 2015 (City of Ceres 2018a). As of the 2020 U.S. Census, Ceres had a population of 48,998, which was an increase from the 2010 U.S. Census population of 45,417. The increase in the City's population between the two censuses was greater than the increase in the State's population and slightly greater than that for Stanislaus County as a whole. Table 13-1 shows the population trends in the City of Ceres, Stanislaus County, and the State of California between 2010 and 2020.

TABLE 13-1
POPULATION OF CERES, STANISLAUS COUNTY, AND CALIFORNIA

Jurisdiction	2010 Population	2020 Population	Population Growth, 2010-2020
Ceres	45,417	48,998	7.9%
Stanislaus County	514,453	552,878	7.5%
State of California	37,253,956	39,538,223	6.1%

Source: U.S. Census Bureau.

Housing Trends

According to the 2020 U.S. Census, the number of housing units in Ceres was 13,828, an increase from the 2010 U.S. Census total of 13,673. In 2020, approximately 76.4 percent of the housing units in Ceres were single detached (single-family residential) units. Approximately 8.5 percent were apartment units in buildings of five or more units, 5.3 percent were in single attached units, 5.2 percent were mobile homes, and 4.6 percent were units in buildings of two to four units (duplexes, fourplexes). The vacancy rate was 2.1 percent, which was below the State average of 6.4 percent. The number of persons per household in Ceres in 2020 was 3.55 (California Department of Finance 2023). The population of Ceres has been growing at a faster rate than the number of new housing units, meaning that the average household size is increasing (City of Ceres 2018a).

REGULATORY FRAMEWORK

Ceres General Plan

The Ceres General Plan can be considered the City's development "constitution," containing both a statement of the community's vision of its long-term development and the policies to support that vision by guiding the physical growth of the city. The General Plan contains policies to guide decision-making related to development, housing, transportation, environmental quality, public services, parks, and open spaces. It plans in a manner that meets future land needs based on the projected population and job growth. It also provides the basis for establishing and setting priorities for detailed plans and

implementing programs, such as the zoning ordinance, subdivision regulations, specific and master plans, and the Capital Improvement Program (City of Ceres 2018a).

While the project area is currently outside the City limits, it is within the Planning Area of the Ceres General Plan. As such, the Ceres General Plan has designated the project site for a variety of urban land uses, as shown in Figure 13-1. The predominant General Plan designations are currently Low Density Residential and Business Park. However, there are also designations for other higher-density residential uses, as well as for community commercial development, applying in some cases to existing development. Also, the Schools designation has been applied to the two existing schools within the CTSP Area.

Ceres General Plan policies that are applicable to the proposed project include the following (City of Ceres 2018b):

- Policy 2.I.1 – Annexations: Approve annexations only after City approval of an appropriate area-wide plan (e.g., master plan, specific plan) that addresses land use, circulation, housing, infrastructure, and public facilities and services, based on the City's annexation policy, while also adhering to the policies of the General Plan.

- Policy 2.I.2 – Area-wide Plans: Use area-wide plans (i.e., master plans or specific plans) to comprehensively plan for new neighborhood developments.

Ceres Housing Element

The Housing Element is a part of the Ceres General Plan, although the current version was adopted separately from the remainder of the General Plan in 2016. The purpose of the Housing Element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs, and define the policies and programs that the community will implement to achieve the stated goals and objectives.

The City recently submitted an update of its Housing Element to HCD for its review. The update is part of the sixth cycle of statewide Housing Element updates, and it covers the time period of 2023 to 2031. In a letter dated December 14, 2023, the HCD stated that the City's Housing Element would require revisions so as to comply with State Housing Element Law (California Government Code Section 65580 *et seq.*). The HCD requested additional analysis and clarification of specific issues related to housing needs, resources, and constraints. It also requested more information on housing programs being implemented by the City. The revised Housing Element update was submitted to the California Department of Housing and Community Development (HCD) for its review on July 1, 2024.

The updated Housing Element identifies five goals: facilitate housing construction, improve the existing housing stock and preserve affordable housing, support new affordable and other special needs housing, exemplify sustainable development and energy conservation, and publicize housing needs and resources. Under each goal, the element sets out policies that amplify how the goal would be attained. Implementation programs, listed at the end of the corresponding group of policies, briefly describe the proposed action, the

City agencies or departments with primary responsibility for carrying out the program, the funding source, and the time frame for accomplishing the program. Several of the implementation programs also identify quantified objectives.

Each housing element period, the HCD prescribes housing allocations for each California region. The Regional Housing Need Plan (RHNA) is part of a statewide mandate to address housing issues that are related to future growth and is required by State law. The RHNA allocates to cities and counties their "fair share" of the region's projected housing needs by household income group over the planning period of each jurisdiction's housing element. Upon review by the local jurisdictions, the StanCOG Policy Board adopted the RHNA in 2022. In its housing needs determination for Ceres, StanCOG allocated a total of 3,361 housing units to the city for the 2023-2031 time period. The total housing needs determination for Ceres includes 1,505 above-moderate income housing units, 661 moderate-income housing units, 489 low-income housing units, and 706 very low-income housing units. In the previous Housing Element cycle (2014-2023), the City issued a total of 79 housing permits (City of Ceres 2024b).

Stanislaus County General Plan

Stanislaus County adopted the latest version of its General Plan in 2016. Like the Ceres General Plan, the County General Plan guides development, in this case within the unincorporated areas of Stanislaus County. The County General Plan currently covers the project site and County lands to the south and east. Should the project site be annexed, the County General Plan designations would no longer be applicable.

Most of the CTSP Area has been designated by the County General Plan as Urban Transition (Figure 13-2). The Urban Transition designation is used to ensure that land remains in agricultural usage until urban development consistent with a city's general plan designation is approved. Generally, urban development will only occur upon annexation to a city, but such development may be appropriate prior to annexation provided the development is not inconsistent with the land use designation of the general plan of the affected city (Stanislaus County 2016a).

A small portion of the southwest corner of the Pocket Area is designated Agriculture. For the non-CTSP parcels, the County General Plan has applied designations of Low Density Residential, Medium-High Density Residential, Commercial, and Urban Transition.

Ceres Municipal Code Title 18 - Zoning

Ceres Municipal Code Title 18 is known as the Ceres Zoning Ordinance. The purpose of the Zoning Ordinance is to encourage, classify, designate, regulate, restrict, and promote the highest and best location and use of buildings, structures and land for residence, commerce, trade, manufacturing, recreation, community facilities, or other purposes in appropriate places within the City. The ordinance is intended to conform to the Ceres General Plan and all environmental design plans adopted pursuant to the general plan, which would include specific plans. The project site would be prezoned into zoning districts in accordance with the City's Zoning Ordinance, prior to submittal of the annexation application to LAFCo (see below). However, land use regulation in the CTSP

Area would be in accordance with the land use designations of the CTSP, rather than the Ceres Zoning Ordinance.

Stanislaus County Code Title 21 – Zoning

Title 21 of the Stanislaus County Code sets forth a zoning plan for Stanislaus County similar to that of the Ceres Zoning Ordinance. Parcels within the project site are currently zoned by the County (Figure 13-3). The CTSP Area is zoned A-2-10 - General Agriculture, 10-acre minimum. The Pocket Area has zoning designations of A-2-10 - General Agriculture, 10-acre minimum; C-2 – General Commercial; H-1 – Highway Frontage; M – Industrial; R-A – Rural Residential; R-2 – Medium Density Residential; and P-D – Planned Development. Should the project site be annexed, County zoning would no longer apply.

Ceres Municipal Code Title 17 - Subdivisions

Ceres Municipal Code Title 17 is the Subdivision Code of the City of Ceres. The purpose of this title is to regulate and control the division of land within the City of Ceres, to the extent authorized by the State's Subdivision Map Act, concerning the design, improvement, and survey data of subdivisions, the form and content of all required maps provided by the Subdivision Map Act, and the procedures to be followed in securing the official approval of the City regarding the maps. The regulations established by this title are designed to assist in the systematic implementation of the Ceres General Plan, each applicable specific plan, the Zoning Ordinance, and other applicable City, State, or federal land use regulations.

Stanislaus Local Agency Formation Commission (LAFCo)

The Stanislaus LAFCo is the agency responsible for proposed reorganizations for cities and special districts within Stanislaus County; as such, it would review and decide on the proposed annexation of the CTSP and Pocket Areas and their detachment from the Ceres Fire Protection District and the Keyes Fire Protection District. As an agency with approval authority over the project, LAFCo is a Responsible Agency under CEQA and would use this EIR in its decision-making process.

LAFCo's review encompasses the consistency of the project with State statutes and policies, particularly the Cortese-Knox-Hertzberg Local Government Reorganization Act, as well as its own adopted policies. In determining the appropriateness of a proposed annexation, LAFCo considers whether the project would constitute a logical expansion of a city boundary and whether a proposed annexation area would be provided with public utilities and services in an efficient manner.

LAFCo's policies with respect to proposed annexations are specified in its Stanislaus LAFCo Policies and Procedures, adopted in 2020. For proposed annexations, a plan for service shall be prepared and submitted that must include information that the range and level of services currently available within the annexation area will, at least, be maintained by the annexing agency. Services include all those services currently provided or to be extended by the agency.

In addition, prezoning is mandated by California Government Code Section 56375. No city annexation application will be deemed complete unless the prezoning process has been completed. As discussed in Chapter 3.0, Project Description, the CTSP Area would be prezoned P-C, Planned Community, while the Pocket Area would be prezoned in accordance with the current Ceres General Plan designations for that area. Also, as discussed in Chapter 5.0, Agricultural Resources, a Plan for Agricultural Preservation must be provided with the application (Stanislaus LAFCo 2020).

Sphere of Influence

One of the responsibilities of a LAFCo is to determine the Sphere of Influence of local governmental agencies. A Sphere of Influence designates the probable future physical boundary and service area of a local agency. It is an area within which a city or district may expand, over an undefined period of time, through the annexation process. The Stanislaus LAFCo also requires determination of a Primary Area of Influence, within which territory is eligible for annexation and the extension of urban services within a 0-10 year period (Stanislaus LAFCo 2020). The project site is within both the City of Ceres's Sphere of Influence and its Primary Area of Influence.

LAFCo will approve an application for a change of organization or reorganization only if the proposal is consistent with an approved Sphere of Influence plan for the affected agency or agencies. No proposal which is inconsistent with an agency's adopted Sphere of Influence and/or Primary Area shall be approved until LAFCo, at a noticed public hearing, has considered and approved an amendment or revision to that agency's Primary Area of its Sphere of Influence (Stanislaus LAFCo 2020).

Municipal Service Review

As part of the Sphere of Influence update process, the Cortese-Knox-Hertzberg Act requires a Municipal Service Review to be prepared. The Municipal Service Review evaluates existing and future service conditions and reviews the advantages and disadvantages of various government service structure options. It provides information upon which the LAFCo can base its decision on a Sphere of Influence determination, as well as future actions on annexation requests.

The City's latest Municipal Services Review was reviewed and approved by LAFCo in 2012. In accordance with the Cortese-Knox-Hertzberg Act, written determinations were provided for the following issue areas (City of Ceres 2012):

- Growth and population projections for the affected area,
- Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies,
- Financial ability of agencies to provide services,
- Status of, and opportunities for, shared facilities,
- Accountability for community service needs, including governmental structure and operational efficiencies, and

- Additional matters related to effective or efficient service delivery, as required by LAFCo policy.

SB 244 - Disadvantaged Unincorporated Communities

SB 244, enacted in 2011, addresses a specific community type known as a Disadvantaged Unincorporated Community (DUC). A DUC is an unincorporated community that includes 12 or more registered voters and has an annual median income that is less than 80% of the statewide annual median household income. SB 244 requires a LAFCo to make certain determinations when a proposed annexation is adjacent to a DUC. SB 244 prohibits LAFCo from approving an annexation adjacent to a DUC unless 1) an application to annex the adjacent community has been filed in the past five years, or 2) the LAFCo finds, based upon written evidence, that a majority of the residents within the adjacent community are opposed to annexation.

In 2015, a Disadvantaged Unincorporated Communities Report was prepared for the Stanislaus County Planning and Community Development Department. The report identified seven DUCs in Stanislaus County, along with their community needs. The DUCs closest to the project site are the Cowan Tract and the community of Keyes. Cowan Tract, located approximately two miles southwest of the project site, is a rural neighborhood primarily comprised of mobile homes. Keyes, located approximately 2.5 miles southeast of the project site, is an 1,810-acre unincorporated community spanning SR 99. It is a predominantly residential community with some commercial and public land uses (Stanislaus LAFCo 2015). The project site is not within or adjacent to either of the designated DUCs.

Stanislaus County Airport Land Use Compatibility Plan (ALUCP)

As described in Chapter 11.0, Hazards and Hazardous Materials, an ALUCP was adopted for the three public use airports in Stanislaus County. The project site is not within any airport safety zones; however, a portion of the site is within the Airport Influence Area of the Modesto City-County Airport (Stanislaus County 2016c).

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on land use, population, and housing if it would:

- Physically divide an established community,
- 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,

- 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), or

- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Impact LUP-1: Division of Established Communities

The project would annex approximately 681 acres of unincorporated land south of the City of Ceres. The entire annexation area is designated for urban development in the Ceres General Plan and would be pre-zoned consistent with the General Plan as part of the annexation. Approximately 146 acres of the annexation area is land that would otherwise become an unincorporated "island" upon the annexation of the CTSP Area, which would be contrary to LAFCo policy. To avoid this potential conflict these lands are included in the proposed annexation and would, with the CTSP Area, be incorporated into the Ceres community.

The CTSP Area consists of mostly rural and agricultural land uses with some school development. There are no established communities on or adjacent to the CTSP Area, including DUCs; existing development in the unincorporated Pocket Area north of the CTSP would be united with the existing City and the CTSP by the proposed annexation. Therefore, the project would have no impact regarding the division of established communities.

Level of Significance: No impact

Mitigation Measures: None required

Impact LUP-2: Conflicts with Land Use Plans, Policies, and Regulations

Ceres General Plan

As noted, most of the CTSP Area is presently designated as Urban Transition by the Stanislaus County General Plan, and parcels within the annexation area are currently designated for development by the Ceres General Plan. The project would not involve any change to the geographic area of planned urban development in Ceres as described in the Ceres General Plan.

Adoption of the CTSP would establish a modified and more precise land use plan for the CTSP Area, as discussed in more detail in Chapter 3.0, Project Description. The CTSP would require General Plan Amendments for some of the proposed land use designations; for example, changing the designated area "Business Park" to the proposed Regional Commercial designation. However, these changes reflect the purpose of the CTSP and are consistent with and supportive of the overall goals and objectives of the General Plan. With adoption of the required General Plan Amendments, and for the reasons described in the CTSP, the designations within the CTSP Area would be consistent with the Ceres General Plan.

Potential conflicts with specific Ceres General Plan policies designed to avoid or mitigate environmental effects may potentially occur with the project. These policies are listed below, along with the EIR chapter in which the issue is addressed and resolved.

- 2.A.4 Urban/Agriculture Compatibility. Minimize conflict between urban and agricultural uses. [Chapter 5.0, Agricultural Resources]

- 2.D.1 Promote Infill. Promote infill development and reuse of underutilized parcels in the city to reduce pressure to develop on farmland or other "greenfield" sites on the periphery. [Chapter 5.0, Agricultural Resources]

- 3.A.4 Reduce Vehicle Miles Traveled (VMT). Support statewide efforts to reduce vehicle miles of travel (VMT) from existing and new development by encouraging infill and mixed-use development, providing a multi-modal transportation network, and incorporating transportation and parking demand management measures into new development by design. [Chapter 16.0, Transportation]

- 4.A.1 Land Use Pattern. Prioritize infill development, allowing development on agricultural lands only where contiguous to existing urban development and when it advances the city's overall growth and development objectives. Encourage compact development that concentrates development in urbanized areas in order to limit the conversion of agricultural land and minimize the potential for land use conflicts along the urban/agricultural interface. [Chapter 5.0, Agricultural Resources]

- 4.D.1 Special-Status Species. Support the preservation of habitats of rare, threatened, endangered, and other special-status species. Require development in areas known to have value for wildlife to be carefully planned and, where possible, sited to maintain reasonable wildlife value of the habitat. [Chapter 7.0, Biological Resources]

- 4.F.4 Impervious Surfaces. Minimize the amount of impervious surface in the Planning Area in order to reduce stormwater flows that may have a negative impact on the hydrology of the Tuolumne River and other downstream water bodies. [Chapter 12.0, Hydrology and Water Quality]

- 4.G.5 Reduce VMT. Emphasize transit-oriented, walkable, compact development patterns to reduce total vehicle miles traveled. [Chapter 16.0, Transportation]

Potential conflicts with these policies are discussed in the cited EIR chapters. For these issues, potential conflicts could be mitigated, or these conflicts are addressed internally in the Ceres General Plan EIR. In the latter case, these issues do not need to be discussed again in this EIR. And as a result, the project would not involve any substantial conflict with Ceres General Plan policies designed to avoid or mitigate an environmental effect.

Stanislaus County ALUCP

As noted in Chapter 11.0, Hazards and Hazardous Materials, a portion of the project site is within the Airport Influence Area of the Modesto City-County Airport. All projects within the Airport Influence Area would be reviewed by the County Airport Land Use Commission. No portion of potential future development within the CTSP or Pocket Areas is expected to conflict with any land use and noise standards described in the ALUCP.

Stanislaus LAFCo

The Stanislaus LAFCo has adopted policies with which proposed annexations must be consistent. One of these policies states that development of existing vacant or non-prime agricultural lands within a city or its Sphere of Influence should be encouraged before annexation of existing open space lands outside of a city's jurisdiction or its Sphere of Influence (Stanislaus LAFCo 2020). The City of Ceres is extensively developed within its current City limits. There is no vacant land available within the City that could accommodate the development proposed in the CTSP. As has been noted, the project site has been designated for urban development and is within both the City's Sphere of Influence and its Primary Area of Influence.

Another policy is the Agricultural Preservation Policy discussed in Chapter 5.0, Agricultural Resources. In accordance with this policy, the project would be required to prepare a Plan for Agricultural Preservation that shall specify the method or strategy proposed to minimize the loss of agricultural lands.

The project would be consistent with the City's adopted Municipal Service Review, which demonstrates that adequate services can be provided within the timeframe needed by the inhabitants of the annexed area. As discussed in Chapter 17.0, Utilities and Energy, the City can accommodate wastewater, water, and storm drainage demands of the project, and the project would be required to design infrastructure consistent with City plans and specifications.

Overall, the project would not substantially conflict with applicable plans, policies, and regulations designed to avoid or mitigate an environmental effect. Project impacts in this area of concern are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact LUP-3: Unplanned Population Growth

Proposed development associated with the project, particularly with adoption of the proposed CTSP, would lead to an increase in population in the area, mainly due to residential development. Based on per household factors provided by the City, the population may increase by an estimated 6,745 persons. The lands within the Pocket Area would contribute only minimally, if at all, to future population growth.

The Ceres General Plan currently designates the majority of the CTSP Area as Low Density Residential, with additional areas designated for Medium Density Residential and High

Density Residential. As discussed in Chapter 19.0, Alternatives, the current General Plan designations would yield a slightly higher number of residential units than would the proposed CTSP. Therefore, the proposed CTSP would generate similar population growth to the current General Plan designations, which were assumed in the analysis of population impacts in the Ceres General Plan EIR.

In addition, as noted, the total number of housing units that could potentially be developed under the proposed CTSP would be an estimated 2,392 units. The current Housing Element of the Ceres General Plan indicated that the City would need 2,571 housing units during the Housing Element planning period. Thus, the number of housing units that would potentially be constructed under the proposed CTSP would be consistent with the identified need in the current Housing Element. It is expected that the housing units proposed under the CTSP would contribute to fulfilling the estimated housing need specified in the updated Housing Element should it become certified. Based on the above information, project impacts related to unplanned population growth are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

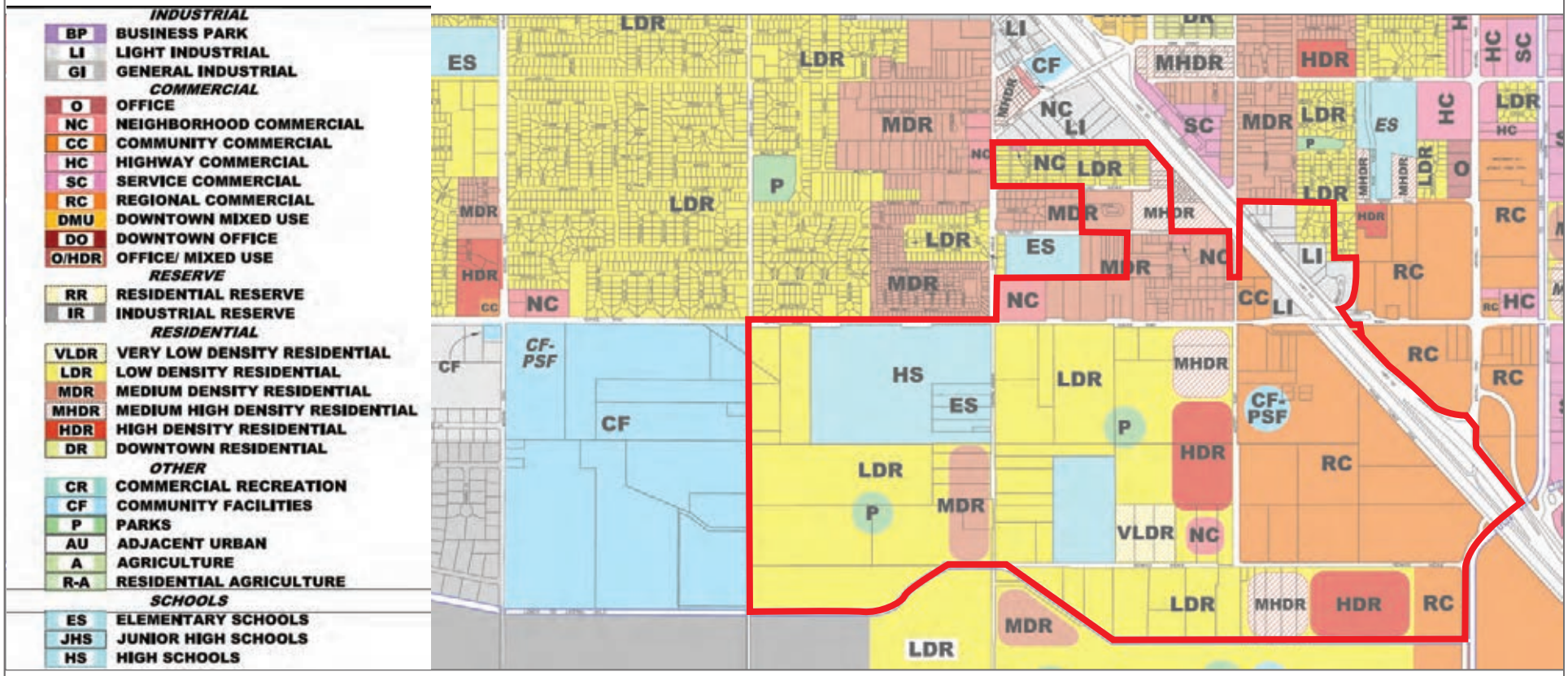
Impact LUP-4: Displacement of Housing and People

If adopted, implementation of the CTSP would lead to removal of existing residences in conjunction with urban development of the various properties on which they are located. Although a few residences could be preserved and incorporated into new development, it is assumed that all existing residences within the CTSP Area would be removed. However, these residences would eventually be replaced by up to 2,392 housing units to be constructed in the CTSP Area during the buildout period. The majority of new housing would consist of units provided in higher-density residential areas, but single-family residences would account for almost half of the total units (see Table 3-1 in Chapter 3.0, Project Description). Therefore, implementation of the proposed CTSP would lead to a substantial net increase in the housing stock of the City of Ceres. The project would have a positive effect on the City's ability to provide housing consistent with the RHNA for Stanislaus County, as well as provide more housing options in a city that has a lower vacancy rate than the State average.

The project would not result in any forced displacement from existing housing units. Plans to vacate and demolish existing residences would be subject to agreements and negotiations between developers and owners, or owners and tenants. City demolition permits would be required before removal of the existing units. Therefore, project impacts on displacement of housing or people would be less than significant.

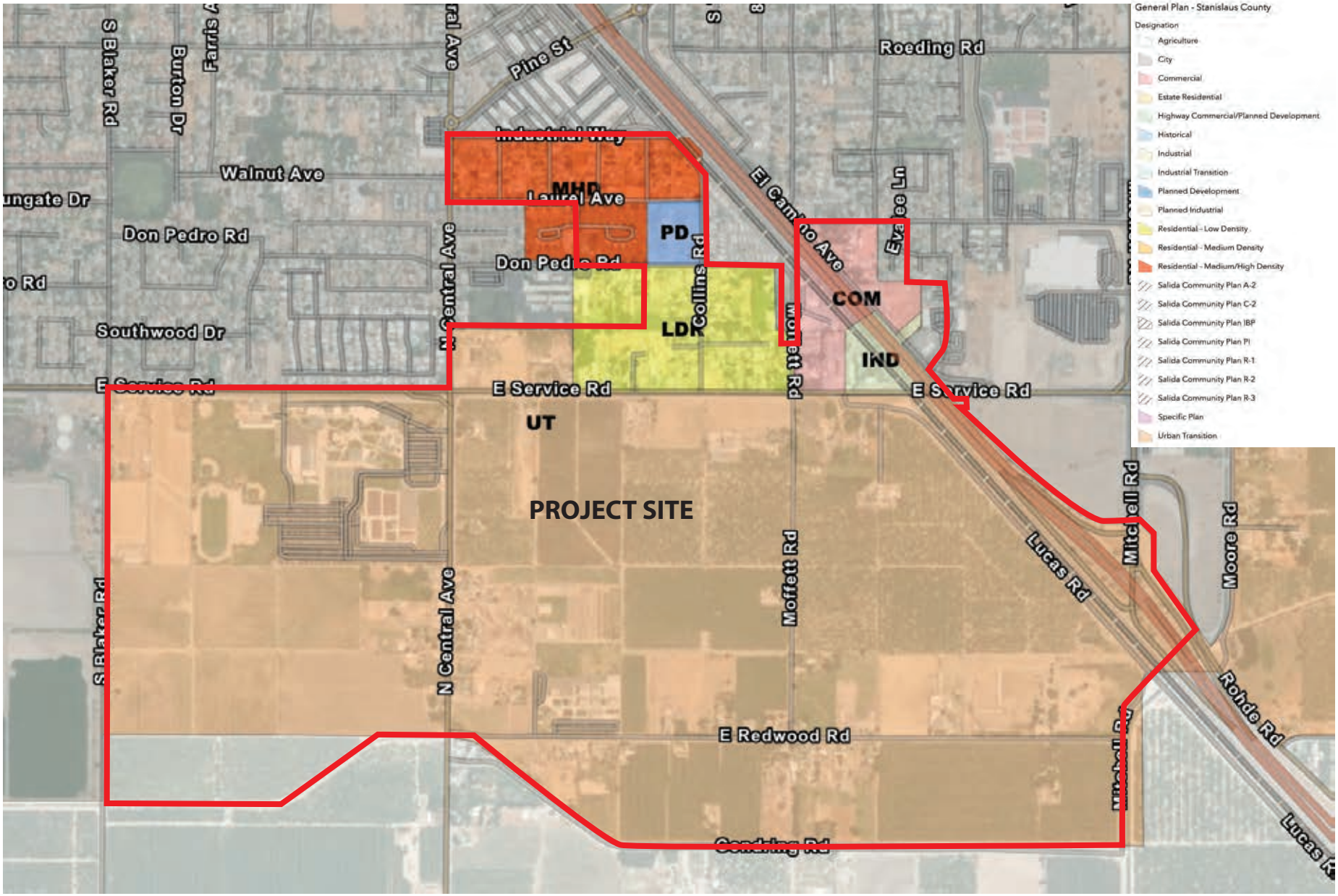
Level of Significance: Less than significant

Mitigation Measures: None required



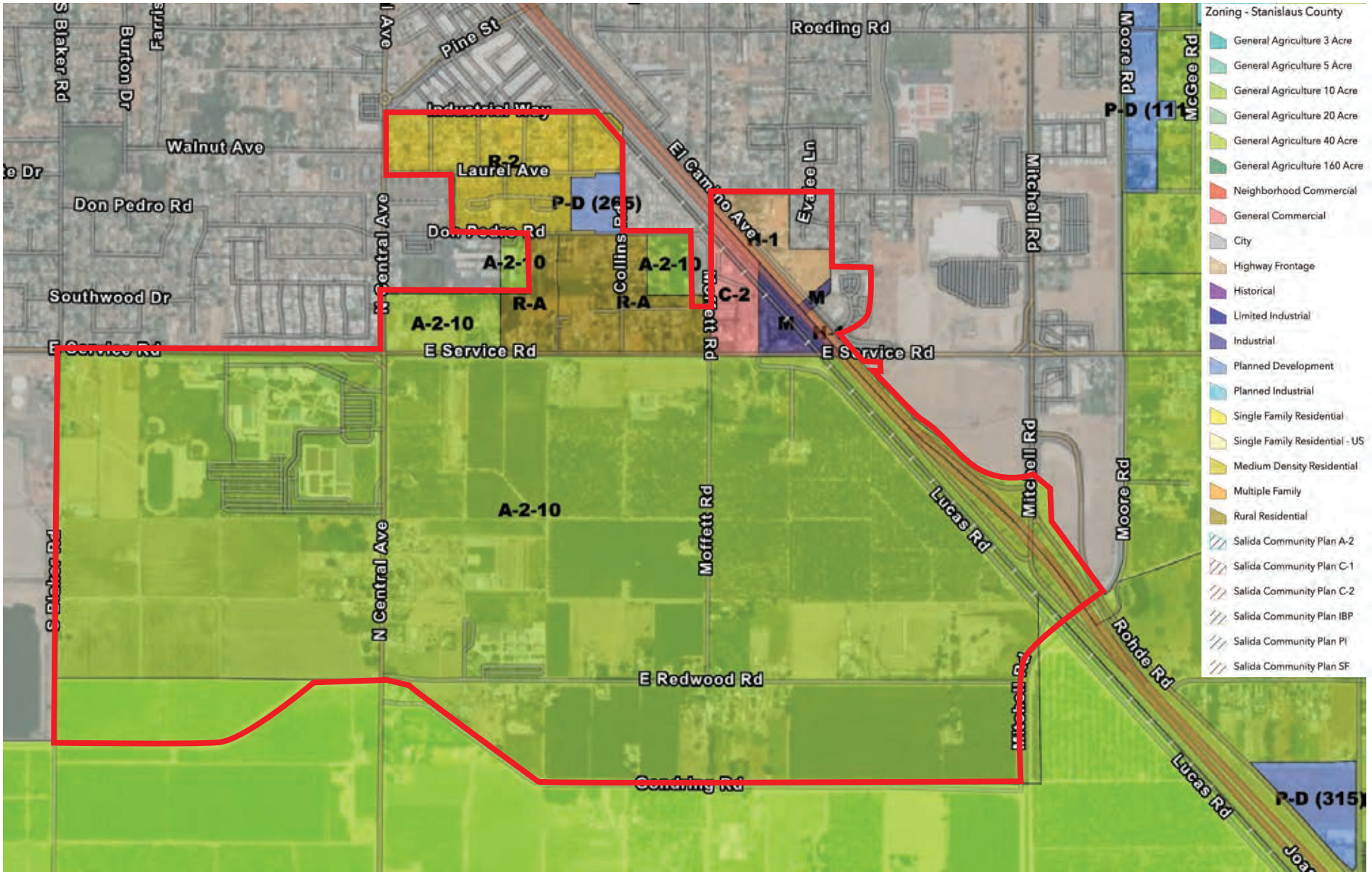
BaseCamp Environmental

Figure 13-1
CERES GENERAL PLAN



BaseCamp Environmental

Figure 13-2
STANISLAUS COUNTY GENERAL PLAN



BaseCamp Environmental

Figure 13-3
STANISLAUS COUNTY ZONING

14.0 NOISE

Information for this chapter comes primarily from a noise study conducted for the project by Saxelby Acoustics, which is available in Appendix F of this EIR. The noise study involved continuous hourly noise measurements during a 24-hour period at four locations on the project site, along with two short-term measurements at two locations. Data from these measurements were the basis for developing estimated noise levels with the project. Existing and future traffic noise levels were estimated using the Federal Highway Administration Traffic Noise Prediction Model (FHWA RD 77-108), with inputs provided by the Transportation Impact Analysis prepared for the project (see Chapter 16.0, Transportation, and Appendix G of this EIR).

The focus of the noise study is on the CTSP Area, as development under the CTSP is expected to have the largest noise impact. Given its mostly developed state, the Pocket Area is not expected to contribute substantially to future noise levels.

ENVIRONMENTAL SETTING

Noise Background

Noise is typically defined as airborne sound that is loud, unpleasant, unexpected, or undesired. Perceptions of noise are highly subjective from person to person. The effects of noise on people can be placed in three categories: 1) subjective effects of annoyance, nuisance, and dissatisfaction; 2) interference with activities such as speech, sleep, and learning; and 3) physiological effects such as hearing loss or sudden startling. Environmental noise typically produces effects in the first two categories; workers in industrial plants can experience noise effects in the third category.

Noise is measured using the decibel (dB) scale. The dB scale uses the hearing threshold as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Changes in dB levels correspond closely to human perception of relative loudness. The decibel scale is logarithmic, so two sound levels 10 dB apart would differ in acoustic energy by a factor of 10.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by A-weighted sound levels, expressed as dBA. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is twice as loud as a 60-dBA sound, and half as loud as an 80-dBA sound. There is a strong correlation between dBA and the way the human ear perceives sound; for this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this chapter are in terms of dBA, unless otherwise noted.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state, A-weighted sound level containing the same total energy as a time varying signal over a given time period, usually one hour.

The L_{eq} shows very good correlation with community response to noise and is the foundation for other composite noise descriptors such as the Day-Night Average Level (L_{dn}) and the Community Noise Equivalent Level (CNEL). The L_{dn} is based upon the average hourly L_{eq} over a 24-hour day, with a +10-dB weighting applied to noise occurring between 10:00 p.m. and 7:00 a.m. The nighttime weighting is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. The CNEL is similar to the L_{dn}, but it also applies a +5-dB weighting to noise occurring between 7:00 p.m. and 10:00 p.m., defined as "relaxation hours." (City of Ceres 2018a). These composite noise standards are appropriate tools for assessing the acceptability of prevailing noise conditions. However, they do not recognize the impact of intrusive noise sources or sources which involve intermittent, temporary, or similar noise events that may be above ambient levels.

Existing Noise Sources

Common sources of noise and vibration in Ceres include traffic on transportation corridors, including roads and railroads, operations at Modesto City-County Airport, and stationary noise sources such as mechanical equipment and generators. Agricultural operations outside developed areas may also be a source of noise, due to use of heavy equipment and spraying, along with construction and the use of portable or small-scale pieces of equipment (City of Ceres 2018a). Train operations on the UPRR tracks southwest of SR 99 are a substantial noise source. However, due to the predominance of noise from SR 99 traffic, railroad operations are not an important noise source.

Figure 14-1, from the Ceres General Plan, shows the noise contours around the main noise sources affecting Ceres, primarily the main roads and Modesto City-County Airport. As illustrated by Figure 14-1, noise generated by SR 99 vehicle traffic affects land use several hundred feet from the highway corridor. The entire Pocket Area is within the 60-dB noise contour of SR 99, and essentially the entire portion east of SR 99 is within the 65-dB noise contour. Within the CTSP Area, the lands exposed to the highest levels of noise are those near SR 99. Elevated levels of noise have been plotted along the Service Road and the Central Avenue corridors. The southwestern portion of the CTSP Area is currently outside the 55-dB noise contour, the lowest noise level delineated. No plotted noise contours from the airport reach the project site.

The existing noise environment in the project area is primarily defined by traffic on SR 99, the UPRR tracks, and East Service Road. Secondary noise sources include traffic on the local roadway network. The primary source of stationary noise on the project site is a pump station located at the Ceres WWTP. As noted, the noise study conducted measurements of ambient noise levels at six locations – four with continuous measurements and two with short-term measurements. Figure 14-2 shows the locations where the noise measurements were taken. The results of the noise measurements are shown in Table 14-1.

TABLE 14-1
EXISTING BACKGROUND NOISE

		Daytime (dBA)		Nighttime (dBA)	
Location[1]	**dBA L_{dn}**	**L_{eq}**	**L_{max}**	**L_{eq}**	**L_{max}**
LT-1: 230 ft. to centerline of SR 99	76	70	84	70	84
LT-2: 25 ft. to centerline of Redwood Rd.	66	62	82	59	74
LT-3: 40 feet to centerline of Central Ave.	73	71	90	65	84
LT-4: 65 ft. to centerline of Service Rd.	74	71	82	67	81
ST-1: 20 ft. to centerline of Gondring Rd.	N/A	44	51	N/A	N/A
ST-2: 20 ft. to centerline of Blaker Rd.	N/A	52	55	N/A	N/A

Notes: L_{max} – maximum sound level measured; N/A – not available
[1] See Figure 14-2 for locations.
Source: Saxelby Acoustics 2024.

Noise-Sensitive Land Uses

Noise-sensitive receptors are land uses where the presence of unwanted sound could adversely affect the use of the land. Examples may include residential areas, senior and childcare facilities, schools, and religious facilities (City of Ceres 2018b). The noise study stated sensitive land uses in the vicinity of the CTSP Area include existing single-family residential uses to the north and south.

Groundborne Vibration

Groundborne vibration is not a common environmental problem. It is typically associated with transportation facilities, although it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, trucks, and buses on rough roads, heavy earth-moving equipment, and construction activities such as blasting and pile driving. The effects of groundborne vibration include perceptible movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, vibrations can cause damage to buildings (FTA 2006).

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to human annoyance and damage to structures have been developed for vibration levels defined in terms of peak particle velocities. Table 14-2 shows the effects that vibration may have on humans and buildings.

TABLE 14-2
EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity			
mm/second	**inches/second**	**Human Reaction**	**Effect on Buildings**
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans 2002.

REGULATORY FRAMEWORK

Ceres General Plan

The Noise Element of the Ceres General Plan has incorporated noise standards in Table 5-3 of the Noise Element. These standards serve as guidelines to evaluate land use compatibility of new development, including whether a proposed use is compatible with the existing or planned noise environment of a given location, as well as whether a proposed use would negatively affect the noise environment for existing or planned uses in the area.

Under the standards incorporated by the General Plan, an exterior noise environment of up to 55 dBA (L_{dn} or CNEL) is "normally acceptable" for lower-density residential uses, and noise levels of up to 65 dBA are “conditionally acceptable.” For multifamily residential, along with schools, libraries, churches, hospitals, and nursing homes, an exterior noise environment of up to 60 dBA is considered “normally acceptable” and one up to 65 dBA is considered “conditionally acceptable.” Commercial, industrial, and recreational uses are less sensitive to noise (City of Ceres 2018b).

Table 5-4 of the Noise Element sets the maximum allowable noise exposure of land uses to transportation noise sources. Table 14-3 sets forth the noise levels established by Table 5-4.

TABLE 14-3
MAXIMUM ALLOWABLE EXPOSURE TO NOISE FROM
TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity Areas (dB Ldn, CNEL)
Residential	60
Transient Lodging	60
Hospitals, Nursing Homes	60
Theaters, Auditoriums, Music Halls	---
Churches, Meeting Halls	60
Office Buildings	65
Schools, Libraries, Museums	60
Playgrounds, Neighborhoods Parks	65

Note: CNEL used for quantification of aircraft noise exposure.
Source: City of Ceres 2018b.

For noise exposure to stationary sources – sources that are not traffic-related - the Noise Element has adopted Table 5-5, which sets forth performance standards to regulate operational noise associated with new non-residential development or changes of non-residential use. Table 14-4 below sets forth these noise standards from Table 5-5 of the Noise Element.

Ceres Municipal Code

Ceres Municipal Code Section 9.04.010 states that it is unlawful for any person to make, continue or cause to be made or continued any loud, unnecessary, or unusual noise or any noise which either annoys, disturbs, injures, or endangers the comfort, repose, health, peace, or safety of others. Section 9.04.020 lists the types of noise characterized as “unnecessary” and therefore subject to legal action. Among these noises are those associated with the erection, demolition, alteration, or repair of any building at times other than between the hours of 7:00 a.m. and 8:00 p.m.

TABLE 14-4
PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES

Noise Level Descriptor	Day (7:00 a.m. to 10:00 p.m.)	Night (10:00 p.m. to 7:00 a.m.)
Hourly L_{eq}, dBA	55	45
Maximum level, dBA	60	45

Note: Each of the noise levels specified above shall be lowered by 5 dBA for simple tone noise, noise consisting primarily of speech or music, or recurring impulsive noises.
Source: City of Ceres 2018b.

Stanislaus County ALUCP

As noted in Chapter 11.0, Hazards and Hazardous Materials, the Stanislaus County ALUCP was prepared for the three public use airports in the County. One of the purposes of the ALUCP is to protect the public from the adverse effects of airport noise. The nearest airport to the project site is Modesto City-County Airport, approximately three miles to the north. The ALUCP includes noise contours around Modesto City-County Airport, which are shown in Figure 14-2. These contours are based upon a noise compatibility study conducted by the City of Modesto in accordance with FAR Part 150 which included a "long range" forecast of airport operations (Stanislaus County 2016c). The outermost noise contour (60-65 dB CNEL), as delineated in Figure 14-3, does not extend to the project site.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on noise if it would result in:

- 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,
- Generation of excessive groundborne vibration or groundborne noise levels, or
- For a project located within the vicinity of a private airstrip or an airport land use plan, or within two miles of a public or public use airport if no plan has been adopted, expose people residing or working in the project area to excessive noise levels.

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. However, a limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project noise conditions. To account for these pre-project conditions, the noise study recommendations made by the Federal Interagency Committee on Noise provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate

aircraft noise levels to the percentage of persons highly annoyed by the noise. Although these recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}. Based on these recommendations, the following increases in traffic noise levels would be considered a significant impact:

- +5.0 dB or more if ambient noise level without project is less than 60 dB
- +3.0 dB or more if ambient noise level without project is 60-65 dB
- +1.5 dB or more if ambient noise level without project is greater than 65 dB

Impact NOISE-1: Project Traffic Noise

As noted, the Pocket Area is not expected to contribute significantly to ambient noise, as most of this area is already developed. However, new development within the CTSP Area would increase ambient noise levels in the project, mainly due to vehicle traffic generated by the new development.

The noise study assessed noise impacts due to project-related traffic increases on the local roadway network for the Near-Term and Near-Term Plus Project conditions, as described in the Transportation Impact Analysis. Traffic noise levels were predicted at the nearest sensitive receptors located at the closest typical setback distance along each project-area roadway segment. The results of the modeling are presented in Table 14-5.

TABLE 14-5
PREDICTED TRAFFIC NOISE LEVELS AND NOISE LEVEL CHANGES

Roadway and Segment	Near-Term No Project (dBA)	Near-Term Plus Project (dBA)	Change
El Camino Ave., North of North Street	65.1	66.3	+1.2
North Street, East of El Camino Ave.	60.8	59.2	-1.6
El Camino Ave., South of 4th Street	63.4	62.2	-1.2
E. Service Road, West of SR 99	68.8	72.5	**+3.7**

Note: **Bold** indicates noise level change exceeds applicable significance threshold.
Source: Saxelby Acoustics 2024.

As indicated in Table 14-5 the proposed project is predicted to result in an increase in a maximum traffic noise level increase of 3.7 dBA along East Service Road. As noted, at existing ambient noise levels greater than 65 dB, a noise level increase of 1.5 dB is considered significant; since the 3.7-dB increase exceeds 1.5 dB, this increase is considered a significant effect, particularly since there are existing residences along East Service Road. Traffic noise levels on the other roadway segments would not exceed applicable significance thresholds.

The noise study evaluated potential mitigation measures for the East Service Road noise level increase. It concluded that "quiet pavements" would be the most practical measure, as sound walls would require many openings for driveway access, reducing the effectiveness of these walls. Quiet pavements are asphalt pavements that reduce tire/pavement noise, usually by controlling the texture of the pavement surface to absorb some of the noise produced by moving vehicles. The noise study noted that quiet pavements are typically assumed to provide a 3 to 5 dBA reduction in noise. Mitigation below would require the installation of quiet pavement where widening or resurfacing of East Service Road is required, or another equivalent mitigation be provided, with approval from a qualified noise consultant and City staff. Based on the typical reduction, the measure would lower increases in traffic noise levels along this road to levels below the significance thresholds, reducing traffic noise impacts to a less than significant level.

The impacts of project traffic noise on development of new noise-sensitive land uses, such as residences, within the project site are not considered a CEQA impact. The California Supreme Court ruled in *CBIA v. BAAQMD* (2015) that CEQA does not generally require the analysis of the impacts of the environment on a project – a "CEQA in reverse" situation. However, the noise study did evaluate the potential for residential development in the CTSP to meet the City's exterior and interior noise level standards from exposure to transportation noise. The noise study found that new residential development along East Service Road would be exposed to traffic noise levels exceeding the City's maximum allowable exterior noise exposure levels. In addition, interior noise level standards may be exceeded in unshielded residences at the first-floor and second-floor levels. The noise study specified measures to reduce noise impacts for new residential projects along East Service Road, including the construction of sound walls. These measures are described on Pages 26-27 of the noise study and will not be discussed here. This information is provided in this EIR for future consideration during the review of CTSP residential projects along East Service Road. The City may choose to apply the recommendations of the noise study on these projects as conditions of approval.

Level of Significance: Significant

Mitigation Measures:

NOISE-1: To reduce traffic noise increases under Near-Term Plus Project conditions to less than +1.5 dB, widening or new improvements to the segment of East Service Road north of the Copper Trails Specific Plan boundary shall be paved with quiet pavement, or another equivalent mitigation shall be provided, with approval from a qualified noise consultant and City staff. The pavement would be required for any portion of the roadway passing a noise-sensitive use, and for a distance of 100 feet on either side of the sensitive use.

Significance After Mitigation: Less than significant

Impact NOISE-2: Noise from Project Operations

Increases in ambient noise could result from the development of new stationary noise sources on the project site, with the potential to impact nearby land uses. The noise study noted that stationary noise sources associated with the project may include rooftop heating,

ventilating, and air conditioning units; commercial parking lot circulation, and drive-thru speaker boxes. A specific stationary source identified by the noise study is a pump station at the Ceres WWTP.

The noise study assessed the impacts of noise generated by the commercial portion of the project by evaluating individual commercial areas at the closest residential use, as measured from the center of each commercial area. The project was determined to have four main commercial areas. Noise sources are assumed to be evenly distributed across the commercial area. Table 14-6 shows the predicted operational noise levels at the nearby sensitive receptors.

TABLE 14-6
PREDICTED OPERATIONAL NOISE LEVELS FROM COMMERCIAL AREA

Area	Distance to Sensitive Receptors (ft.)	Daytime (dBA)		Nighttime (dBA)	
		L_{eq}	L_{max}	L_{eq}	L_{max}
RC 14.7 Acres	1,230	42.8	62.8	39.8	59.8
RC 16.5 Acres	2,070	28.2	48.2	25.2	45.2
RC 25.1 Acres	980	46.5	66.5	43.5	63.5
RC 51.1 Acres	2,000	33.4	53.4	30.4	50.4

Notes: L_{max} – maximum sound level measured
Source: Saxelby Acoustics 2024.

As shown in Table 14-6, the project is predicted to expose nearby residences to noise levels no greater than 46.5 dBA L_{eq} during daytime (7:00 a.m. to 10:00 p.m.) hours and 43.5 dBA L_{eq} during nighttime (10:00 p.m. to 7:00 a.m.) hours. The predicted project noise levels would meet the City of Ceres noise standard for non-transportation noise sources of 45 dBA L_{eq}.

The existing average ambient noise level at the sensitive receptors near the proposed commercial uses ranges from 62-70 dBA L_{eq} during the day and 59-70 dBA L_{eq} at night. These levels are well above the 55 dBA L_{eq} and 45 dBA L_{eq} daytime and nighttime noise level standards. This is primarily due to transportation noise from SR 99 and the UPRR tracks. The commercial area contributions of 46.5 dBA L_{eq} and 43.5 dBA L_{eq} to these existing receptors would result in a less than 0.1 dBA increase in noise levels. This is less than the minimum threshold of +1.5 dBA for long-term project-related noise increases in areas with ambient noise levels greater than 65 dB. Therefore, generally speaking, noise generated by commercial development would be less than significant.

Certain specific elements of commercial development, such as loading docks and car washes, can produce substantial amounts of noise, as documented in Table 14 (page 24) of the noise study, Appendix F. The distances and other data shown in Table 14 are, however, general in nature; the potential significance of such effects needs to be addressed on a case-by-case basis considering the nature of the commercial facility or equipment design, barriers to noise propagation, including buildings, and distance to potential sensitive

receptors. Compliance with mitigation NOISE-2 would reduce potential noise impacts of these facilities to a less than significant level.

The CTSP includes several proposed park spaces that could support a range of recreational uses. Public parks with largely passive recreational amenities such as unstructured open space, playgrounds and picnic areas generally produce noise levels of around 55 dBA Leq at a distance of 50 feet from the use center. Development of these uses, even in close proximity to sensitive receptors, would be consistent with City daytime noise standards (55 dBA Leq) and would not involve significant noise effects.

On the other hand, certain active recreational facilities such as pickleball courts, soccer fields, and baseball fields can produce higher levels of noise, at least periodically as illustrated in Table 14 of the noise study, Appendix F. Among other things, Table 14 lists screening distances that could be needed to comply with the Ceres noise level standards, with and without mitigation. The table data are general, conservative and may represent worst case conditions rather than comparison to an appropriate CEQA significance threshold. The table data reflect maximum noise levels, but noise associated with sports activities are variable. Sports events tend to occur during the less-sensitive "daytime" for noise analysis (7:00 a.m. to 10:00 p.m.) and may not exceed the daytime standards. Typically, regulations for nighttime recreational facility use require "lights out" at 10:00 p.m. As importantly, perception of active sports noise varies widely from person to person, being a welcome part of life to some and objectionable to others.

Taking the above considerations into account, potential active sports noise is probably better addressed less formally, on a project-by-project basis, during land use planning and project review, so that particularly sensitive residential projects, for example senior projects, are not tightly juxtaposed with active sports or other noise-generating activities. Where such positioning cannot be avoided, adequate mitigation can be defined and implemented via a project-specific acoustical analysis by a qualified acoustical consultant, as provided in mitigation measure NOISE-2. With implementation of this mitigation measure, project impacts of operational noise would be less than significant.

It should be noted that the noise study evaluated the potential exposure of future residential development to stationary noise levels emanating from the WWTP, even though this is not a CEQA issue for the reasons explained under Impact NOISE-1. The proposed project would be exposed to WWTP noise of up to 46.7 dBA L_{eq} at the property line during both daytime and nighttime hours. Based upon the proposed street sections, the medium density residential development in the area will be shielded along the western boundary by a masonry wall, assumed to be at least 6 feet in height relative to the centerline of Blaker Road. This would be sufficient to reduce noise levels to below the City's stationary noise level standard of 45 dBA L_{eq}.

Level of Significance: Potentially significant

Mitigation Measures:

NOISE-2: Proposed commercial and active sports recreational projects shall be subject to a preliminary review by Community Development staff for potentially significant noise impacts. Where potential noise impacts may be significant, an acoustical analysis shall be

performed by a qualified acoustical consultant as to the project's consistency with exceed the City's noise level standards and mitigation measures needed to bring the proposed source into compliance with City standards.

Significance After Mitigation: Less than significant

Impact NOISE-3: Project Construction Noise

CTSP development will involve a range of construction activity, which would add to the noise environment in the immediate project vicinity. Equipment used in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet, as shown in Table 14-7 below.

TABLE 14-7
CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dB at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: FHWA 2006.

Noise would also be generated during the construction phase by increased truck traffic on area roadways, associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration and would typically occur during daytime hours.

The City has adopted noise controls in Chapter 9 of the Municipal Code. These requirements include prohibition of construction activity between 8:00 p.m. and 7:00 a.m.

> 9.04.010 Noise Prohibited. It is unlawful for any person to make, continue or cause to be made or continued any loud, unnecessary or unusual noise or any noise which either annoys, disturbs, injures or endangers the comfort, repose, health, peace or safety of others.
>
> 9.04.020 Unreasonable Disturbing Noises. (E) Construction or Repairing of Buildings: The erection (including excavating), demolition, alteration or repair of any building other than between the hours of seven o'clock (7:00) A.M. and eight o'clock (8:00) P.M., except that, by special permit issued by the Building Inspector or City Engineer, as the case may be, upon a determination that the public health and safety will not be impaired thereby, the erection, demolition, alteration or repair of any building or the excavation of streets and highways may be permitted within the hours of eight o'clock (8:00) P.M. and seven o'clock (7:00) A.M.

Construction activities would be temporary in nature and are anticipated to occur largely during daytime working hours. These effects would be intermittent and temporary.

The noise study compared potential construction noise with Caltrans standards; Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels. Table 15 of the noise study predicts potential noise levels associated with the project; project related construction is not expected to generate an increase more than 7 dB above the ambient noise environment, which is less than the 12-dB significance threshold.

Although construction activities are temporary in nature and would typically occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered potentially significant. Mitigation described below would avoid or minimize the exposure of nearby sensitive receptors to construction noise. Impacts after mitigation would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

NOISE-3: The City shall establish the following as conditions of approval for any CTSP development permit that would require the use of construction equipment:

- Construction shall be limited to the hours of 7:00 a.m. to 8:00 p.m. unless allowed by special approval from the Building Inspector or City Engineer.
- All construction equipment powered by internal combustion engines shall be properly muffled and maintained.
- Quiet construction equipment, particularly air compressors, are to be selected whenever possible.

- All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors closest to the project site.
- Unnecessary idling of internal combustion engines is prohibited. In accordance with State regulations, idling shall be limited to no more than five minutes.
- The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Significance After Mitigation: Less than significant

Impact NOISE-4: Groundborne Vibrations and Noise

The project would not involve potential groundborne vibration sources, other than operation of construction equipment during development. In most cases, vibration induced by typical construction equipment does not result in adverse effects on people or structures.

Vibration levels for various construction equipment, provided in Table 7 of the noise study, indicate that the construction equipment most likely to generate significant vibrations – vibratory compactor/roller – would generate vibration levels of less than 0.20 inches per second peak particle velocity at a distance of 26 feet. Sensitive receptors which could be impacted by construction-related vibrations are located further than 26 feet from typical construction activities. At distances greater than 26 feet construction vibrations are not predicted to exceed acceptable levels related to human reaction or effects on buildings. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours. Therefore, impacts related to groundborne vibrations are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact NOISE-5: Exposure to Aviation Noise from a Public Airport, Public Use Airport or Private Airstrip

As noted, the Modesto City-County Airport is approximately three miles north of the project site. None of the noise contours delineated for the airport reached the project site (see Figure 14-2). The flight paths for aircraft arriving at or departing from the airport do not go over the project site. No airstrips have been identified on the project site or in the vicinity. The project would have no impact related to noise from airports or airstrips.

Level of Significance: No impact

Mitigation Measures: None required

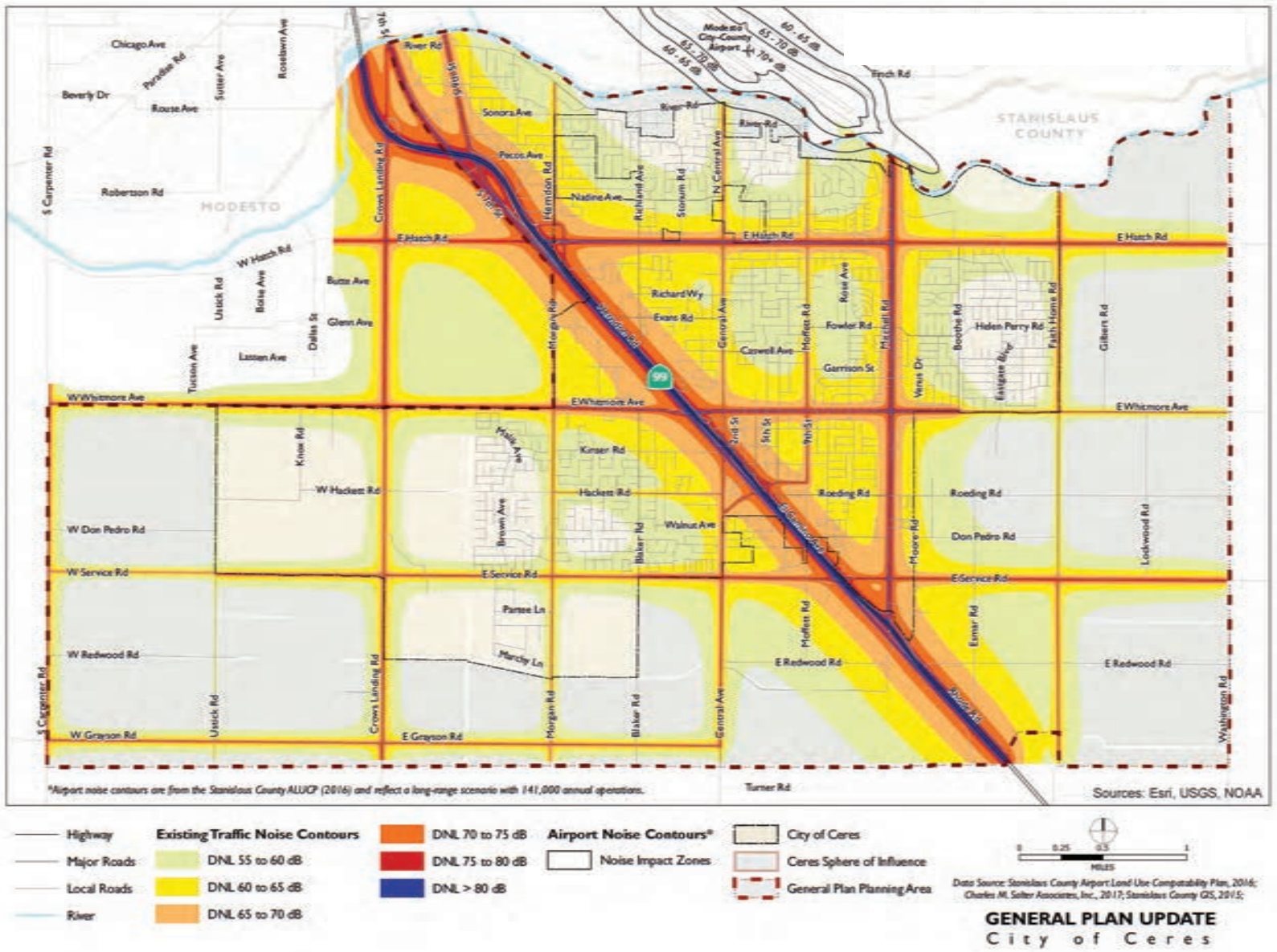


Figure14-1
EXISTING (2017) NOISE CONTOURS

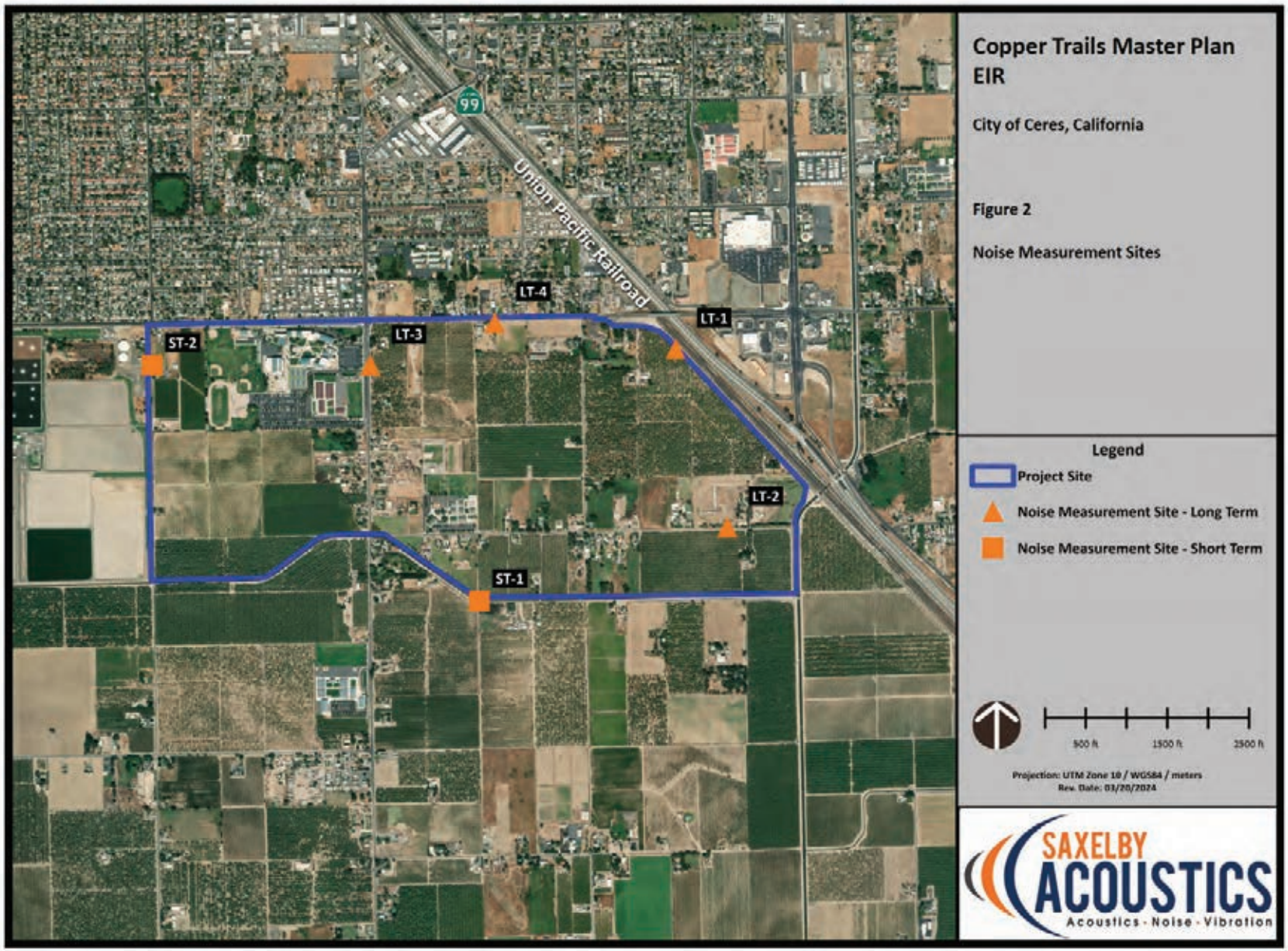


Figure14-2
NOISE STUDY MEASUREMENT LOCATIONS

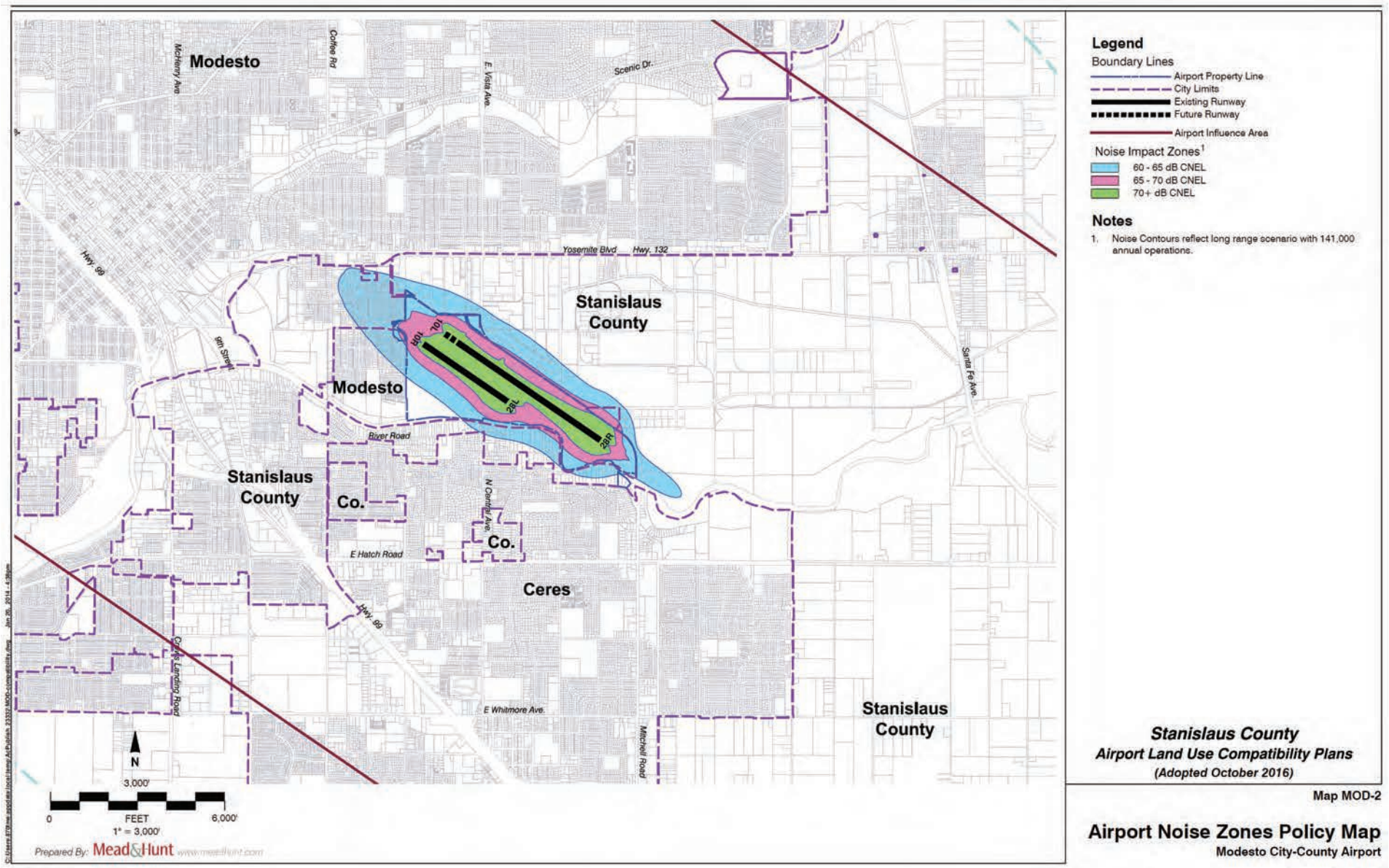


Figure14-3
MODESTO AIRPORT NOISE CONTOURS

15.0 PUBLIC SERVICES

ENVIRONMENTAL SETTING

Fire Protection

The City of Ceres Fire Department served an area of 15 square miles, including about 47,000 residents in the City of Ceres; 1,200 residents in Stanislaus County south of Ceres city limits in the Ceres Fire Protection District; and 4,000 residents in Stanislaus County north of Ceres city limits in the Industrial Fire Protection District. The Fire Department had four fire stations in Ceres, including Station #1 which housed the Fire Department's administrative headquarters and fire prevention services. As of 2016, the Department had a staff of 38.5, including one secretary (half time), one chief, three battalion chiefs, 13 captains, 12 engineers, and nine firefighters. Policy 6.K.1 of the Ceres General Plan seeks to meet the National Fire Protection Association's National Response Time Standard of responding within nine minutes of the dispatch notification at least 90 percent of the time (City of Ceres 2018b).

On June 14, 2021, the Ceres City Council approved a contract with the City of Modesto for fire services. Through a joint services agreement, the Modesto Fire Department (Modesto Fire) now provides fire protection, emergency medical, hazardous materials mitigation, and technical rescue and water rescue services to the City of Ceres. Modesto Fire staffs all four fire stations in Ceres, but these stations and their equipment retain the Ceres name. One of the stations is Station 17 on 420 East Service Road, which is the closest to the project site (Figure 15-1). Station 17 was converted to a satellite regional training facility; it is not staffed at all times with fire suppression personnel. The nearest fire station staffed with firefighting personnel at all times is Station 15, approximately one mile north of the CTSP Area at 2755 3rd Street in downtown Ceres (Darin Jesberg pers. comm.).

The Ceres Fire Protection District is generally situated to the south and southeast of the city limits of Ceres, with a small remainder area just north of the city limits along the Tuolumne River. The service area of the Fire District includes most of the project site and predominantly serves residential ranchettes and mobile home parks. The Fire District has no staff or stations (Darin Jesberg pers. comm.). In the past, the Fire District had been served by the Ceres Fire Department under contract (City of Ceres 2012). Fire services are now extended to the Fire District area under the joint services agreement between the City and Modesto Fire.

Part of the southeastern portion of the CTSP Area is served by the Keyes Fire Protection District. The Keyes Fire Protection District serves an area of approximately 22 square miles that includes the unincorporated community of Keyes and the surrounding rural area. It has only one station, located at 5629 Seventh Street in Keyes.

The Cities of Ceres and Modesto and the fire districts are currently in discussions as to the future allocation of responsibilities among the agencies, including consideration of fire protection issues and concerns associated with the Copper Trails Specific Plan.

Police Protection

The City of Ceres Police Department provides law enforcement services for the City. The Police Department, operating from its station at 2727 Third Street (Figure 15-1), has 52 sworn officer positions provided for in fiscal year 2023-24, in addition to 18 non-sworn personnel. Based on this and the 2020 population of Ceres (see Chapter 13.0, Land Use), the service ratio is approximately 1.06 sworn officers per 1,000 population, which is below the goal of 1.3 officers per 1,000. The Police Department does not have response time standards; however, the average response time in 2015 for priority one (major crimes and incidents) calls was about five minutes (City of Ceres 2018a).

The Stanislaus County Sheriff's Department provides law enforcement services to the unincorporated areas of Stanislaus County, and it currently serves the project site, including both the CTSP and Pocket Areas. Its Operations Division has principal jurisdiction in all unincorporated areas, covering an area of approximately 1,521 square miles with a population of more than 200,000 (Stanislaus County 2016b).

Public Schools

The Ceres Unified School District (CUSD) provides educational services for students of all grades in elementary, junior, and high school in the Ceres area. The CUSD is currently home to 20 neighborhood schools, including two comprehensive high schools, two dual language academies, a leadership magnet school, and a K-12 charter school (CUSD 2022). A total of 14,539 students enrolled at CUSD schools in the 2021-22 school year. Of the total, 4,546 students were at high school grades (9-12), 2,120 students were at junior high school grades (7-8), and the remaining 7,873 students were at elementary school grades (K-6) (California Department of Education 2023).

Two schools managed by the CUSD are located within the project site. Hidahl Elementary School, at 2351 East Redwood Road, enrolled a total of 428 elementary school students in the 2021-22 school year. Central Valley High School, at 4033 Central Avenue on the southwest corner of the intersection of Central Avenue and East Service Road, enrolled a total of 2,260 high school students in the 2021-22 school year (California Department of Education 2023).

Public school operation costs are met with State funds that are distributed based on average daily attendance. To assist in making school improvements such as new or expanded facilities, the CUSD collects development impact fees, which are discussed below. Applicable fees would be collected at the time of residential and/or commercial development.

Parks and Recreation

The City of Ceres, through its Recreation Department, maintains 14 parks that cover approximately 152 acres, of parks located throughout the community, which typically serve surrounding neighborhoods. There are 12 neighborhood parks totaling 48.21 acres, one

community park of 27.88 acres, and one regional park of 76 acres. The regional park, River Bluff Regional Park, has a soccer complex with seven soccer fields. The community park, Smyrna Park, has the George Costa Ball Field Complex with five fields for baseball and softball.

The City's Recreational Department provides a wide range of programs for youth, teens, adults, and seniors, including but not limited to exercise classes, sports leagues, art classes and workshops, dance classes, first aid training, and aquatics programs. Most classes and workshops are taught at the Ceres Community Center, located at 2701 4th Street. As the Community Center does not have indoor space for active uses, such as aquatics and indoor athletics, the City of Ceres has a Joint Facility Use Agreement with CUSD. The City utilizes the gyms, pools, and classrooms at school sites when schools are not in session, and CUSD utilizes the Ceres Community Center (City of Ceres 2018a).

Stanislaus County operates a park system through its Parks and Recreation Department. The County maintains five regional parks, 12 neighborhood parks, 10 community parks, and two off-highway vehicle parks, along with other recreational facilities. There are no County parks or recreational facilities within or adjacent to the project site.

Other Community Facilities

Community facilities are public and private institutions that support the civic and social needs of the population. They offer a variety of recreational, artistic, and educational programs for all ages, and often serve as venues for special public and private events.

The main community facility is the Ceres Community Center, located at 2701 4th Street in downtown Ceres. The Community Center, built in 2009, contains 26,500 square feet of usable community space and features a teen activity room, an arts and crafts center, a computer learning center, a senior activity room, assembly space, and a kitchen. It hosts special events, classes for all ages, and more (City of Ceres 2018a).

Other community facilities include the following (City of Ceres 2018a):

- *City administrative offices.* City administrative offices are located at 2720 Second Street and 2200 Magnolia Street in downtown Ceres and serve as the headquarters for City government.
- *Ceres Public Works Department.* The Ceres Public Works Department is located at 2220 Hackett Road.
- *Daniel Whitmore Home.* The Daniel Whitmore Home was built by the founder of Ceres in 1870 and is a historical landmark on the National Register of Historical Places. It is in downtown Ceres and is part of the Ceres Museum.
- *Whitmore Mansion.* The Whitmore Mansion was built in 1903 by the city founder's son. The City bought the Mansion in 2012 and partners with a non-profit group that is responsible for its operation, including renting the Mansion and grounds for special events.

- *Ceres American Legion Memorial Building.* The American Legion Memorial Building**,** located at 2609 Lawrence Street, can be rented for meetings and events.

- *Ceres Unified School District Administrative Office.* The CUSD administrative office is located at 2503 Lawrence Street and serves as the headquarters for the school district.

- *Stanislaus County offices.* Stanislaus County offices, including the County public safety services, animal shelter, welfare department, administration, and sheriff department are located in southwest Ceres to the immediate east of Crows Landing Road.

- *Ceres Public Library.* The Ceres Public Library is located at 2250 Magnolia Street, adjacent to the Community Center in downtown Ceres. It is a branch of the Stanislaus County Library. Along with typical library services, the Ceres Public Library offers public computers and a document station for printing, scanning, and faxing.

REGULATORY FRAMEWORK

California Fire Code

The California Fire Code (California Code of Regulations Title 24, Part 9) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California. The Fire Code includes regulations regarding fire resistance-rated construction, fire protection systems, such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. The City of Ceres has adopted the 2022 California Fire Code.

SB 50

SB 50, enacted in 1998, created the present School Facility Program, which is a State/local match program for the funding of new kindergarten-12th grade school facilities and the modernization of existing facilities. SB 50 established a base fee for both residential and commercial/industrial development, the proceeds from which provide capital improvement funding for schools. This base has been adjusted for inflation every two years. School districts must establish the nexus between the development and the need for school facilities via a fee justification study to impose the biannual increase. Fees are levied and collected at the time the building permit is issued. District certification of the payment of the applicable fee is required before the city or county can issue the building permit.

The CUSD is eligible to levy Level II development impact fees on new development, but it is imposing only Level I fees at this time. According to the School District's website,

development impact fees are $5.17 per square foot of single-family residential development and multi-family residential development, and $0.84 per square foot of commercial/industrial development, effective June 14, 2022.

California Government Code Sections 65995 to 65998 (School Facilities)

California Government Code Section 65996 specifies that an acceptable method of offsetting a project's effect on the adequacy of school facilities is the payment of a school impact fee prior to issuance of a building permit. Sections 65995 to 65998 set forth provisions for the payment of school impact fees by new development by "mitigating impacts on school facilities that occur (as a result of) the planning, use, or development of real property" [Section 65996(a)]. The legislation goes on to say that the payment of school impact fees is deemed to provide full and complete school facilities mitigation under CEQA [Section 65996(b)]. The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Quimby Act

The Quimby Act of 1975 authorizes cities and counties to pass ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated by the Quimby Act cannot be used for the operation and maintenance of park facilities. A 1982 amendment, AB 1600, requires agencies to clearly show a reasonable relationship between the public need for a recreation facility or park land, and the type of development project upon which the fee is imposed. Also, local ordinances must now include definite standards for determining the proportion of the subdivision to be dedicated and the amount of the fee to be paid. The City has incorporated such standards in Title 17, Chapter 13 of the Ceres Municipal Code, including a formula to determine the amount of parkland to be dedicated in a subdivision.

Ceres Parks and Recreation Master Plan

The Ceres Parks and Recreation Master Plan was adopted in 2016. The Master Plan provides an analysis of the context of park and recreational needs and presents an inventory of Ceres park facilities. It outlines community input and suggestions gathered, and it synthesizes these results into a set of recommendations. Finally, the Master Plan provides an outline for implementation and identifies potential funding mechanisms and opportunities. The Master Plan shows proposed parks at three locations within the CTSP Area (City of Ceres 2016c).

Ceres General Plan

The Ceres General Plan establishes a goal to provide 4.0 acres of park space for every 1,000 residents. This standard has been incorporated in Section 17.13.030 of the Ceres Municipal Code. Based on the current park acreage and the estimated 2023 population of 47,729, the City currently has a park ratio of approximately 3.2 acres per 1,000 residents. The Parks and Recreation Master Plan indicates that three parks totaling 22.6 acres are in the planning stages. With these three additional parks, the park ratio would be approximately 3.7 acres per 1,000 residents.

Ceres Municipal Code

Title 3, Chapter 13 of the Ceres Municipal Code authorizes the imposition of public facilities fee prior to the issuance of any building permits. As defined in the Municipal Code, "public facilities" include public improvements, public services, and community amenities. Public facility fees are adopted and periodically updated by resolution of the City Council.

As noted, Title 17, Chapter 13 of the Municipal Code includes definite standards for determining the proportion of a subdivision to be dedicated to parks and the amount of the fee to be paid. As a condition of approval of a tentative subdivision map or parcel map, including vesting map, the subdivider shall be required to dedicate land, pay a fee in lieu thereof, or both, at the option of the City, and pay a fee for improving the land for parks or recreational purposes according to the standards and formula contained in this chapter and the City of Ceres public facility fees program as adopted by the City Council.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on the environment related to public services and recreation if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or generate a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities,
- 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, or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impact PS-1: Fire Protection Services

The proposed project, especially planned development under the CTSP, would add new population and businesses that would require fire protection service, which would be the responsibility of Modesto Fire under its current contract with the City until 2026, and possibly beyond that year. The future allocation of fire protection responsibilities is currently being discussed by the responsible entities. The potential for brush fires would be reduced with urban development of agricultural areas within the CTSP Area, but the number of structural fires has the potential to increase. Buildout of the CTSP is estimated to result in 988 new single-family residences, 1,404 other residential units and approximately 1.17 million square feet of new commercial development.

The City currently has no staffing ratio for firefighters, but it does have a General Plan policy regarding response times. With CTSP development, it is expected that another fire station may be required to ensure the target response time is met. The CTSP map shows land set aside acreage at the intersection of East Redwood Road and Moffett Road for community facilities, which may include a fire station. A fire station at this site has the potential to meet the City's ensure that the target response time is met in the entire project area. However, as noted, the location of the community facility area is flexible and could be moved to another location that better serves development needs, as determined by the City. In any case, the potential environmental impacts of fire station construction would not be different from those caused by CTSP Area development overall. The specific impacts of a new fire station would be analyzed in a project-level CEQA analysis.

New development would be required to pay Public Facility Fees, a portion of which would be dedicated to improvement of fire protection capital facilities. Payment of Public Facility Fees may or may not be sufficient to support development of an additional fire station. The potential environmental effects of construction of a new fire station within the CTSP Area are addressed by the overall environmental effects of the CTSP, and subject to the mitigation measures, as described in this document.

All new development within the project site must meet the requirements of the adopted Fire Code, which would reduce the risk of damaging structural fires. Construction of new roads must meet turning radius standards for firefighting apparatus; new water systems must meet minimum fire flow rates as specified by the City's Fire Code. Compliance with applicable codes and requirements, along with the acreage set aside for a potential fire station, would mitigate potential fire protection service impacts to a level that would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PS-2: Police Protection Services

The proposed project, especially planned development under the CTSP, would add new population and businesses that would require police protection, which would be the responsibility of the Ceres Police Department. The CTSP would involve potential population increases of up to 6,745 persons associated with planned residential development and non-residential activity associated with the approximately 1.17 million square feet of new non-residential development envisioned in the CTSP. Based on the City's police protection goals, the City would need to hire an additional 8-9 sworn officers to serve the new CTSP population.

Future police staffing costs are determined in financial planning and City decision-making that is beyond the scope of the EIR. However, according to a Municipal Service Review conducted by the City, existing development fees and taxes are expected to finance the majority of costs associated with new development, although additional revenue demands will be assessed on a project-specific basis (City of Ceres 2012).

Also, as noted in Impact PS-1, the CTSP sets aside acreage at the intersection of East Redwood Road and Moffett Road for community facilities, including possibly a police substation. In addition, new development would be required to pay Public Facility Fees, a portion of which would be dedicated to improvement to police protection facilities. The potential environmental effects of construction of a new substation within the CTSP Area are addressed by the overall environmental effects of the CTSP, and subject to the mitigation measures, as described in this document. With these provisions, project impacts on police protection services are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PS-3: Public School Services

Development and occupation of the residential portions of the CTSP will lead to the generation of additional student populations over time. Potential future student generation would amount to approximately 1,291 K-6 students, 340 middle school students, and 581 high school students, based on the residential development potential of 1,050 residential units, and student generation factors used by CUSD, as presented in Table 15-1.

TABLE 15-1
STUDENT GENERATION RATE PER RESIDENTIAL HOUSEHOLD

Grade Level	Per Single-Family Unit	Per Multi-Family Unit	Students Generated	School Capacity	Schools Required
Elementary (K-6)	0.506	0.611	1,291	500	2.58
Middle (7-8)	0.135	0.157	340	900	0.38
High (9-12)	0.258	0.211	581	1,500	0.39
TOTAL			**2,212**		

Source: CUSD 2019.

Buildout of the CTSP would contribute to the projected need for school expansion or new schools within CUSD. As indicated in Table 15-1, the project would, over time, generate the need for two elementary schools to accommodate elementary students. CTSP development could generate needs for expansion of existing middle and high school facilities. In its School Facility Needs Analysis, the CUSD determined there is excess capacity at the K-6 and 7-8 grade levels to house students generated from new development; the Needs Analysis indicates that new facilities would be required to accommodate the anticipated number of high school students (CUSD 2019). Decisions regarding how needs generated by new student load are met would be the responsibility of the CUSD; in these decisions, CUSD may consider construction of new schools or redistribution of student load among existing schools.

As noted, new development would be required to pay impact fees to the CUSD. The fees would be used to fund construction of new CUSD facilities or to expand existing facilities. As set forth in California Government Code Section 65996(b), the payment of school impact fees is deemed to provide full and complete school facilities mitigation under CEQA. With payment of development impact fees to CUSD, project impacts on schools are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PS-4: Park and Recreation Services

As noted in Chapter 13.0, Land Use, the CTSP is expected to generate a population of approximately 6,745. Based on the goal set in the Ceres General Plan of 4.0 acres of park space per 1,000, the CTSP population would need approximately 25.9 acres of parkland. The proposed CTSP provides for the development of approximately 42.3 acres of parks and open space in conjunction with new development (see Table 3-2 in Chapter 2.0, Project Description). New park development would exceed the General Plan parkland standard and reduce potential impacts on park demand to a less than significant level.

As noted, the Ceres Municipal Code requires, as a condition of approval, that all tentative subdivision maps and parcel maps dedicate land, pay a fee in lieu thereof, or both, at the option of the City, and pay a fee for improving the land for parks or recreational purposes. It is expected that these fees would be paid when such maps are submitted to the City. As a result, project impacts on parks and recreation would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact PS-5: Other Public Services

As noted, there are several community facilities in the City of Ceres. Most of these facilities would not be affected by the development of the CTSP Area and the resultant population change. Three public facilities that could be potentially affected are the Ceres Community Center, the City administrative offices, and the Ceres Public Library. These facilities could experience an increase in use by residents of the CTSP Area, potentially requiring new or expanded facilities.

While the City uses the Community Center for activities, others would be required to pay rent to the City. It is expected that these rents would cover expenses associated with use of Community Center facilities. In addition, new residential development would be required to pay Public Facility Fees, a portion of which would be dedicated to community facilities.

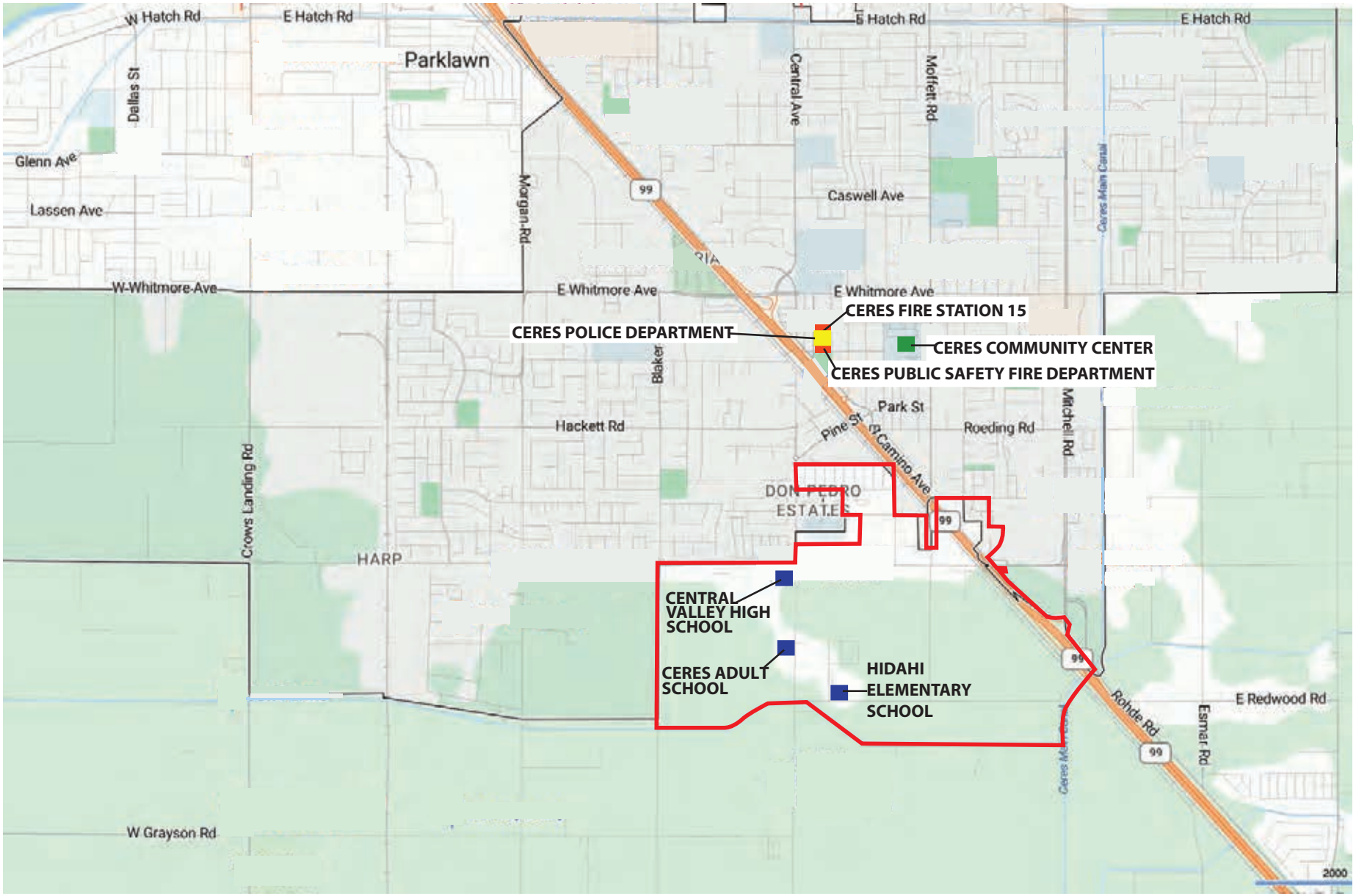
As noted, the Ceres Public Library is a branch of the Stanislaus County Library. Therefore, funding for any new or expanded facilities would need to be provided by the County. The County currently has no plans for new or expanded library facilities in Ceres.

Should implementation of the project result in the need for new public facilities, existing regulations such as the adopted Green Building Code and the Ceres Storm Water Management and Discharge Control Ordinance would serve to reduce potential environmental impacts. Additionally, new projects would be subject to CEQA requirements for environmental assessment. Although compliance with CEQA requirements would not necessarily guarantee that significant impacts would be avoided or mitigated, it would allow for the identification and consideration of potential impacts and mitigation (City of Ceres 2018a).

New facilities would be located consistent with specified land use designations and would be subject to policies in the General Plan. These policies would further reduce potential impacts of siting, construction, and operation of new facilities to the extent assessed in other sections of this EIR. Proposed policies include those requiring construction best management practices to limit land disturbance, development review to protect significant biological resources, air pollution mitigation measures as a condition of obtaining permits, and management of archaeological materials found during development (City of Ceres 2018a). As a result, project impacts on park and recreation services would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required



BaseCamp Environmental

Figure 15-1
PUBLIC SERVICE FACILITIES

16.0 TRANSPORTATION

This chapter addresses the potential transportation impacts of the project, including the adoption of the CTSP. Potential effects are discussed in terms of vehicular traffic, transit, bicycle and pedestrian and other transportation modes. The potential impacts were evaluated by the EIR consultant and the City of Ceres, with technical assistance from Wood Rodgers. The Wood Rodgers Transportation Impact Analysis is available in Appendix G of this EIR. The analysis used the latest version of the StanCOG Travel Demand Model, along with trip generation data and methodologies contained in the Institute of Transportation Engineers' *Trip Generation Manual,* 11th Edition. For analysis of traffic queues, Synchro 11 software was used to model the study intersections and SimTraffic 11 software was used to analyze 95th percentile queues.

Figure 16-1 shows the 27 roadway segments, existing and proposed, evaluated in the Transportation Impact Analysis. This analysis considers several scenarios that reflect existing, near-term, and cumulative traffic conditions. Existing conditions represent 2023 traffic conditions. Near-term conditions in the Analysis represent a 2028 condition where the Service Road Interchange is complete; the interchange project is, however, still in the planning stages and is several years away from construction. Cumulative conditions represent a long-term future (2048) condition that includes forecasted growth and future roadway network conditions contained in the StanCOG Travel Demand Model. Existing and cumulative conditions in the analysis of VMT impacts, while near-term conditions are used to evaluate traffic queuing. Chapter 18.0, Cumulative Impacts, presents the analysis of cumulative traffic conditions.

The analysis evaluates traffic conditions, both without and with the project, in terms of Level of Service (LOS). LOS measures the quality of traffic flow based on driver convenience using letter designations ranging from A to F, with A representing the best conditions and F the worst conditions. LOS was once used to determine the significance of the environmental impacts of a project on transportation. However, with the passage of SB 743, LOS is no longer used in that capacity; rather, VMT is the preferred metric to determine the significance of transportation impacts. SB 743 and VMT are discussed later in this chapter.

It should be noted that the focus of the Transportation Impact Analysis is on the CTSP Area and development within that area. Since the Pocket Area is relatively small and mostly developed, it is not expected to make a significant contribution to transportation impacts.

ENVIRONMENTAL SETTING

Existing Roadways

The CTSP Area is bordered by Lucas Road and Mitchell Road to the east, Service Road to the north, Blaker Road to the west, and the TID Lower Lateral 2 to the south. CTSP travel would access the surrounding roadway network via existing and new connections to Service Road, Central Avenue, Blaker Road, Moffett Road, Lucas Road, and East Redwood Avenue.

Service Road is designated an Expressway in the Ceres General Plan. Expressways are limited access, moderate- to high-speed facilities that typically have four to six lanes and generally only intersect with primary collectors, arterials, and expressways (City of Ceres 2018b). Within the CTSP Area, Service Road currently has two lanes from the existing SR 99 overcrossing to Central Avenue, where it becomes four lanes to Blaker Road and beyond.

Central Avenue is designated an Arterial in the Ceres General Plan. Arterial roadways are intended to accommodate high volumes of traffic within a four- to six-lane cross-section, plus left-turn pockets, and sometimes right-turn pockets. These roads typically provide access to collector streets into residential subdivisions and can also provide direct access to commercial areas (City of Ceres 2018b). Central Avenue currently has two lanes with turn pockets from downtown Ceres to Service Road, where it becomes four lanes on its frontage with Central Valley High School, then becomes two lanes again beyond the high school.

All other roads named above are designated as Primary Collectors in the Ceres General Plan. Primary collector streets generally collect traffic from other collector and minor streets and provide connections to arterial streets. Primary collector streets also provide direct linkages to neighborhood shopping areas. Currently, Blaker Road, Central Avenue, Moffett Road, Lucas Road, and East Redwood Avenue are two-lane roadways.

The Pocket Area has access to Service Road, Central Avenue, and Moffett Road. Other roads in the Pocket Area include Don Pedro Road, Laurel Avenue, Industrial Way, and 10th Street. As noted, the Transportation Impact Analysis does not focus on the Pocket Area.

SR 99 is a north-south freeway that connects Ceres to Modesto and Turlock and beyond. Caltrans manages the operation of SR 99, and it is the only grade-separated and access-controlled freeway within Ceres city limits. SR 99 is a six-lane freeway in the CTSP vicinity. Currently, the only access from SR 99 to the project site is at a partial interchange at Mitchell Road. Caltrans has had plans to construct a new SR 99/Mitchell/Service Road Diverging Diamond Interchange (Service Road interchange), which has a target opening year of 2030; however, the City has unresolved concerns regarding the design and cost of interchange improvements.

Other Transportation Modes

Bus Transit

Bus transportation services in Ceres and other communities of Stanislaus County are provided by the Stanislaus Regional Transit Authority (StanRTA). StanRTA was formed in 2021 by a merger of Modesto Area Express and Stanislaus County Regional Transit. The City of Ceres formerly provided bus service for its residents through Ceres Area Transit. However, the City turned over bus transit operations to Modesto Area Express in 2020, which in turn merged into StanRTA.

StanRTA provides both fixed-route and dial-a-ride services to Ceres. Route 29 runs between the southeast corner of Ceres to the Downtown Modesto Transit Center. Route 47 extends along Mitchell Road and Hatch Road before ending at the Downtown Modesto Transit Center. Route 42 connects the far west side of Ceres at the Stanislaus County offices campus with downtown Ceres. Currently, Route 42 runs on the segment of East Service Road between Central Avenue and Blaker Road. This segment fronts Central Valley High School.

StanRTA also operates long-distance commuter buses that serve multiple cities across Stanislaus County. These services typically have long headways and few trips per day. Route 61 connects Downtown Modesto and the communities of Ceres, Empire, Waterford, Hickman, and Hughson. Within Ceres City limits, Route 61 travels along Whitmore Avenue and Mitchell Road before entering SR 99. Route 15 connects Downtown Modesto and the communities of Ceres, Keyes, and Turlock. This route travels along several City streets including Hatch Road, Richland Avenue, Whitmore Avenue, and Mitchell Road (City of Ceres 2021a). No StanRTA long-distance routes currently serve the CTSP Area.

Bicycle Transportation

Ceres has a small number of bicycle facilities interspersed throughout the city. The City's bicycling network contains four different types of bikeways (City of Ceres 2021a):

- **Class 1 (bike paths)**, also known as multi-use paths, are separated completely from motor vehicle traffic and are usually shared with pedestrians. Class 1 multi-use paths are located along Hatch Road and the TID Main Canal. No Class 1 facilities are within the CTSP Area.

- **Class 2 (bike lanes)** are delineated lanes within the roadway for the exclusive use of bicycles. Vehicle and pedestrian crossflow are permitted. The striping is supported by pavement markings and signage. Class II bikeways can be enhanced by features such as green paint or painted buffers. Class 2 bike lanes are located along East Service Road fronting Central Valley High School.

- **Class 3 (bike routes)** are located on roadways on which bicyclists share the roadway with motor vehicles. Bike routes are designated by signage and/or shared roadway bicycle markings (sharrows). Some bicycle routes (Class 3.5) have wide shoulders that provide space for bicyclists, although they do not have bike lane markings. No Class 3 facilities are within the CTSP Area.

- **Class 4 bikeways (cycle tracks)** are within or adjacent to a roadway and separated from traffic by a physical barrier such as bollards, on-street parking, or planters. This design allows an exclusive right-of-way for bicycle travel. No Class 4 facilities are within the CTSP Area.

Other than the multi-use paths, most bikeways in the Ceres area have gaps that limit bikeway connections. There are substantial connectivity barriers for bicycling and other transportation modes in Ceres. In addition to the northern barrier of the Tuolumne River, SR 99 and active freight railroad tracks bisect the City at near-45-degree angles from northwest to southeast.

Pedestrian Transportation

Pedestrian facilities include sidewalks and pathways, as well as crosswalks, pedestrian crosswalk signals, lighting, street trees, and curb ramps. The state of the pedestrian network in Ceres varies greatly based on the location within the community, as it contains a diverse mix of land uses, density, neighborhood character, and age of development. These factors result in sidewalk gaps at locations such as road segments adjacent to undeveloped land and between areas with pedestrian infrastructure like residential neighborhoods and commercial areas. Other connectivity gaps are a result of low-quality sidewalks and crossings. For example, existing pedestrian connections over SR 99 and the adjacent rail line are sometimes substandard, such as the overcrossings at Pine Street and Hatch Road (City of Ceres 2021a).

There are few sidewalks or other pedestrian facilities currently within the CTSP Area, which is expected given its predominantly rural character. Sidewalks have been installed along the Service Road and Central Avenue frontages of Central Valley High School and along the East Redwood Road frontage of Hidahl Elementary School. The more developed Pocket Area has segments of sidewalk along its more traveled streets such as Service Road and Don Pedro Road, as well as along streets in some of its residential areas.

Railroad

There are two types of rail transportation: freight and passenger. The Union Pacific Railroad operates two rail lines through the City of Ceres that primarily carry freight trains. One line generally parallels SR 99, and grade-separated crossings are provided at major roadways, including Hatch Road, Whitmore Avenue, and Service Road. The second line has a north-south orientation and is located equidistant between Crows Landing Road and Morgan Road. At-grade crossings are provided on the local street network.

Passenger rail service is not directly provided in Ceres. Amtrak provides passenger rail service between the San Francisco Bay Area and Bakersfield on its San Joaquin trains. While these trains pass by the City, the closest Amtrak station is approximately eight miles northeast of downtown Ceres, on the eastern edge of Modesto on Held Drive. A bus transit connection is provided via StanRTA Route 25 to the Downtown Modesto Transit station, where bus routes to Ceres can be accessed.

The Altamont Corridor Express (ACE), a commuter rail service that connects Stockton to San Jose, plans a rail line extension from Lathrop in San Joaquin County to Ceres, with an

eventual extension to Merced. The initial extension would include an ACE station in Ceres, located between Railroad Avenue and SR 99 near the southbound Whitmore Avenue exit underpass. Construction and operation for the Ceres station were initially scheduled 2023 and 2024 (Benziger 2022); these planned improvements may not be considered feasible (Beltran pers. comm.).

Air Transportation

There are no airports within the City of Ceres. As stated in Chapter 11.0, Hazards and Hazardous Materials, the nearest public airport is the Modesto City-County Airport. Modesto Airport provides general aviation services; however, it currently does not provide commercial passenger service. Limited passenger service is provided at the Stockton Metropolitan Airport, approximately 25 miles northeast of Ceres. International airports are located approximately 60 to 70 miles to the west in San Francisco, Oakland, and San Jose, and approximately 75 miles to the north in Sacramento.

REGULATORY FRAMEWORK

California Department of Transportation (Caltrans)

Caltrans is the primary State agency responsible for transportation issues. One of its duties is the construction and maintenance of the State highway system. Caltrans has established standards for roadway traffic flow and has developed procedures to determine if State-controlled facilities require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. For projects that would not physically affect facilities but may influence traffic flow and LOS, Caltrans may recommend measures to mitigate these traffic impacts.

The nearest Caltrans facilities to the CTSP Area are SR 99, the on- and off-ramps at the SR 99/Mitchell Road interchange, and the SR 99 overpass on Service Road. For all its facilities, Caltrans maintains a minimum LOS at the transition between LOS C and LOS D, based on the facility and its applicable measure of effectiveness, which is time delay at intersections and traffic density on roadway segments (Caltrans 2002).

State CEQA Guidelines Section 15064.3

The State of California has recently added Section 15064.3 to the CEQA Guidelines, which is meant to incorporate SB 743 into CEQA analysis. SB 743 was enacted in 2013 with the intent to balance congestion management needs and the mitigation of the environmental impacts of traffic with statewide GHG emission reduction goals. SB 743 directed the Governor's Office of Planning and Research (OPR) to develop an alternative mechanism for evaluating transportation impacts and to amend the CEQA guidelines to provide a transportation impact analysis framework that prioritizes reducing GHG emissions, replacing the prior focus of minimizing automobile delay.

Section 15064.3 states that VMT is the preferred metric for evaluating transportation impacts, rather than LOS. VMT measures the total miles traveled by vehicles as a result of

a given project by multiplying the number of vehicle trips by the length of vehicle trips. Unlike LOS, VMT accounts for the total environmental impact of transportation associated with a project, including use of non-vehicle travel modes. Section 15064.3(b) sets forth the criteria for analyzing transportation impacts using the preferred VMT metric:

- VMT exceeding an applicable threshold of significance may indicate a significant impact. [The Transportation Impact Analysis, in coordination with the City, developed thresholds of significance related to VMT, which are discussed later in this chapter.]

- Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing "high-quality transit corridor" should be presumed to cause a less-than-significant transportation impact.

- Projects that decrease VMT in the project area compared to existing conditions should be presumed to cause a less-than-significant transportation impact.

While a quantitative analysis of VMT is preferred, a qualitative analysis may be used if existing models or methods are not available to estimate VMT for the project being considered.

The OPR has issued a Technical Advisory on the evaluation of CEQA transportation impacts based on VMT. Based on OPR's extensive review of the applicable research and an assessment by the ARB quantifying the need for VMT reduction to meet the State's long-term climate goals, the OPR Technical Advisory recommends that a per capita or per employee VMT that is 15 percent below that of existing development may be a reasonable threshold. More specifically, for residential projects, OPR suggests that a proposed project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact (OPR 2018). As noted, the Transportation Impact Analysis has developed thresholds of significance for its VMT analysis.

Regional Transportation Plans

Regional transportation plans applicable to Ceres have been prepared by StanCOG, which is a joint powers authority comprised of Stanislaus County and its incorporated cities, including Ceres. It is responsible for developing and updating a variety of transportation plans, and for allocating the federal, state, and local funds to implement them. StanCOG is the Metropolitan Planning Organization for the Stanislaus region as designated by the federal government, the Regional Transportation Planning Agency as designated by the State of California, and the Local Transportation Authority.

Regional Transportation Plan/Sustainable Communities Strategy

As the designated Metropolitan Planning Organization and Regional Transportation Planning Agency representing Stanislaus County, StanCOG is required by both federal and State law to prepare a long-range transportation planning document known as a Regional Transportation Plan (RTP). The 2022 RTP, the most recent version, was adopted by StanCOG at a meeting on August 17, 2022.

The 2022 RTP sets the foundation for transportation investment and land use priorities for the years 2022 through 2046. It established a set of goals, objectives, and measures that express the aspirations and desired outcomes of the planning process. The goals and objectives were developed to be consistent with local, state, and national goals/objectives and align the region's investment plan with state goals and objectives on climate, equity, multimodal mobility and accessibility/connectivity, safety, public health, livability, economy, environment, and infrastructure. An Investment Plan was developed that directs transportation system spending on projects furthering these goals, objectives, and measures. Projects near the CTSP Area that are part of the 2022 RTP include construction of the Service Road interchange and traffic signal synchronization on Service Road and Central Avenue (StanCOG 2022a).

The RTP includes a Sustainable Communities Strategy (SCS), as required by SB 375, which links land use and transportation strategies with the intent of meeting specified per capita GHG reduction targets for emissions from cars and light trucks. Chapter 10.0, Greenhouse Gas Emissions, provides a detailed discussion of the SCS.

Congestion Management Process

A Congestion Management Process (CMP) is an important State and Federal requirement in the metropolitan transportation planning process. Federal regulation calls for MPOs to address congestion management through a process that provides for safe and effective integrated management and operation of a multimodal transportation system. A CMP is required by the Federal Highway Administration to be developed and implemented in urbanized areas with a population over 200,000. The CMP applies to a road network that must include those areas that meet the regionally identified definition of "congested" and represent the area for data collection and monitoring activities. In the vicinity of the CTSP Area, the only road in the Stanislaus County CMP network is SR 99.

StanCOG updated its CMP in 2020. The 2020 CMP has employed a new and innovative approach using transportation analytics with a more comprehensive and sophisticated set of performance measures, that takes advantage of the availability of large volumes of data from mobile phones, rather than the older volume-to-capacity based performance evaluation methodology employed for measuring roadway traffic congestion. From the analysis of these data, a wide range of strategies was developed to help relieve traffic congestion, while better accommodating the flow of people and goods and advancing CMP and RTP/SCS goals (StanCOG 2020).

Non-Motorized Transportation Plan

StanCOG adopted an updated Non-Motorized Transportation Plan in 2021. The Non-Motorized Transportation Plan presents strategic recommendations, based on community input and technical analyses to improve non-motorized transportation in the Stanislaus region. Non-motorized transportation includes the use of walking, bicycles, electric bicycles, scooters, skateboards, and wheelchairs or other mobility-assistance devices. Among the purposes of this plan are to enhance opportunities for walking, bicycling, and other forms of non-motorized transportation and to reduce congestion and vehicle miles traveled to lower greenhouse gas emissions and improve regional air quality. The

programmatic and infrastructure improvements recommended in the plan prioritize infrastructure changes and programs aimed at making walking and bicycling facilities safer and more comfortable for people of all ages and abilities.

In Ceres, proposed projects under the Non-Motorized Transportation Plan include a Class 3 bicycle boulevard on Roeding Road from Moore Road to 6th Street and on 5th/6th Street between East Whitmore Avenue to Roeding Road (StanCOG 2021). No projects are proposed within the CTSP Area.

City of Ceres

Ceres Citywide Active Transportation Plan

The Ceres Citywide Active Transportation Plan guides the development of pedestrian and bicycle facilities throughout the City of Ceres. The Active Transportation Plan supports and implements a comprehensive, integrated network that allows safe and convenient travel along and across streets for all users as outlined in the Ceres General Plan and other recently adopted City plans. The plan presents an overview of existing walking and biking conditions, pedestrian and bicycle facilities, and relevant plans, policies and programs to determine walking and biking needs for the City, complemented by input received by members of the public. It then develops a list of projects and programs that include a description of proposed improvements, planning-level cost estimates, and phases of implementation (City of Ceres 2021a).

The Active Transportation Plan proposes several new bicycle facilities, some of which would be installed within the CTSP Area. These planned improvements include bicycle and bicycle/pedestrian facilities along East Service Road, along the TID Lower Lateral 2 alignment, along Central Avenue and Blaker Road. It also proposes pedestrian facility improvements in several places, including along Service Road near Central Valley High School, the Central Avenue/Service Road and Service Road/Moffett Road intersections, and on Central Avenue at the north and south entrances to Central Valley High School (City of Ceres 2021a)

Ceres General Plan

Policy 3.A.2 of the Ceres General Plan states that the City shall develop and manage the roadway system to maintain LOS C or better on secondary collectors and local streets and LOS D or better on primary collectors, arterials, expressways, and freeways. One service level deviation may be permitted at locations where land development or transportation improvement projects support other goals from the General Plan including transit, active transportation, and economic development. Exceptions may also be allowed in areas where the City finds that the improvements or other measures required to achieve the LOS standards are unacceptable because of right-of-way limitations, physical impacts on surrounding properties, adverse effects on other travel modes, and/or the visual aesthetics of the required improvement and its impact on community identity and character.

As has been noted, LOS is no longer an accepted metric for determining environmental impacts related to transportation. However, the LOS standards set by Policy 3.A.2 may still be used to assess the need for any transportation facility improvements.

Policy 3.A.4 of the Ceres General Plan supports statewide efforts to reduce VMT from existing and new development by encouraging infill and mixed-use development, providing a multi-modal transportation network, and incorporating transportation and parking demand management measures into new development by design. This policy does not set thresholds of significance in determining the impacts of a project on VMT.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact on transportation if it would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities,
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b),
- Substantially increase safety hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or
- Result in inadequate emergency access.

For determining the significance of VMT impacts, the Transportation Impact Analysis followed guidance from OPR's Technical Advisory (OPR 2018). For residential land uses, the CTSP would result in a less-than-significant VMT impact if the VMT per capita is at least 15% below the existing City average VMT per capita. For office land uses, the CTSP would result in a less-than-significant VMT impact if the VMT per employee is at least 15% below the existing City average VMT per employee. For retail land uses, the CTSP would result in a less-than-significant VMT impact if the retail land uses result in "no net increase" in VMT on Stanislaus County roadways under both Existing and Cumulative conditions.

Impact TRANS-1: Conflict with Circulation Plans – Motor Vehicle

The Transportation Impact Analysis evaluated traffic impacts on 27 existing and proposed study roadway segments under both Existing and Near-Term conditions without and with the CTSP. As noted, Near-Term conditions represent 2028 conditions where the Service Road interchange on SR 99 is complete and CTSP development has not yet occurred. While the Caltrans Traffic Operations Analysis Report for the interchange requires ramp queuing analysis under Existing conditions, Near-Term conditions were considered more appropriate for the Transportation Impact Analysis, as that is when the new Service Road interchange is planned to open. The majority of CTSP traffic would access SR 99 via the Service Road interchange (Wood Rodgers 2024). However, Existing conditions were used to evaluate VMT against thresholds, the results of which are discussed later in this chapter.

Table 16-1 lists all the roadway segments and the average daily traffic on these segments for Existing conditions and for Near-Term conditions without and with the CTSP. Under Near-Term (No Project) conditions, the study intersections near the Service Road Interchange and Mitchell Road Interchange were assumed to have the geometries specified in the Service Road Interchange Geometric Approval Drawing, prepared in accordance with Caltrans standards. Some CTSP traffic is anticipated to utilize the existing SR 99 ramps located on El Camino Avenue between Magnolia Street and Pine Street. The study intersections near the El Camino Avenue interchange were assumed to have existing conditions geometries.

TABLE 16-1
ROADWAY SEGMENT AVERAGE DAILY TRAFFIC –
EXISTING AND NEAR-TERM CONDITIONS

		Average Daily Traffic		
No.[1]	**Segment**	**Existing**	**Near-Term w/o CTSP**	**Near-Term w/ CTSP**
1	Morgan Rd between Hackett Rd and Service Rd	7,789	8,223	12,231
2	Blaker Rd between Hackett Rd and Service Rd	3,820	4,098	4,495
3	Blaker Rd south of Service Rd	925	962	1,342
4	Central Ave between Pine St and Service Rd	9,306	9,774	12,623
5	Central Ave between Service Rd and High School Southern Access	9,715	9,924	16,128
6	Central Ave between High School Southern Access and E Redwood Rd	7,352	7,564	11,770
7	Pine St between Central Ave and El Camino Ave	12,187	12,562	13,585
8	Collins Rd between Don Pedro Rd and Service Rd	1,510	1,511	2,342
9	Moffett Rd south of Service Rd	766	826	40,056
10	Moffett Rd north of E Redwood Rd[2]	766	789	12,189
11	El Camino Ave north of Pine St	10,514	10,515	9,596
12	El Camino Ave south of Service Rd[3]	2,736	0	0
13	Mitchell Rd between Don Pedro Rd and Service Rd	27,390	28,924	35,296
14	Mitchell Rd south of Service Rd	28,953	30,058	26,346

		Average Daily Traffic		
No.[1]	**Segment**	**Existing**	**Near-Term w/o CTSP**	**Near-Term w/ CTSP**
15	Service Rd between Morgan Rd and Blaker Rd	11,616	12,298	11,806
16	Service Rd between Blaker Rd and Central Ave	13,780	14,680	13,807
17	Service Rd between Central Ave and Moffett Rd	16,089	17,153	17,697
18	Service Rd between El Camino Ave and Mitchell Rd	18,876	19,588	28,240
19	Lucas Rd south of Service Rd	696	799	1,015
20	Lucas Rd north of Mitchell Rd[2]	696	799	753
21	E Redwood Rd between Central Ave and Moffett Rd	851	853	5,855
22	E Redwood Rd between Moffett Rd and Lucas Rd	278	302	13,384
23	New Project Rd between E Redwood Rd and Lucas Rd	0	0	395
24	New Project Rd between Blaker Rd and Central Ave	0	0	1,238
25	New Project Rd between Central Ave and Moffett Rd	0	0	356
26	New Project Rd between Moffett Rd and Lucas Rd	0	0	17,826
27	Mitchell Rd between E Redwood Rd and Lucas Rd[2]	278	0	1,462

[1] See Figure 16-1 for locations.
[2] Existing segment average daily traffic is assumed to be the same as the adjacent segment.
[3] This segment would cease to exist with construction of the Service Road interchange.
Source: Wood Rodgers 2024.

Under Near-Term Plus Project conditions, all intersection geometries were assumed to be the same as under Near-Term (No Project) conditions, except the following lane configuration and controls were implemented at the Moffett Road/Service Road intersection to accommodate the addition of CTSP traffic:

- Signalization with protected left-turn phasing on all approaches and northbound right-turn overlap phasing.

- Eastbound Approach: one left-turn lane, three through lanes, and one right-turn lane.
- Westbound Approach: three left-turn lanes (including one left-turn trap lane), two through lanes, and one right-turn lane.
- Northbound Approach: one left-turn lane, one through lane, and two right-turn lanes.
- Southbound Approach: one left-turn lane and one shared through-right-turn lane.

It was further assumed that the Moffett Road/Service Road signal would be coordinated with the Service Road interchange signals.

The Transportation Impact Analysis indicates that none of the roadway segments studied would have LOS that would be unacceptable by City standards. As such, the CTSP would be consistent with Ceres General Plan policies applicable to LOS. The CTSP is not expected to interfere with the implementation of the 2022 RTP, particularly with the SR 99/Mitchell Road/Service Road interchange project, which the Transportation Impact Analysis assumes would be constructed.

As noted, the only road in the vicinity of the CTSP Area that is part of the CMP network is SR 99. The Transportation Impact Analysis does not indicate that the project would decrease LOS on SR 99 to an unacceptable level. In summary, the CTSP is not expected to conflict with traffic plans, or any potential conflict would be irrelevant from a CEQA perspective. Project impacts related to motor vehicle transportation plans would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact TRANS-2: Conflict with Circulation Plans – Non-Motor Vehicle

The CTSP proposes the following internal pedestrian and bicycle features:

- 12-foot bicycle/pedestrian facilities on eastbound Service Road along Project frontage
- 5-foot sidewalks in both directions along typical interior Project streets
- 5-foot sidewalks and 7-foot bike lanes in both directions along Central Avenue
- 12-foot multiuse path along northbound Blaker Road along Project frontage
- 8-foot sidewalks and 14-foot travel lanes in both directions along interior collector streets
- 8-foot path/trail along Project frontage parallel to the TID Lateral canal

The proposed pedestrian features would provide connectivity to the existing sidewalk network on Blaker Road and Central Avenue and to the proposed pedestrian and bicycle facilities to be completed with the Service Road interchange project. The CTSP is also considering a potential extension of StanRTA's fixed-route bus service, which would run along Central Avenue, E. Redwood Road, proposed Street C, Lucas Road, proposed Street B, and Moffett Road within the CTSP Area.

The CTSP would not impact existing or proposed public transit, pedestrian or bicycle facilities in a way that would discourage their use. Therefore, it would not conflict with plans intended to promote the use of these alternative modes of transportation, such as the Non-Motorized Transportation Plan and Ceres Citywide Active Transportation Plan. Project impacts related to non-motor vehicle transportation plans would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact TRANS-3: Vehicle Miles Traveled

The latest version of the StanCOG TDM was used to estimate VMT generated by the CTSP land uses. Three VMT metrics are used in this analysis: VMT per capita (based on home-based trips), VMT per employee (based on work commute trips), and net change in VMT (based on all trips). Home-based trips include trips made by residents of the City or the CTSP Area to or from the home, including driving to/from work, school, shopping, and other destinations. Work commute trips include trips made by employees of land uses within the City or CTSP Area for commuting to/from work. "All" trips include all trips made within the StanCOG model boundary, including home-based trips, work trips, and trips made for all other purposes including shopping, recreation, and other activities.

Additional detail and calibration changes were made to the StanCOG TDM to create an accurate estimate of travel characteristics near the CTSP Area. Additional detail and calibration changes included editing roadway network and land use assumptions in the study area to better match existing conditions and adding detail where lacking in the off-the-shelf model. In calculating CTSP VMT, further adjustments were made based on estimated "internal trips" – trips between land uses within the CTSP Area, as opposed to trips in and out of the area. Also, adjustments were made to account for the VMT impact of the multi-use paths proposed in the CTSP Area. Table 16-2 shows estimated VMT associated with buildout of the proposed land uses within the CTSP, along with the citywide existing average VMT for residential and office land uses and the significance thresholds for new development based on OPR guidance for VMT analysis.

As shown in Table 16-2, CTSP retail uses would cause a net decrease in total County VMT; therefore, the VMT impact of proposed retail land uses in the CTSP would be less than significant, or beneficial. CTSP residential and office land uses would generate VMT that exceed significance thresholds for these land uses. resulting in potentially significant VMT impacts that may require mitigation.

TABLE 16-2
VMT SIGNIFICANCE THRESHOLDS AND CTSP VMT

Land Use	City Average VMT	VMT Significance Threshold	CTSP VMT
Residential[1]	14.7	12.5	**12.9**
Office[2]	23.1	19.7	**25.1**
Retail[3]	-	No net increase	-15,296

Bold indicates that significance threshold is exceeded.
[1] VMT figures are per capita.
[2] VMT figures are per employee.
[3] VMT change under Existing Plus Project conditions. Cumulative conditions are discussed in Chapter 18.0, Cumulative Impacts.
Source: Wood Rodgers 2024.

Certain elements of new development and related transportation improvements that can be expected to reduce VMT, and help mitigate significant VMT impacts, are described in the California Air Pollution Control Officers Association publication (CAPCOA 2021) *Handbook for analyzing Greenhouse Gas Emission Reduction, Assessing Climate Vulnerabilities, and Advancing Health and Safety.* These potential measures are listed in Table 6.15 Potential VMT Mitigation Measures of the Wood Rodgers Transportation Impact Report. Table 6.15 is shown below, and the Wood Rodgers report is shown in Appendix G of this EIR.

The CTSP includes a range of proposed pedestrian and bikeway improvements that could, based on the CAPCOA recommendations, be expected to substantially reduce Residential VMT and contribute to reductions in Office VMT. As discussed under Impact TRANS-2, the CTSP would integrate a range of pedestrian and bicycle improvements with proposed new development, including the following:

- 12-foot bicycle/pedestrian facilities on eastbound Service Road along Project frontage
- 5-foot sidewalks in both directions along typical interior Project streets
- 5-foot sidewalks and 7-foot bike lanes in both directions along Central Avenue
- 12-foot multiuse path along northbound Blaker Road along Project frontage
- 8-foot sidewalks and 14-foot travel lanes in both directions along interior collector streets
- 8-foot path/trail along Project frontage parallel to the TID Lateral canal

Wood Rodgers calculated the potential reductions in VMT that could result from these improvements at approximately 3%; these reductions were incorporated into the estimated per capita Residential VMTs; the estimated per capita CTSP Residential VMTs would be

approximately 12.2% below existing citywide Residential VMTs, falling just short of the 15% reduction suggested by the California Office of Planning and Research as a significance threshold. Other quantifiable VMT mitigation measures were not identified in the transportation study but could be revealed in more in-depth study of future development projects; the Residential VMT impact of the CTSP would remain potentially significant based on the available information.

The potential for office development, and potential magnitude of Office VMT generation, in the CTSP area is relatively small. Office projects are not among the types of development anticipated by the CTSP and therefore are not listed in Table 3-2 of EIR Chapter 3.0 Project Description. In that office commercial is an allowable use within Ceres Administrative Professional and Commercial zoning districts, office uses could be accommodated within the CTSP area. Further quantification of potential Office VMT would be speculative based on the available information regarding future office development.

The CAPCOA VMT mitigations include a range of programs applicable to larger office projects, that could reduce Office VMT; these programs, listed below have the potential to reduce VMT by as much as 50-60%.

Commute Reduction Program
Ridesharing Program
End of Trip Bicycle Facilities
Employer-Sponsored Vanpool

The SJVAPCD Rule 9410, requires that projects with more than 100 employees incorporate Transportation Demand Measures such as the above into these projects. Unless office project employment exceeds 100 employees, Office VMT may or may not be reduced below the Office VMT significance threshold by the SJVAPCD program.

The various examples of other VMT reduction measures that could be assigned to CTSP development are shown in Table 6.15 below. Inclusion of these measures in the CTSP would provide additional potential to reduce the significant VMT impacts of the project. It is not known, however, which of the listed measures would be feasible to implement with future office projects, should they occur, while other VMT reduction measures not listed in Table 6.15 might also be implemented. Given the uncertainty at this time regarding which VMT measures may be implemented with respect to future CTSP development, and their efficacy, it is concluded that VMT reductions cannot be reliably quantified at this time; as a result, the project would be potentially inconsistent with the objectives of CEQA Guidelines Section 15064(b), and the project's VMT impacts would remain potentially significant and unavoidable.

Level of Significance: Potentially significant (Office VMT)

Mitigation Measures: No reliable or quantifiable mitigation is available

Level of Significance: Significant and unavoidable

Table 6.15 Potential VMT Mitigation Measures

CAPCOA ID	Measure	Range of Potential VMT Reduction	Type of VMT/Impact that would be Reduced
Trip Reduction Programs			
T-4	Implement Commute Trip Reduction Program (Voluntary)	0.0%-4.0%	VMT per Employee
T-5	Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)	0.0%-26.0%	VMT per Employee
T-6	Implement commute Trip Reduction Marketing	0.0%-4.0%	VMT per Employee
T-7	Provide Ridesharing Program	0.0%-8.0%	VMT per Employee
T-8	Implement Subsidized or Discounted Transit Program	0.0%-5.5%	VMT per Employee or per Capita
T-9	Provide End-of-Trip Bicycle Facilities	0.1%-4.4%	VMT per Employee
T-10	Provide Employer-Sponsored Vanpool	3.4%-20.4%	VMT per Employee
T-11	Price Workplace Parking	0.0%-20.0%	VMT per Employee
T-12	Implement Employee Parking Cash-Out	0.0%-12.0%	VMT per Employee
T-22	Provide Community-Based Travel Planning	0.0%-2.3%	VMT per Capita or Net Change
Parking or Road Pricing/Management			
T-14	Limit Residential Parking Supply	0.0%-13.7%	VMT per Capita
T-15	Unbundle Residential Parking Costs from Property Cost	0.0%-15.7%	VMT per Capita
T-23	Implement Market Price Public Parking (On-Street)	0.0%-30.0%	VMT per Capita or Net Change
Neighborhood Design			
T-17	Provide Pedestrian Network Improvement	0.0%-6.4%	VMT per Capita or Net Change
T-18-A	Construct or Improve Bike Facility	0.0%-0.8%	Net Change
T-19	Expand Bikeway Network	0.0%-0.5%	VMT per Capita or Net Change
T-20-B	Implement Electric Carshare Program	0.0%-0.18%	VMT per Capita or Net Change
T-21-B	Implement Electric Bikeshare Program	0.0%-0.06%	VMT per Capita or Net Change
T-21-C	Implement Scootershare Program	0.0%-0.07%	VMT per Capita or Net Change
Transit			
T-24	Extend Transit Network Coverage or Hours	0.0%-4.6%	VMT per Employee or per Capita or Net Change
T-25	Increase Transit Service Frequency	0.0%-11.3%	VMT per Employee or per Capita or Net Change
T-26	Implement Transit-Supportive Roadway Treatments	0.0%-0.6%	VMT per Employee or per Capita or Net Change
T-27	Reduce Transit Fare	0.0%-1.2%	VMT per Employee or per Capita or Net Change

Note: All data from the Handbook for Analyzing Greenhouse Has Emission Reduction, Assessing Climate Vulnerabilities, and Advancing Health and Equity (California Air Pollution Control Officers Association, August 2021).

Impact TRANS-4: Traffic Hazards - Collisions

The Land Development and Intergovernmental Review Safety Review Practitioners Guidance, issued by Caltrans, establishes the safety review expectations for proposed land use projects that would affect Caltrans facilities in the context of the CEQA review process. The guidelines consist of a freeway queueing analysis and traffic safety review, including collision analysis (Caltrans 2020).

Five years of collision data were obtained from the Caltrans Traffic Accident Surveillance and Analysis Systems for eight Caltrans facilities to identify high collision locations and common collision characteristics. These facilities were on-ramps and off-ramps from SR 99 interchanges closest to the CTSP Area (see Transportation Impact Analysis in Appendix

G for more information). The data indicate that the SR 99 Northbound Off-Ramp to Pine Street/El Camino Avenue/4th Street, the SR 99 Southbound On-Ramp from 2nd Street/North Street, and the SR 99 Southbound Off-Ramp to Mitchell Road have experienced higher Total Collision rates and Fatal + Injury collision rates than the State average for similar facilities. Additionally, the SR 99 Southbound Off-Ramp to Mitchell Road experienced a higher-than-average Fatal collision rate. The most common primary collision factors were speeding and improper turning.

The CTSP is primarily projected to add trips to the SR 99 northbound on-ramp from Pine Street/El Camino Avenue/4th Street and the SR 99 southbound off-ramp to El Camino Avenue/North Street. Both facilities have experienced collision rates below the average for similar facilities. Construction of the Service Road interchange would reconstruct the entire Mitchell Road interchange by eliminating the SR 99 northbound on-ramp from Mitchell Road and the SR 99 southbound off-ramp to Mitchell Road and modifying the northbound off-ramp and southbound on-ramp. With the new Service Road interchange in place, CTSP traffic is unlikely to utilize the Mitchell Road ramps. Additionally, the new Service Road interchange is projected to redirect a significant amount of traffic away from the remaining nearby existing ramps to the new ramps at Service Road. The Transportation Impact Analysis concluded that the CTSP would not add a significant number of trips to the existing ramps that have higher than typical collision rates. Project impacts related to collisions at Caltrans facilities would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact TRANS-5: Traffic Hazards - Queuing

Vehicle queuing could be a safety issue, particularly if resultant queues from inadequate lanes or turn pockets could hinder traffic flow. This would especially be the case for Caltrans facilities, where added cars to an off-ramp queue could extend into the freeway mainline.

The Transportation Impact Analysis conducted an evaluation of off-ramp queuing at five off-ramps near the CTSP Area, including those at the planned Service Road interchange. Off-ramp queueing was performed for Near-Term and Near-Term Plus Project conditions. Near-Term scenarios were used in lieu of Existing conditions scenarios for the ramp queueing analysis, as the new Service Road interchange is planned to be constructed well before CTSP development is complete. Synchro 11 software was used to model the study intersections, and SimTraffic 11 software was used to analyze 95th percentile queues (i.e., there is a 95% certainty that the queues will not extend beyond a certain point).

The results of the queuing analysis indicate that all off-ramp queues are projected to fit within available storage under Near-Term conditions. The SR 99 southbound off-ramp queue at Service Road is projected to exceed available storage under Near-Term Plus Project PM peak hour conditions; the remaining off-ramp queues are projected to fit within available storage under Near-Term Plus Project conditions. The queueing impact at the SR 99 southbound off-ramp is largely due to the significant increase in southbound right turn

volumes due to vehicles traveling to the CTSP Area. In addition, observation of the microsimulation runs reveal excessive eastbound queueing on Service Road between Moffet Road and the SR 99 northbound on-ramps. This is due to the significantly increased volume of eastbound left-turn traffic entering the northbound on-ramp from the CTSP Area via Service Road.

The Transportation Impact Analysis recommended measures to be implemented at both locations where potential excessive queuing was identified. These measures were initially identified by Wood Rodgers as applicant responsibilities and were recommended as mitigation measures for the project on a proportionate share basis. The potential queuing impacts are not of immediate (near-term) concern but are related to the project, the project would ordinarily bear responsibility for the costs of mitigating these impacts. Such mitigation measures, and proportionate share cost responsibility, would need to be defined based on an improvement designs.

The City is considering a substantial change in the direction of interchange planning and design, and as a result no workable interim queuing solution can be defined at this time. It can be assumed that the adopted interchange design can and would address queuing impacts and associated potential safety hazards. Until these improvements are constructed, however, implementation of the CTSP would result in a significant queuing impact. Since no improvements can be defined that would mitigate this effect in the near term, the project is considered to have a significant and unavoidable effect.

Level of Significance: Significant

Mitigation Measures: None available

Significance after Mitigation: Significant and unavoidable

Impact TRANS-6: Emergency Access

Adequate access is currently available for emergency vehicles entering both the CTSP Area and the Pocket Area through the existing roadway network. As development within the CTSP Area occurs, many of the existing roads would be improved to Specific Plan standards, developed in part to facilitate access for emergency vehicles. The planned Service Road interchange would allow more direct access from SR 99 to the CTSP Area and the Pocket Area, particularly for emergency vehicles. Project impacts related to emergency access would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

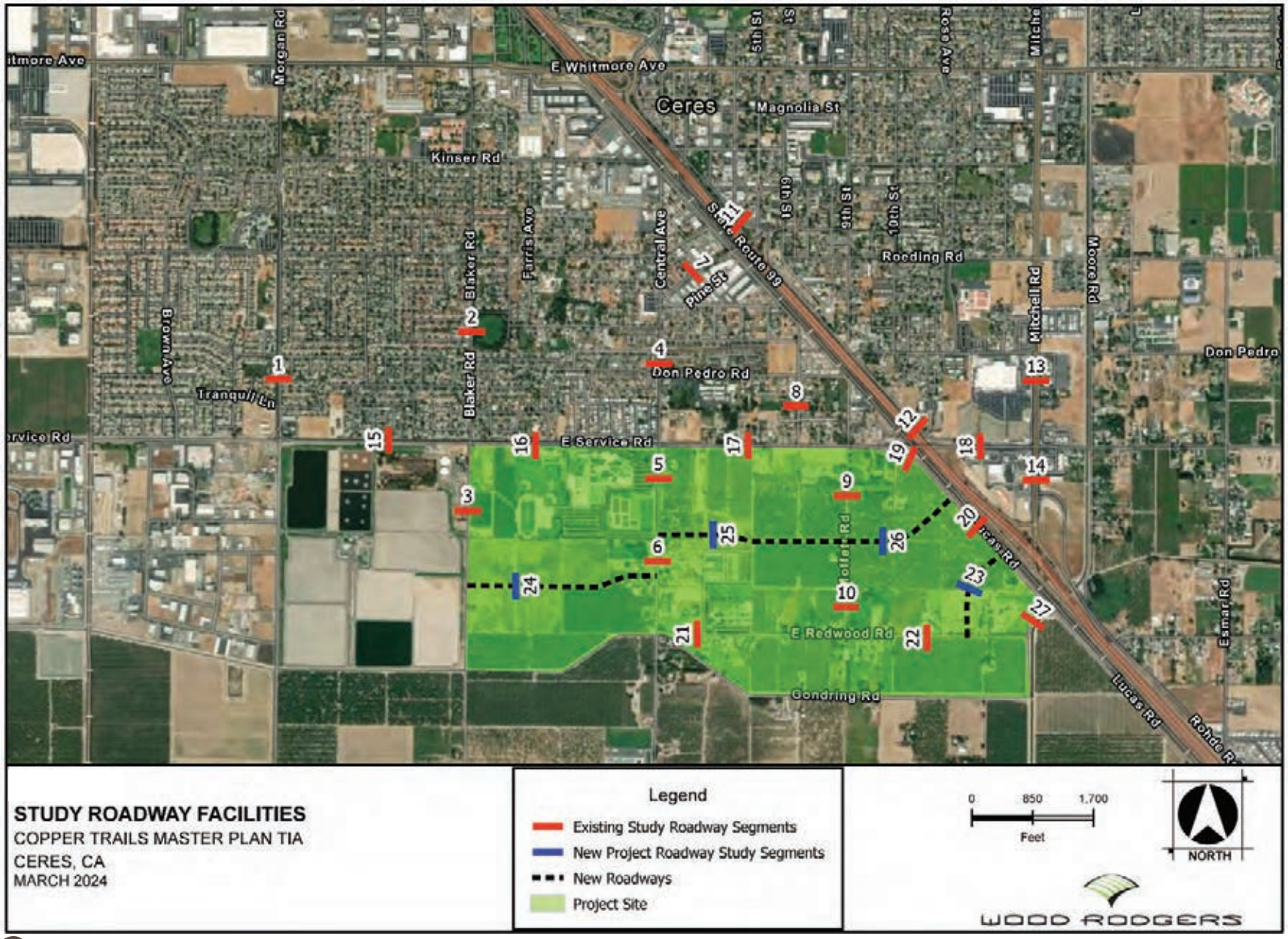


Figure16-1
STUDY ROADWAY SEGMENTS

17.0 UTILITIES AND ENERGY

ENVIRONMENTAL SETTING

Potable Water

Potable water - water suitable for drinking - is provided to most land uses within the City limits by the City of Ceres; the northwest portion of the City receives water service from the City of Modesto. The City system serves 11,850 residential, commercial, industrial, and institutional/government connections as of 2023. Groundwater was the sole source of water for the City's system until the introduction of surface water in late 2023; groundwater is provided through 14 active wells. In 2020, the demand for potable water on the City's system was 2,151 million gallons per year (City of Ceres 2021b).

The City's potable water system is composed of groundwater wells, aboveground storage facilities, and potable water distribution lines. The City's 14 groundwater wells range in productive capacity from 200 to 1,040 gallons per minute, per 2023 pump efficiency tests. Chapter 12.0 Hydrology and Water Quality, provides further discussion of groundwater related issues.

The City, as a member of the Stanislaus Regional Water Authority, has an agreement for an initial delivery of 5 million gallons per day (mgd) of treated surface water from TID, with an ultimate delivery of 15 mgd (Vera and Thompson pers. comm). This supplemental water supply system began operation in 2023 (City of Ceres 2021b). The SRWA supply is delivered via an infiltration gallery beneath the Tuolumne River, a new wet well and raw water pump station, a raw water transmission main, a water treatment plant, and a finished water transmission main to Ceres (City of Ceres 2018a).

The City's distribution system consists of approximately 154 miles of water lines. The majority of the water lines are less than 10 inches in diameter, with some water lines greater than 12 inches in diameter. A 24-inch water line is located beneath East Service Road from SR 99 to Blaker Road. Water lines between 10 and 12 inches in diameter are also located beneath the segment of Central Avenue from East Service Road to TID Lower Lateral 2, and on a segment of East Redwood Road east of Central Avenue (Figure 17-1). The City has two at-grade reservoirs with a combined storage capacity of 3.8 million gallons. There is also a surface water reservoir tank with a storage capacity of 3.0 million gallons, along with two pumps of 250 horsepower. The existing system includes one booster pump station with six booster pumps each rated at 1,500 gallons per minute.

Within the CTSP Area, only the two schools are connected to the City's water system. Residences and businesses not connected to the water system obtain potable water from individual groundwater wells. Most of the developed portion of the Pocket Area is served by the City's water system; the remaining portion either is served by individual groundwater wells or has no water service.

Irrigation Water

The TID provides water for irrigation of agricultural fields south of the City, including those in the CTSP Area. The TID, established in 1887, provides irrigation water to 197,261 acres of agricultural lands in Stanislaus and Merced counties. Its service area is generally bounded on the north by the Tuolumne River, on the south by the Merced River, and on the west by the San Joaquin River. The Tuolumne River provides the principal water supply of TID. Don Pedro Reservoir, on the Tuolumne River, is TID's principal storage reservoir, with Turlock Lake being another storage reservoir.

From 2015 to 2019, TID has had on average 546,400 acre-feet of water supply available annually, of which 423,600 acre-feet was surface water, 108,700 acre-feet was from groundwater, and 14,000 acre-feet was from other sources. During that same time period, TID on average delivered 391,413 acre-feet of water annually to its agricultural users. Another 86,463 acre-feet were lost annually to canal spillage, seepage, and evaporation (TID 2021).

TID operates approximately 222 miles of lined canals and 18.5 miles of unlined canals (TID 2021). As has been noted, the TID Lower Lateral 2 marks the southern boundary of the CTSP area extending west from the Ceres Main Canal to beyond Blaker Road. Lower Lateral 2 has a right-of-way of 60 feet. The Ceres Main Canal is adjacent to Mitchell Road, along the southeastern boundary of the CTSP Area. The Main Canal has a right-of-way of 90 feet. Electrical lines and utility poles carrying them are in the right-of-way of both canals. In addition, as noted in Chapter 12.0, Hydrology and Water Quality, a TID drainage well is located on Blaker Road near the intersection with Service Road.

As noted above, TID has entered into an agreement with the City, under the auspices of the Stanislaus Regional Water Authority, to provide additional surface water to supply the City's potable water system. In addition, TID facilities are used by the City to discharge stormwater drainage, as described later in this chapter.

Wastewater System

The City of Ceres provides wastewater collection and treatment services within its boundaries. Figure 17-2 shows the existing wastewater system. The City's service area consists of approximately 4,100 acres of land with about 13,800 sewer connections. Except for areas designated for agriculture, the City's system serves all portions of the General Plan Planning Area, including customers outside of city limits such as the Pocket Area (City of Ceres 2018a). However, the CTSP Area is not connected to the City's system. Approximately 280 developed parcels between Herndon Road and Mitchell Road do not have wastewater services provided by the City; these areas have on-site septic tanks and leach field systems. Residences on agricultural parcels likewise rely upon on-site septic tanks and leach field systems for wastewater collection.

The wastewater generated from residential, commercial, institutional, and industrial users in the City's sewer service area is received at the City's WWTP, which is then either sent to the City's percolation ponds or to the City of Turlock's WWTP. Wastewater that is not delivered to the City's WWTP is delivered to the City of Modesto's treatment plant. The

area that delivers its wastewater to Modesto's WWTP is called the North Ceres Sewer Service Area. The Ceres WWTP treats wastewater through a variety of processes and facilities, including headworks, aerated treatment ponds, filters, and percolation ponds.

Currently, the Ceres WWTP treats an average flow of approximately 2.5 mgd of wastewater (Sam Royal pers. comm.). The predicted hydraulic capacity limit of existing on-site disposal is limited to 2.8 mgd, but existing permit conditions limit discharge to 2.5 mgd. The City has an agreement with the City of Turlock that allows export of up to 2.0 mgd of wastewater to the Turlock WWTP, giving the City a combined capacity of 4.5 mgd (City of Ceres 2013).

Storm Drainage

Ceres' storm drain system includes approximately 1,541 drain inlets, more than 80 miles of storm drain pipe, 40 retention/detention ponds, 40 pump stations, 25 French drains, and 80 rock (dry) wells (Figure 17-3). There is not a single citywide storm drainage system; rather, there are several individual smaller storm drainage systems. Stormwater runoff is disposed of by percolation ponds at the City's WWTP, discharge to four TID canals at 25 locations, and discharge in four locations to the Tuolumne River. The majority of stormwater runoff flows into detention basins, with only a limited number of neighborhoods discharging directly to a TID canal or to the river. Discharge to TID facilities is permitted under the 1996 Master Storm Drain Agreement between TID and the City; the agreement is described later in this chapter.

The City's stormwater system design is based on providing capacity for a 100-year, 24-hour storm, in accordance with Stanislaus County's Storm Drain Design Manual and City improvement standards. Nevertheless, significant storm events (10-year events and above) have the potential to cause widespread overflows of the City's drainage system. In particular, some older areas of the city may experience flooding in storms that exceed a half-inch per hour of rainfall. Street flooding due to storm-clogged storm drain inlets is generally cleared within half a day. In recent years, new development projects have been required to use on-site percolation systems to dispose of the stormwater runoff. The City is currently updating its storm drainage master plan.

As discussed in Chapter 12.0, Hydrology and Water Quality, storm water quality is regulated under the federal Clean Water Act through the NPDES program. The federal NPDES requirements are delegated to the Central Valley RWQCB, which adopted a Phase II Small MS4 General Permit in 2013 (Order 2013-0001-DWQ).

Solid Waste

The City is currently contracted with Bertolotti Disposal for solid waste, recycling, and organic waste collection, bulky item pick-up, leaf and limb pick-up, and illegal dump removal. Residents can dispose of hazardous waste, including batteries, herbicides, pesticides, pool cleaners, batteries, electronics, and automotive facilities at Stanislaus County facilities.

Bertolotti Disposal sends solid waste to the Fink Road Landfill and the Stanislaus Resource Recovery Facility (SRRF). Recyclable material is taken to its Stockton facility, and organic

waste is taken to either the Modesto Jennings compost facility or to California Soils in Vernalis in San Joaquin County. The Fink Road Landfill is in southwestern Stanislaus County. The landfill has a maximum permitted capacity of 15 million cubic yards and is currently at approximately 50 percent capacity (CalRecycle 2023). The landfill was scheduled to close in December 2023, but the closure date has been extended to 2050. The Fink Road Landfill has a maximum permitted throughput of 2,400 tons per day (City of Ceres 2018a).

The SRFF is a solid waste disposal, resource recovery, and electric generating facility that began operations in 1989. The facility was developed pursuant to a service agreement with the City of Modesto and the County of Stanislaus. It is capable of burning 800 tons of trash per day. As of 2018, the SRRF has processed more than 4.9 million tons of garbage and generated over 2.4 billion kilowatt-hours of electricity (City of Ceres 2018a).

Trash can be diverted away from landfills through strategies such as recycling, composting, reuse, and waste reduction. Waste reduction and diversion reduce greenhouse gas emissions, methane production, and the burden on landfills to accommodate waste. In order to meet or exceed the State mandates for solid waste reduction or diversion, the City partners with Stanislaus County and participates in the countywide Integrated Waste Management Plan.

Energy

CEQA requires that an EIR includes a discussion of the potential energy impacts of a proposed project, with emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines provides guidance for a discussion of energy impacts. Subjects may include identifying wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, maintenance, and/or removal that cannot be feasibly mitigated, and the pre-emption of future energy development or future energy conservation.

Energy Usage

According to the latest information from the U.S. Energy Information Administration, California consumed 7,359 trillion British thermal units (BTUs) of energy in 2021, making it the second largest consumer of energy among states. However, consumption per capita in California was 189 million BTUs, which was 48th among all states. Transportation accounted for approximately 37.8% of the energy consumed in California, followed by industrial with 23.2%, residential with 20.0%, and commercial with 19.0% (EIA 2023).

Electricity is a major energy source for residences and businesses in California. In 2022, the most recent year for which data are available, electricity consumption in California totaled approximately 287,826 gigawatt-hours. In Stanislaus County, electricity consumption in 2022 totaled approximately 5,245 million kilowatt-hours (kWh) [5,245 gigawatt-hours], of which approximately 2,026 million kWh were consumed by residential uses and the remainder by non-residential uses (CEC 2024a). As indicated above, natural gas is another major energy source. In 2022, natural gas consumption in California totaled approximately 11,711 million therms. In Stanislaus County, natural gas consumption in

2022 totaled approximately 203 million therms, of which approximately 62 million therms were consumed by residential uses and the remainder by non-residential uses (CEC 2024b).

Motor vehicle use also accounts for substantial energy usage through the consumption of gasoline and diesel fuel. As noted in Chapter 16.0, Transportation, the estimated VMT in the StanCOG region in 2020 was 9,159,585 miles, or approximately 25,095 VMT daily. Based on the estimated 2020 VMT, approximately 236 million gallons of fuel were consumed in 2020, of which approximately 197 million gallons were gasoline and 39 million gallons were diesel fuel (StanCOG 2022b).

Energy Systems and Facilities

Among all states, California ranked seventh in petroleum production and fourth in production of electricity as of 2022. California ranked second in the U.S. as a producer of electricity from renewable resources, and it has the second-largest hydroelectric power generating capacity. Typically, California receives between one-fifth and one-third of its electricity supply from outside the state (EIA 2023).

Electricity in the Ceres area is provided by TID. The residential sector uses nearly half of all electricity consumed in the Ceres area, followed by the industrial and commercial sectors. TID generates its electricity from hydroelectric facilities, natural gas power plants, a geothermal power plant, solar panels, and wind turbines (City of Ceres 2018a). Recently, TID has purchased power from biomass power plants that use dead and dying trees in California for a significant portion of their fuel, pursuant to SB 859 (TID website). A 230-kilovolt transmission line runs along Mitchell Road at the eastern boundary of the project site. Another 230-kilovolt transmission line runs along TID Lower Lateral 2 for approximately three-quarters mile west of Mitchell Road, then continues westward south of the lateral. Local TID electrical distribution lines providing services to individual users are located throughout the project site. The majority of the distribution lines are overhead, but some have been undergrounded in developed residential areas.

Natural gas service in the Ceres area is provided by the Pacific Gas and Electric Company (PG&E), a private utility. PG&E provides natural gas to a 70,000-square mile service area in northern and central California, utilizing approximately 6,700 miles of gas transmission pipelines and 42,000 miles of gas distribution pipelines (PG&E website). For the Ceres area, the residential sector uses the most natural gas, followed by commercial. According to data from PG&E, Ceres industrial land uses did not use natural gas (City of Ceres 2018a). Interregional gas mains are located along the SR 99 corridor, and branch lines extend to the cities, with service pipelines located primarily within City streets.

The California Public Utilities Commission (CPUC) requires that public utility facilities for urban development be placed underground. CPUC rules govern the operations of all the above-described entities except TID, which is governed locally in accordance with the California Water Code. State-regulated energy franchise utilities are obligated to extend services to new development as necessary.

REGULATORY FRAMEWORK

State

SB 610

SB 610, enacted in 2001, amended the California Public Resources Code and the Water Code to expand requirements for documentation of available water supply in connection with land development approvals. Specifically, SB 610 requires land use agencies with authority over large development projects to document the availability of an adequate supply of potable water and to include this documentation in the EIR or Negative Declaration for larger development projects.

The required documentation is a Water Supply Assessment (WSA). The WSA evaluates the adequacy of the total projected water supplies of the agency providing water to a proposed project, including existing water supplies and future planned water supplies, to meet the existing and projected future water demands, including future water demands associated with a project. This evaluation is conducted under three hydrologic conditions: a normal precipitation year, a single dry year, and multiple dry years. The water supply assessment may be based on an Urban Water Management Plan (UWMP) or provide other equivalent information indicating that a 20-year supply is available to the project.

WSA requirements apply to specified residential, commercial, and industrial projects. Industrial projects employing more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area require a WSA. WSA requirements are not applicable to specific plans. California Water Code Sections 10910-10915 require that the land use agency request preparation of the WSA from the responsible public water system. For larger proposed projects in the CTSP Area, the City of Ceres will be both the land use agency and the public water service provider through the City's Public Works Department. WSAs will need to be prepared in conjunction with these projects.

In 2021, the City adopted the 2020 UWMP. The 2020 UWMP describes the City's water system, characterizes water use, describes the water supply sources for the City, and analyzes the reliability of the City's water service for normal, dry, and five-year drought conditions for the next 20 years. To further improve the reliability of the City's water system, the UWMP includes a Water Shortage Contingency Plan that identifies strategies to implement during water shortages and describes procedures for identifying the potential of a water shortage. The UWMP planning area encompasses the City's Sphere of Influence, which includes the CTSP and Pocket Areas (City of Ceres 2021b).

Solid Waste Regulations

The California Integrated Waste Management Act (AB 939), enacted in 1989 and subsequently amended, requires local jurisdictions to divert at least 50% of their solid waste from landfills by 2000; the City is compliance with AB 939. More recent legislation, AB 341, increased the recycling requirement to 75% of solid waste by 2020. Beginning April 1, 2016, AB 1826, the State's Mandatory Organic Waste Recycling law, phases in

requirements for businesses, including multifamily properties of five or more units, based on the amount and type of waste the business produces weekly, with full implementation in 2019.

- January 1, 2017: Businesses that generate 4 cubic yards of organic waste per week arrange organic waste recycling services.
- January 1, 2019: Businesses that generate 4 cubic yards or more of commercial solid waste per week arrange organic waste recycling services.

Other applicable legislation includes AB 1826, which states that businesses and multifamily residential dwellings of five or more units that generate two or more cubic yards of organic waste are required to recycle this waste. SB 1383 sets methane emission reduction targets to reduce emissions of short-lived climate pollutants. The targets are intended to reduce organic waste disposal 75% by 2025 and to rescue for people to eat at least 20% of currently disposed surplus food by 2025. All jurisdictions will need to provide organic waste collection services to all residents and businesses and to recycle these organic materials using facilities such as anaerobic digestion facilities and composting facilities.

California Energy Code

California has adopted comprehensive energy efficiency standards as part of its Building Standards Code, California Codes of Regulations, Title 24. Part 6 of Title 24, also known as the California Energy Code, contains energy conservation standards applicable to all residential and non-residential buildings throughout California, including schools and community colleges. These standards are occasionally updated and were last updated in 2022. The City of Ceres has adopted the 2022 version of the California Energy Code as part of its building codes.

Section 100 of the 2022 Energy Code requires that buildings are to be "solar ready," meaning that buildings must be designed so that they can accommodate a solar electric or solar thermal system that can be installed later. Specific solar-ready requirements for non-residential buildings are set forth in Section 110 of the Energy Code.

California Green Building Standards Code (CALGreen)

In 2009, the California Building Standards Commission adopted a voluntary Green Building Standards Code, also known as CALGreen. In January 2010, the Commission made CALGreen mandatory, effective January 1, 2011, and it has since been incorporated in the State's Building Standards Code, California Codes of Regulations, Title 24. Part 11. CALGreen sets forth mandatory measures for nonresidential structures related to site development, water efficiency and conservation, indoor air quality, and material conservation among others. They also include energy efficiency measures, which essentially require compliance with the latest building energy efficiency measures adopted by the State. The City of Ceres has adopted the 2022 CALGreen, including the water conservation measures specified therein.

Renewables Portfolio Standard

As discussed in Chapter 10.0, Greenhouse Gas Emissions, California has adopted a Renewables Portfolio Standard, under which California shall purchase an increasing share of electricity generated by renewable sources. Most retail electricity retail sellers met the original target of 33% electricity from renewable sources by 2020. Current target, set by subsequent legislation, are 50% by 2026, 60% by 2030, 90% by 2035, and 95% by 2040. The goal is for California to obtain 100% of its electricity from renewable sources by 2045.

Local

Water Master Plan

The City adopted its Water Master Plan in 2011. The Water Master Plan identifies strategies for maintaining water supplies and service levels for the community, guides capital expenditures for the City's water system, furnishes guidance on operational issues, and charts a course for future updates to water rates. The water system planning area is based on the Ceres General Plan as adopted in 1997. Proposed improvements that are located in the CTSP Area include 12-inch diameter pipelines throughout the site, a 16-inch diameter pipeline along Blaker Road, and a new well near the intersection of Central Avenue and Redwood Road (City of Ceres 2011). To date, the only improvements identified in the Water Master Plan that have been installed within the project site are pipelines along Central Avenue and Redwood Road that serve the two existing schools.

Urban Water Management Plan

The California Water Code requires each urban water supplier within the state to prepare and adopt a UWMP for submission to the DWR every five years. The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions.

Sewer System Master Plan

The City adopted its Sewer System Master Plan in 2013. The Sewer System Master Plan evaluates the condition and available capacity of existing facilities, projects the need for expanded sewer facilities to meet the demands of planned growth, and provides a plan of the orderly expansion of those facilities after evaluating alternatives. Like the Water Master Plan, the planning area is based on the Ceres General Plan as adopted in 1997. Proposed improvements that are located on the project site include new sewer mains along Service Road, Central Avenue, and Moffett Avenue, with a lift station and a line extension eastward beneath SR 99 to a proposed main along Mitchell Road (City of Ceres 2013).

Storm Drain System Master Plan

The City adopted its current Storm Drain System Master Plan in 1995. The Master Plan is intended to demonstrate how the City plans to handle storm drainage for its 1995 General Plan area. The Storm Drain Master Plan provides a needs analysis of the existing system

and addresses the proposed future system needs as defined by the limits of the General Plan. An important part of the Master Plan is to show the TID how the City's system currently utilizes TID's irrigation canal system and plans to utilize it in the future. Proposed improvements that are located on the project site include a storm drainage pump and two detention basins with associated piping (City of Ceres 1995).

The City is in the process of updating its Storm Drain Master Plan. The updated Master Plan would update and evaluate the existing storm drain system and develop a storm drain hydraulic model of the backbone system components to plan for growth and phased improvements, as defined in the Ceres General Plan 2035. It would identify needed facilities to correct deficiencies in the existing system and to support future development. Future facilities proposed in the CTSP Area include pipelines, ranging in diameter from 24 to 72 inches, and four detention basins (City of Ceres 2024a), which is consistent with what is proposed in the CTSP.

Turlock Irrigation District Master Storm Drain Agreement

In 1996, the City and TID entered into an agreement that authorizes the City to discharge stormwater runoff into TID canals for ultimate disposal to the Tuolumne River. The agreement authorizes the City to discharge stormwater from 20 sub-watersheds into the Delmas Ditch, Lateral 1 Canal, Lateral A, Lateral 2 Canal, and Ceres Main Canal. Each sub-watershed discharge point is authorized to discharge a specified capacity listed in the Master Storm Drain Agreement.

The Tuolumne River provides water supply to the TID canals during irrigation season. During non-irrigation seasons, the TID canals are drained to the Tuolumne River.. Generally, the TID canal system capacity is limited by the discharge capacity at the downstream end of the system. TID limits stormwater discharges at times during the off-irrigation season and during canal maintenance.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project may have a significant impact related to utilities if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects,
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years,
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments,

- 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, or
- Not comply with federal, state, and local statutes and regulations related to solid waste.

Recently, CEQA Guidelines Appendix G was updated to include questions regarding energy consumption and conservation. According to the updated Appendix G, a project may have a significant impact related to energy if it would:

- Result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation, or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact UTIL-1: Relocation and Construction of Infrastructure Facilities

The Pocket Area, being mostly developed, is already served by existing infrastructure facilities. No major new facilities are expected to be constructed there.

New development within the CTSP Area is anticipated to connect with the City's water, wastewater, and storm drainage systems, along with PG&E's electrical and natural gas systems. This would require the extension of new mains that provide water, collect wastewater and storm drainage, and convey natural gas; these extensions would occur as part of new street improvements. The CTSP is served by existing electrical lines; these lines may need to be extended, reinforced and underground, or a new substation may need to be constructed in conjunction with new development.

As new development proceeds within the CTSP Area, applicants would be required to design and construct street and utility improvements needed to serve new projects. Subdivision maps would be required under Title 17 of the Ceres Municipal Code to identify location and size of both existing and proposed utilities, including pipelines and easements. All such facilities would be installed in accordance with applicable City standards, specifications, and plans. Improvement costs would be met from established City and County impact fees, developer contributions and/or development fees; these financing mechanisms are defined in the CTSP Public Facilities Financing Plan (PFFP). These requirements would be addressed at a project level during the City's development review process. The physical impact of utility improvements would generally fall within the clearing and grading impacts associated with the extension or widening of public streets, within existing right-of-way.

TID and PG&E are obligated to extend electricity and natural gas facilities when required to provide service to new development. During the development review process, the developers must consult with the service providers to ensure that infrastructure is available when needed and to prevent impacts on existing buried utilities. Any utility extension would be coordinated with development as it occurs within the CTSP Area.

In its NOP comment letter, TID notes that there are several irrigation improvement districts and numerous private irrigation facilities that exist in the CTSP Area. One of the improvement districts (ID 91C, Lateral C), flows through the CTSP Area, from east to west, to serve agricultural land beyond the CTSP Area. A portion of this facility was upgraded as part of the development of Central Valley High School. The remainder of this line will have to be upgraded and possibly relocated to accommodate development. Moreover, TID stated that, depending on the sequence of development in both the CTSP Area and the Pocket Area, there exists an opportunity for the abandonment and removal of many of these other irrigation facilities.

The TID recommends that an overall strategy for mitigating impacts to irrigation should be developed to avoid inefficiencies that can occur when reviewing on a project-by-project basis. This recommendation is incorporated as a mitigation measure below. With implementation of this mitigation measure, project impacts involving extension, relocation, or construction of infrastructure facilities would be less than significant.

Level of Significance: Potentially significant

Mitigation Measures:

UTIL-1: Prior to the start of development that impacts TID irrigation facilities, the project shall design one or more method acceptable to the City and TID that will minimize or avoid the impacts of development on the continued operation of existing TID irrigation facilities. The agreed-upon methods shall be incorporated as applicable into the design and construction of future development.

Significance After Mitigation: Less than significant

Impact UTIL-2: Availability of Adequate Domestic Water Supply

Development pursuant to the adopted CTSP can be expected to substantially increase demand on the City's water supplies. Any additional development that may occur within the Pocket Area would not be expected to do the same, as most of this area is already developed.

The CTSP proposes the construction of a domestic water system to serve future development. The water distribution system would consist of looping pipelines located in arterial and collector roads to form a transmission main grid consisting of 12-inch to 24-inch diameter mains through the CTSP Area. This system includes a planned connection to the 24-inch trunk line in Service Road, and additional connections are planned at Moffett Road and Lucas Road. The construction of an additional domestic well, storage tank, and booster pump is planned to meet the flow demand for buildout of the CTSP Area. A domestic well and tank site are planned at the south terminus of Moffett Road.

Increased water demand may require the City to seek new supplies of water or to draw upon its existing groundwater supply. Both actions would have potentially significant impacts. The 2020 UWMP assessed the potential future demand for water from development in the Ceres area, including the project site as set forth in the Ceres General

Plan. The demand was compared to the supply of water available to the City during a normal rain year, a dry year, and the fifth of five multiple dry years. Table 17-1 shows the results of the UWMP analysis. As seen in Table 17-1, the City would have adequate water supplies to meet anticipated demand over a 20-year period, to the year 2040.

TABLE 17-1
CERES WATER SUPPLY AND DEMAND COMPARISON, 2025-2040

Precipitation Year	**2025**	**2030**	**2035**	**2040**
Normal Year				
Supply	8,258	8,258	8,258	8,258
Demand	2,996	3,527	4,152	4,152
Difference	5,262	4,731	4,106	4,106
Dry Year				
Supply	8,258	8,258	8,258	8,258
Demand	4,195	4,938	5,813	5,813
Difference	4,063	3,320	2,445	2,445
Multiple Dry Years (fifth of 5 years)				
Supply	8,258	8,258	8,258	8,258
Demand	3,296	3,880	4,567	4,567
Difference	4,962	4,378	3,691	3,691

Note: All figures in million gallons per year.
Source: City of Ceres 2021b.

NorthStar Engineering, which worked on the preparation of the CTSP, estimated the water demand that would be generated by proposed CTSP development at buildout by applying a water demand factor based on the land use. The results indicate that development under the proposed CTSP would generate an average water demand of approximately 865.6 gallons per minute, or approximately 455.3 million gallons per year (1,397 acre-feet per year). A memorandum by West Yost Engineers estimated water demand from CTSP development, excluding the existing schools, at 955 acre-feet per year (Vera and Thompson pers. comm.). In either case, based on the information in Table 17-1, the City would have adequate water supply to accommodate development under the CTSP, even during multiple dry years. Therefore, project impacts on water supplies are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-3: Wastewater System Capacity

The proposed CTSP is expected to substantially increase demand on the City's wastewater treatment plant. As with the potable water system, the Pocket Area is not expected to do the same, as most of this area is already developed. Therefore, the focus of this analysis is on the CTSP.

Wastewater generated in the CTSP Area would place additional demands on the Ceres WWTP. North Star Engineering estimated the amount of wastewater that would be generated by planned CTSP development at buildout, including wastewater generated by the existing two schools. The results are provided in Table 17-2 below.

TABLE 17-2
CTSP POTENTIAL WASTEWATER GENERATION AT BUILDOUT

Land Use	Gross Acres	Average Wastewater Flow[1]
Low-Density Residential	179.6	280,176
Medium-Density Residential	33.1	71,129
Medium High-Density Residential	16.8	53,582
High-Density Residential	30.8	128,889
Regional Commercial	107.4	50,263
New Public Usage	3.4	3,359
Existing Schools	74.1	924,768
	TOTAL	**1,512,166**

[1] Gallons per day.
Source: North Star Engineering.

As indicated in Table 17-2, development under the proposed CTSP at buildout would generate an average wastewater flow of approximately 1,512,166 gallons per day, or approximately 1.51 mgd. As noted, the City currently has 4.5 mgd of treatment capacity when existing WWTP capacity and access to the Turlock WWTP are considered, and the WWTP currently treats approximately 2.5 mgd of wastewater on average. Therefore, the City's wastewater treatment system would have adequate capacity to accommodate CTSP development.

At this time, the City has plans to expand its WWTP to a tertiary treatment system. Should such expansion be pursued, development within the CTSP Area would be charged development fees for wastewater system expansion, which could be used to fund WWTP expansion. Project impacts on wastewater treatment capacity are considered less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-4: Storm Drainage Services

Development of the CTSP Area for urban uses would involve new structures and pavement, which would generate additional runoff and the need for storm drainage facilities (see also Chapter 12.0, Hydrology and Water Quality). The CTSP's planned drainage improvements consist of a combination of conventional subsurface and surface drainage systems, including construction of pipe conveyance systems and storm drainage basins. The storm drainage infrastructure system is designed to create four major drainage sheds within the Plan Area that serve separate north, south, east, and west areas, each with its own stormwater basin. As noted, the draft update of the City's Storm Drain Master Plan proposes four detention basins in the CTSP Area.

Subdivision maps would be required under Title 17 of the Ceres Municipal Code to identify location and size of both existing and proposed utilities, including storm drainage facilities. All such facilities would be installed in accordance with applicable City standards, specifications, and plans. Should additional improvements to the City systems be needed, depending on the source of the demand, improvement costs would be met from developer contributions and/or development fees. In addition, the City Engineers states that commercial development in the eastern portion of the CTSP shall retain its storm water on site (Sam Royal pers. comm.).

As discussed in Chapter 12.0, Hydrology and Water Quality, storm water quality in the City is regulated by the City's Storm Water Management Program and its Storm Water Management and Discharge Control Ordinance. These control non-storm water discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than storm water, and by reducing pollutants in urban storm water discharges to the maximum extent practicable. Requirements to accomplish these objectives are incorporated into projects in conjunction with routine City project review. Project impacts related to storm drainage would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-5: Irrigation Water Systems

As has been noted, the CTSP Area contains a substantial amount of agricultural lands, water for which is provided by TID. Future development of the CTSP Area would reduce the demand for irrigation water by TID as agricultural lands are converted to urban uses. This would make more water available for other agricultural activities in the TID service area.

However, as discussed, development of the CTSP would increase demand for the City's storm drainage services. The City utilizes the TID canals for the discharge of collected storm drainage, and it is anticipated that storm drainage collected in the CTSP Area would

be discharged to these canals as well. Discharges of storm drainage to TID canals would be subject to the provisions of the Master Storm Drain Agreement between TID and the City. In addition, the construction of any facilities that are proposed to occur within the TID canals would require a permit from TID prior to work. Project impacts on irrigation water systems would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-6: Solid Waste

Project development would contribute to solid waste generation due to the construction and ongoing occupancy/operation of new residential and non-residential development, although this would occur almost exclusively within the CTSP Area. The California Department of Resources Recovery and Recycling (CalRecycle) has posted a table of solid waste generation rates for various land uses, based on a solid waste guide for development projects in Santa Barbara County (CalRecycle 2019). Using these factors and applying them to the proposed land uses, CTSP development would generate an estimated 53,200 pounds per day, as shown in Table 17-3.

TABLE 17-3
CTSP POTENTIAL SOLID WASTE GENERATION AT BUILDOUT

Land Use	Unit of Measure	Solid Waste Rate[1, 2]	Estimated Solid Waste (lbs)[1]
Low-Density Residential	988 units	11.4 lbs/unit	11,263
Medium-Density Residential	298 units	8.6 lbs/unit	2,563
Medium High-Density Residential	336 units	8.6 lbs/unit	2,890
High-Density Residential	770 units	8.6 lbs/unit	6,622
Regional Commercial	1,169,586 sq. ft.	2.5 lbs/100 sq. ft.	29,240
New Public Usage	88,862 sq. ft.[3]	0.007 lbs/sq. ft.	622
		TOTAL	**53,200**

[1] Rates and amounts are daily.
[2] Maximum rates used.
[3] Square footage based on floor-are ratio of 0.6 as specified in Ceres Municipal Code.
Source: CalRecycle 2019.

Based on the results in Table 17-3, CTSP development at buildout would generate 19,418,000 pounds of solid waste per year. While the content of a ton of solid waste varies, it has been approximated that a cubic yard of solid waste weighs 300 pounds, so the project would generate approximately 64,727 cubic yards of solid waste per year. As stated above,

the Fink Road Landfill space currently has half of its total capacity available. As such, it could accommodate the additional solid waste without requiring new landfill space.

Moreover, new development would participate in the City's existing recycling programs, which would reduce the amount of solid waste that would be sent to the landfill. Future development is expected to comply with all applicable federal, State, and local solid waste regulations. As a result, solid waste generation impacts of the CTSP on landfills are expected to be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

Impact UTIL-7: Energy Consumption

The project would lead to a substantial increase in energy consumption due to new development. This new development would occur almost exclusively within the CTSP Area. The Pocket Area is mostly developed, and any development there would add little to the overall energy consumption of the project.

Development under the proposed CTSP would add residential dwelling units, regional commercial space, and other non-residential development. Electricity and natural gas would be the main energy sources for this development. The estimated amount of energy that would be consumed by CTSP development at buildout is provided in Table 17-4, based on consumption factors used by the U.S. Energy Information Administration. It is likely that actual energy consumption would be different for a few reasons – certain land uses may use electricity exclusively; more energy-efficient appliances and climate control systems would be installed, more stringent energy codes would be applied over time. However, such influences on energy estimates cannot be reasonably determined, so the consumption figures in Table 17-4 should be considered rough approximations.

TABLE 17-4
CTSP POTENTIAL ANNUAL ENERGY CONSUMPTION AT BUILDOUT

Land Use	Units of Measure[1]	Electricity		Natural Gas	
		Factor[2]	Usage (kWh)	Factor[2]	Usage (ccf)
Low-Density Residential	988	10,330	10,206,040	527	520,676
Medium-Density Residential	298	5,173	1,541,554	252	75,096
Medium High-Density Residential	336	4,581	1,539,216	159	53,424
High-Density Residential	770	4,581	3,527,370	159	122,430
Regional Commercial	1,169,586	20.6	24,093,471	48.7	56,958,838

New Public Usage	88,862	12.8	1,137,434	22.0	1,954,964
TOTAL			**42,042,085**		**59,685,428**

Note: kWh - kilowatt-hour; ccf – 100 cubic feet
[1] Residential unit of measure is dwelling units; commercial and public unit of measure is square feet.
[2] Residential electricity factors in kWh per dwelling unit and natural gas factors in ccf per dwelling unit. Commercial and public electricity factors in kWh per square foot and natural gas factors in ccf per square foot.
Sources: EIA 2015, 2018a, 2018b.

All future project development would be required to comply with applicable provisions of the adopted California Energy Code and CALGreen in effect at the time of project approval. The provisions of these codes are intended to increase energy efficiency of buildings, thereby reducing energy consumption from this sector.

Development of individual parcels would consume substantial amounts of energy in the grading, utility and road construction, development of future buildings and site improvements. The proposed CTSP does not address particular construction methods; required project conformance with air quality mitigation programs, including provision of required construction mitigation, or payment of Indirect Source Rule fees (see Chapter 6.0), would result in reductions in energy expenditures associated with construction. Due to the relatively flat slopes of the site, development within the CTSP Area would not require any extraordinary grading requirements. There is no evidence that development within the CTSP would involve substantially inefficient, wasteful, or unnecessary consumption of energy.

In summary, project development would involve substantial energy consumption. However, compliance with applicable codes, along with project site conditions, would ensure that this energy consumption would not be substantially inefficient, wasteful, or unnecessary. Project impacts related to energy consumption would be less than significant.

Level of Significance: Less than significant

Mitigation Measures: None required

18.0 CUMULATIVE IMPACTS

18.1 INTRODUCTION TO CUMULATIVE IMPACTS

As defined in CEQA Guidelines Section 15355, "cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or several separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

CEQA Guidelines Section 15130 provides that an EIR must discuss the cumulative environmental impacts of a project when the project's incremental effect is cumulatively considerable. "Cumulatively considerable," as defined in CEQA Guidelines Section 15065(a)(3), means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

The analysis of cumulative impacts may be based on either 1) a list of past, present, and probable future projects that could produce related impacts, or 2) on a summary of projections contained in an adopted general plan or related planning document, or in a prior certified environmental document which described or evaluated regional or area-wide conditions contributing to cumulative impacts. For the proposed project, the potential cumulative impacts are addressed using the "summary of projections" approach. The summary of projections is the Ceres General Plan, and the basis for this analysis is the City's certified GPEIR, the draft and final versions of which are available for review at the Planning Division office at 2220 Magnolia Street or online at https://www.ci.ceres.ca.us/197/General-Plan. The project site is within the Planning Area of the Ceres General Plan; therefore, the cumulative impact analysis in the GPEIR would be applicable to the proposed project.

For each environmental issue area, the cumulative impact analysis:

- Describes the geographic context for the analysis,
- Evaluates whether there exists the potential for one or more significant cumulative impacts in that environmental issue area,
- Analyzes whether the project would make a cumulatively considerable contribution to a significant cumulative impact, or would make significant a cumulative impact that would otherwise be less than significant, and

- Determines whether and how a significant cumulative impact, or a considerable contribution to such an impact, can feasibly be avoided or reduced to a less than significant or less than considerable level, if necessary.

Where significant cumulative impacts are identified, the EIR must examine reasonable, feasible options for mitigating or avoiding the project's contribution to a level that is less than considerable. With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations, rather than the imposition of conditions on a project-by-project basis.

The cumulative impact analysis should account for the nature of each environmental resource to be impacted, as well as the type and location of the project. This reflects the understanding that the context for cumulative impacts may vary from one environmental issue to another. For example, cumulative air quality impacts are reasonably considered in the context of an air basin, while cumulative hydrology impacts would be meaningfully addressed at a watershed level, and cumulative aesthetic impacts would ordinarily be addressed at a local level. The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as much detail as is provided for the effects attributable to the project alone. If the project does not involve a cumulatively considerable effect, a lead agency need not consider that effect significant, but it shall briefly describe the basis for concluding that the incremental effect is not cumulatively considerable.

18.2 CUMULATIVE IMPACT SETTING

The GPEIR evaluated the potential environmental impacts, including cumulative impacts, of the updated City of Ceres General Plan. The General Plan update was initiated to comprehensively examine the existing conditions in the city and to create a vision for the city's future. Although the General Plan does not specify or anticipate when buildout of the city will occur, the year 2035 is assumed for planning purposes. The Planning Area of the General Plan encompasses 14,400 acres, including the City of Ceres, its Sphere of Influence, the adjacent unincorporated areas, including the CTSP and Pocket Areas and Mancini Park in the City of Modesto. It is approximately bounded on the north by the Tuolumne River, on the west by Carpenter Road, on the south by Grayson Road, and on the east by Washington Road.

The General Plan projected that additional residential development at buildout would be 7,200 housing units of all types, resulting in an additional population of 24,000. Additional non-residential development in the Planning Area at buildout would be 8,100,000 square feet commercial/office, 4,400,000 square feet industrial, and 1,400,000 square feet public/institutional. Total development of the Planning Area at buildout, both new and existing, would be 26,000,000 square feet of non-residential development and 23,400 housing units of residential development, for an anticipated population of 79,000 (City of Ceres 2018a).

As noted, the Planning Area includes the CTSP and Pocket area buildout. The General Plan Land Use Map identifies the current land use designations of parcels within these areas.

Chapter 13.0, Land Use, discusses these designations in more detail, and Figure 13-1 shows the current General Plan Land Use Map for the general project area.

18.3 CUMULATIVE IMPACTS OF PROJECT

The following section evaluates the potential cumulative impacts of the proposed project, based on the analyses in the GPEIR. Several of these GPEIR analyses represent cumulative analyses of issues to the General Plan horizon year of 2035, as they combine the anticipated effects of the General Plan with anticipated effects of regional growth and development. By their nature, the analyses presented in the GPEIR for air quality, transportation, noise, and GHG emissions represent cumulative analyses, because the effects specific to the General Plan cannot reasonably be differentiated from the broader effects of regional growth and development. Thus, analyses for these topics reflect not just growth in the Planning Area, but growth elsewhere in the region. The conclusions on cumulative impacts are summarized there, and significant and unavoidable impacts are listed where applicable (City of Ceres 2018a).

18.3.1 Aesthetics and Visual Resources

Cumulative impacts on aesthetics are assumed to be localized; that is, aesthetic changes at one site would not generally impact aesthetics at another site if the sites are not visually connected in some fashion. A visual connection could be established by juxtaposition or by location along a travel corridor, among other possibilities.

The Ceres GPEIR noted that growth in the Stanislaus County region, including Ceres, will result in substantial changes to the visual character of the region. StanCOG projected that between 2015 and 2035, the population of Stanislaus County will increase by 25 percent (University of the Pacific 2016). Development to accommodate these new residents and businesses would impact visual resources. Views of farmland would be replaced with views of new urban development, the visual character of existing urban areas may change with new infill and development of greater density, and development would likely create new sources of light and glare.

The Ceres General Plan seeks to protect farmland around the perimeter of the Planning Area, which will maintain agricultural views; and policies in the proposed General Plan would minimize new sources of light and glare. However, the GPEIR concluded that the General Plan will contribute to changes in the visual resources of the region, and its contribution to this impact would be cumulatively considerable.

The proposed project would have similar impacts on aesthetics to those described in the GPEIR. While some development has occurred within the CTSP area, much of the site retains an agricultural landscape. Over time, this agricultural landscape would be replaced by urban development. This would be consistent with the aesthetic impacts discussed in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 4.0, Aesthetics, and all potential impacts would be less than significant.

Therefore, the proposed project's contribution to cumulative aesthetic impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.2 Agricultural Resources

Cumulative impacts on agricultural land resources may be assessed on a regional or local level. Analysis at a local level yields a more conservative result. For this project, the level of analysis will be at the County level, the same as in the GPEIR.

The GPEIR noted that regional growth will likely result in the conversion of Farmland, as defined in CEQA Guidelines Appendix G. Implementation of the Ceres General Plan by itself would result in the conversion of 3,508 acres of Farmland, along with indirect effects on agricultural uses. Therefore, the General Plan's contribution to this impact would be cumulatively considerable. Conversion of Farmland to urban use was identified in the GPEIR as a significant and unavoidable impact of General Plan adoption. A Statement of Overriding Considerations for this issue was adopted by the Ceres City Council in conjunction with adoption of the General Plan.

As noted in Chapter 5.0, Agricultural Resources, development under the proposed project would involve the eventual conversion of approximately 319.5 acres of Farmland to urban uses. However, this would be a contribution to the conversion of Farmland previously identified in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. As noted, a Statement of Overriding Considerations for this issue was adopted with the General Plan. According to CEQA Guidelines Section 15152(f)(1), where a lead agency determines that a cumulative effect has been adequately addressed in the prior EIR, that effect is not treated as significant for purposes of the later EIR and need not be discussed in detail. Based on this, the proposed project's contribution to cumulative agricultural resource impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.3 Air Quality

Cumulative impacts on air resources may be assessed at both a regional and local level. The proposed project would involve contributions to potential air quality impacts at the regional level – the San Joaquin Valley Air Basin - and at the local level in the vicinity of the project site.

The GPEIR stated that development under the General Plan could violate air quality standards or contribute substantially to an existing or projected air quality violation. Buildout of the General Plan would generate long-term air emissions, primarily mobile source emissions resulting from increased vehicle trips and VMT associated with General

Plan buildout. Operational emissions associated with the additional development that would occur would exceed the SJVAPCD significance thresholds for ozone precursors, CO, and particulate matter. Future development would be required to comply with State and federal regulations and the General Plan principles and actions applicable to air quality. However, the GPEIR concluded that compliance would not guarantee that emissions would be mitigated below SJVAPCD thresholds; therefore, impacts would be significant and unavoidable.

The Ceres GPEIR also stated that construction activities associated with the General Plan would cause short-term emissions of criteria air pollutants. Due to the scale of development activity associated with buildout of the General Plan, construction emissions would likely exceed the SJVAPCD regional significance thresholds. In addition to regulatory measures by SJVAPCD, mitigation imposed at the project level may include extension of construction schedules and/or use of special equipment. Existing City policies and regulations and General Plan principles and actions are intended to minimize impacts associated with nonattainment criteria pollutants. While these regulations and policies would reduce impacts associated with construction activities, there is no guarantee that emissions would be mitigated below SJVAPCD thresholds. Therefore, the GPEIR concluded that impacts of General Plan buildout from construction emissions would be significant and unavoidable.

As discussed in Chapter 6.0, Air Quality, planned urban development pursuant to the project, specifically the CTSP, would involve significant emissions from increased motor vehicle use and additional area and other sources, as compared to existing conditions. The CTSP contains and reinforces the Ceres General Plan strategies for reducing air quality impacts, including support for alternative modes of transportation, increased provision for bicycle and pedestrian circulation, and a more balanced land use mix. The CTSP Area has already been committed to urban uses, mainly by designation of the area for urban uses and the construction of the two schools. Project site development would involve continuation of an existing urban development process previously indicated in the General Plan and in other documents.

Nonetheless, the project would involve a cumulatively considerable contribution to air pollutant emissions. Air quality was identified as a significant and unavoidable adverse effect of General Plan adoption, and a Statement of Overriding Considerations for this issue was adopted. Except for mitigation measures, no further consideration of this issue is required.

As was discussed in Chapter 6.0, the project would not involve any significant odor impacts. Therefore, it would not contribute significantly to any cumulative odor impacts. Overall, the CTSP, and to a lesser extent Pocket Area development, would make a cumulatively considerable contribution to air quality. This is consistent with the analysis in the GPEIR.

Contribution to Significant Cumulative Impacts: Considerable

Mitigation Measures: None feasible

18.3.4 Biological Resources

Cumulative impacts on biological resources can be addressed in several geographic contexts, including bioregions, watersheds, or habitat areas for individual sensitive species.

Increased noise, light, and habitat disturbance resulting from urban development both within the Planning Area as well as in adjacent jurisdictions could adversely affect biological resources such as migratory birds and other wildlife species. However, with applicable policies in place as described in the direct impact analysis in the GPEIR, the General Plan's contribution to this potentially significant cumulative impact is less than cumulatively considerable.

Conditions on the project site are similar to those described in the GPEIR for the Planning Area outside the City limits. As noted elsewhere, the portions of the annexation area outside the CTSP Area are mostly developed. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Based on this, the proposed project's contribution to cumulative biological resource impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.5 Cultural Resources

The geography of cultural resources impact can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, if sufficient inventory data is available to define it. Although impacts to cultural resources are typically highly localized, several impacts in a given area can contribute to a cumulative impact of loss or harm to cultural resources. In the GPEIR, the cumulative impacts were evaluated at the level of the Planning Area.

Cultural resources in the region could be affected by new development, but adherence to established local policies, as well as to federal and State laws, would protect historic architectural resources, archaeological and paleontological resources, human remains, and historic architectural resources. Therefore, cumulative impacts to cultural resources would not be considerable.

As described in Chapter 8.0 of this EIR, the project would not result in a significant cultural resource impact with mitigation. The proposed CTSP, like other development projects, has the potential for inadvertent effects on undiscovered or subsurface resources, but mitigation measures identified in Chapter 8.0 would prevent substantial occurrence of these impacts. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. As a result, the project would not result in a considerable contribution to a cumulative cultural resource impact.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.6 Geology and Soils

Impacts related to geology and soils are not inherently cumulative; concerns are related to risks, hazards, or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is the responsibility of the local planning and building authority. For this reason, the potential for cumulative geology and soils impacts is considered in the context of the Planning Area of the Ceres General Plan.

There are no known active earthquake faults in most of Stanislaus County, and seismically induced liquefaction is not a substantial geologic hazard in the Ceres area. Some areas of the county are susceptible to riverbank erosion and expansive soils, and the western portions of the county in the Diablo Range are susceptible to landslides. A combination of projects along the river or hillsides could contribute to a potentially significant cumulative impact. However, seismic activity in the Planning Area is considered minimal, and the risk of liquefaction and landslides in the Planning Area is low. Therefore, the General Plan's contribution to cumulative impacts is less than considerable.

The proposed project would have similar impacts on geology and soils to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 9.0, Geology and Soils, and all potential impacts would be less than significant. Therefore, the proposed project's contribution to cumulative geology and soil impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.7 Greenhouse Gas Emissions

GHG emissions are related to global climate change. Global climate change is a distinct CEQA issue in that, while a project may generate GHG emissions, the impacts of such emissions are global. As such, the impacts of a project's GHG emissions are considered cumulative in nature. Potential cumulative issues associated with global climate change are addressed in the analysis in Chapter 10.0, Greenhouse Gas Emissions.

As discussed in Chapter 10.0, potential project contributions to GHG emissions include vehicle miles traveled associated with trips generated by proposed land uses (Chapter 16.0, Transportation) and consumption of energy and water by new urban land uses. However, these potential emissions are already inherent in the existing land use designations and zoning of the annexation area, including the CTSP area, for urban uses. The proposed CTSP shifts the nature of future land development to more integrated commercial and residential land uses that would reduce vehicular travel, and thus GHG emissions. The measures incorporated into the CTSP would substantially reduce potential GHG emissions associated with development. Therefore, the project is considered to have a contribution to cumulative greenhouse gas emissions that is less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.8 Hazards and Hazardous Materials

Cumulative impacts associated with hazards and hazardous materials are assumed to be localized. Any project exposure to hazards would occur on or in the immediate vicinity of the site, and any potential on- or off-site impact of hazardous materials use associated with the project would be limited to the immediate vicinity.

New development in the region may result in an increase in routine use, transportation, disposal, and accidental release of hazardous materials; handling of hazardous materials near existing and proposed schools; and physical interference with the Stanislaus County Emergency Operations Plan. However, existing federal, State, and local regulations create and enforce standards for activities related to hazardous materials and for new development. Upset or accident conditions, emissions of hazardous materials, and development on a site listed as containing hazardous materials usually occur on a project-by-project basis, rather than in a cumulative manner. Individual projects in Stanislaus County and nearby cities would be required to comply with federal, State, local regulations, and the Stanislaus County Emergency Operations Plan. The cumulative impact would be less than considerable.

Development in Modesto and Ceres in proximity to the Modesto City-County Airport could contribute to a cumulative impact of increased airport-related hazards. However, compliance with the Stanislaus County ALUCP would minimize potential safety hazards and the cumulative impact would be less than considerable.

Wildfire prevention is a shared responsibility between federal, State, and local agencies. Most of Stanislaus County falls under State and local jurisdiction, with a few small areas under federal responsibility. Threats of wildfires on non-federal lands in unincorporated areas are the responsibility of Cal Fire and addressed through compliance with Title 14 of the of the California Code of Regulations. Given that there are large areas in the western portion of Stanislaus County that are High or Very High Fire Hazard Severity Zones in State Responsibility Areas (Cal Fire 2022), there is a potentially significant cumulative impact. However, the Planning Area is geographically distant from these areas of fire hazard. The General Plan's contribution to cumulative wildfire impacts is less than considerable.

The proposed project would have similar impacts on hazards and hazardous materials to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 11.0, Hazards and Hazardous Materials, and all potential impacts would be reduced to less than significant with mitigation measures. Therefore, the proposed project's contribution to cumulative hazard and hazardous material impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.9 Hydrology and Water Quality

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or for groundwater in the context of a groundwater basin. For the proposed project, surface water issues are addressed at the level of the Tuolumne River watershed. Groundwater issues are addressed at the level of the Turlock Groundwater Subbasin.

Most of the water supply in Stanislaus County comes from surface water resources, most of which is used for agricultural purposes rather than for urban development. Groundwater supplements the surface water supply and is the major source for urban areas, including for the cities of Ceres, Modesto, Oakdale, and Riverbank. There are four groundwater management areas in Stanislaus County, including the Turlock Subbasin, from which Ceres sources most of its water. In recent decades, the groundwater levels in the Turlock Subbasin have declined because of demands from urbanization and expanded agricultural irrigation.

While the City of Ceres currently relies entirely on groundwater, the City is participating in implementation of the Regional Water Supply Project that will provide treated surface water to the City, thereby reducing reliance on groundwater. In addition, Ceres is a member of the Turlock Groundwater Basin Association, which has developed several groundwater basin management objectives to ensure a sustainable supply of groundwater; as well as the West Turlock Subbasin Groundwater Sustainability Agency, a joint powers authority responsible for the management of the subbasin and implementation of California's Sustainable Groundwater Management Act requirements. Nevertheless, despite State regulations and local efforts, Ceres will continue to rely primarily on groundwater supplies, and future water demand may lower the local groundwater table. Given Ceres's continued reliance on groundwater supplies which may lower the local groundwater table level, the General Plan's potential contribution to this cumulative impact is considerable.

New development in the region has the potential to generate impacts related to the violation of water quality standards, erosion and sedimentation, construction-related water quality impacts, flood hazards, and dam failure. State and regional regulations described in Chapter 12.0, Hydrology and Water Quality, would reduce the rate of runoff and would filter out pollutants. Construction activities are required to comply with the SWRCB's statewide NPDES stormwater permit program, the Porter-Cologne Act's requirements for site-specific waste discharge, as well as local agency public works construction standards. In addition, policies in the General Plan and existing City regulations would ensure protection of water quality, improve stormwater management, and reduce stormwater pollution. With these controls, the General Plan's contribution to this cumulative impact is less than considerable.

The proposed project would have similar impacts on hydrology and water quality to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than those discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 12.0, Hydrology and Water Quality, and potential impacts would be less than significant, either by themselves or with recommended mitigation. Therefore, the proposed project's contribution to cumulative hydrology impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.10 Land Use, Population, and Housing

Cumulative land use impacts are related to the scale of the project and the presence or absence of a defined community or land use entity that would be exposed to change by the project. The geographic context for cumulative land use analysis can range from a project site and adjacent parcels to an entire community or region. The project site is currently under County jurisdiction but is within an area adjacent to the City of Ceres.

Projects that could have the effect of physically dividing an established community, such as a major new road, highway, or similar infrastructure, tend to have a singular rather than cumulative impact. Similarly, impacts from plans and projects in the region that could conflict with existing plans, including habitat conservation plans, are not cumulative in nature.

However, potential impacts related to population and housing can be cumulative in nature. Population growth, by itself, is not an environmental impact; however, the direct and indirect effects, such as housing and infrastructure needs that are related to population growth, can lead to physical environmental effects. Given that StanCOG estimates the population of the county will grow by 25 percent between 2015 and 2035 (University of the Pacific 2016), growth in the region could have a potentially significant impact. As discussed above, given the amount of new residential growth that the General Plan can accommodate, and the indirect effects from new job growth, its contribution to cumulative impacts would be considerable.

The proposed project would have similar impacts on land use, population, and housing to those described in the GPEIR and would contribute to those impacts; however the project would involve no new impacts, nor would any identified impacts become more severe than were discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 13.0, Land Use of this EIR, and all potential impacts would be less than significant. Therefore, the proposed project's contribution to cumulative land use and population impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.11 Noise

Noise impacts are inherently localized. The impacts of noise are reduced with distance, and unless there is a very significant existing or proposed noise source, the potential for cumulative noise impacts will ordinarily be limited to a few hundred yards from the source. For the purposes of this EIR, the geographic context for cumulative noise analysis is defined as the project site and vicinity, as well as the elements of the Ceres street system affected by project-related traffic.

Cumulative noise impacts were addressed in the GPEIR. The General Plan would result in both short-term and long-term changes to the existing noise environment in the Planning Area. Long-term operational noise from traffic would increase compared to existing conditions. Proposed General Plan policies prohibit development of noise-sensitive land uses in certain scenarios, require noise mitigation measures, and require acoustical analyses to ensure noise exposure standards are met. These policies would reduce potential noise impacts on new development to a less-than-significant level. However, the GPEIR noted that impacts of new traffic noise on existing sensitive receptors, such as residences near the roadway segments that would experience noise level increases of more than 3 dBA CNEL would be significant and unavoidable.

The CTSP proposes new development that would involve the potential for locally significant noise effects, mainly increases in traffic noise along local streets. These impacts were analyzed in Chapter 14.0, Noise. CTSP development would contribute to future traffic and traffic-generated noise along streets serving the project area. However, while predicted noise levels within the CTSP Area would significantly increase, they would not result in significant noise impacts, as potential impacts would be addressed by existing Ceres Municipal Code requirements and mitigation measures included in Chapter 14.0. The project would not result in a considerable contribution to cumulative noise impacts.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.12 Public Services and Recreation

Potential cumulative impacts related to public services are appropriately addressed at a project site level. The County currently provides police protection and library services to the project site, the Ceres Unified School District provides educational services, and two fire districts provide fire protection services. Upon the annexation of the project site, the City of Ceres would provide police protection services, and Modesto Fire would provide fire protection services. All other public services would be provided by their current agencies.

Public services are generally provided by local governments and/or special districts for areas within their jurisdiction and are not provided on a regional basis. Fire and police protection services are provided by local governments or fire protection districts for areas within their jurisdiction, although mutual aid agreements between agencies do help spread resources. As noted in Chapter 15.0, Public Services, Ceres, Modesto, and the fire districts are currently in discussions as to the future allocation of fire protection responsibilities among the agencies.

Public schools are provided by school districts to areas within their jurisdictions. While districts may have cross jurisdictional boundaries, school services are still provided at the local, rather than regional, level.

Several agencies provide park and recreation services in the region, including counties, cities, and special districts. Each of these areas has their own parkland ratios and standards and is responsible for providing parkland to meet the local demand. An increase in regional

population may increase demand for parks and recreation facilities and services; however, these local jurisdictions have authority over land use, set and implement level of service standards, and determine the siting and timing of public service projects. The impacts on public services and facilities are not cumulative in nature and therefore are not cumulatively considerable.

The proposed project would have similar impacts on public services and recreation to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than were discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 15.0, Public Services, and all potential impacts would be less than significant. Therefore, the proposed project's contribution to cumulative public service impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

18.3.13 Transportation

Cumulative transportation impacts, primarily vehicular traffic, are addressed within the area potentially impacted by a project, typically within a certain radius from the project site. This is the case with the proposed project, the potential traffic impacts of which are addressed in Chapter 16.0, Transportation.

The GPEIR states that development under the General Plan would improve the operation of some roadway facilities, as expanded roadway facilities and parallel capacity would be provided. However, some roadway segments, including some on SR 99, would continue to operate at deficient service levels, and some additional segments are projected to degrade to deficient operations. General Plan policies would reduce potential impacts by requiring that new developments prepare transportation impact assessments to determine project-specific impacts of new development such that impacts can be appropriately mitigated. The City will also coordinate with regional agencies to plan for the construction of the regional transportation network through Ceres. Additionally, City goals and policies strive to develop a multi-modal transportation network that would provide transportation alternatives to the single-occupant vehicle. However, even with implementation of these policies, the impact could remain significant and unavoidable.

According to the CEQA Guidelines, when a prior EIR addresses the potential effects of a later proposed project, the lead agency should limit the EIR on the later project to effects which were not examined as significant effects on the environment in the prior EIR, or that may be substantially reduced or avoided by specific revisions to the project, imposition of conditions or other means. In accordance with the CEQA guidelines, potential cumulative transportation effects are considered below.

Traffic Volume and VMT

Table 18-1 lists all the roadway segments and the average daily traffic on these segments for Cumulative conditions without and with the CTSP.

TABLE 18-1
ROADWAY SEGMENT AVERAGE DAILY TRAFFIC –
CUMULATIVE CONDITIONS

		Average Daily Traffic	
No.[1]	**Segment**	**Cumulative w/o CTSP**	**Cumulative w/ CTSP**
1	Morgan Rd between Hackett Rd and Service Rd	8,223	12,231
2	Blaker Rd between Hackett Rd and Service Rd	4,098	4,495
3	Blaker Rd south of Service Rd	962	1,342
4	Central Ave between Pine St and Service Rd	9,774	12,623
5	Central Ave between Service Rd and High School Southern Access	9,924	16,128
6	Central Ave between High School Southern Access and E Redwood Rd	7,564	11,770
7	Pine St between Central Ave and El Camino Ave	12,562	13,585
8	Collins Rd between Don Pedro Rd and Service Rd	1,511	2,342
9	Moffett Rd south of Service Rd	826	40,056
10	Moffett Rd north of E Redwood Rd[2]	789	12,189
11	El Camino Ave north of Pine St	10,515	9,596
12	El Camino Ave south of Service Rd[3]	0	0
13	Mitchell Rd between Don Pedro Rd and Service Rd	28,924	35,296
14	Mitchell Rd south of Service Rd	30,058	26,346
15	Service Rd between Morgan Rd and Blaker Rd	12,298	11,806
16	Service Rd between Blaker Rd and Central Ave	14,680	13,807
17	Service Rd between Central Ave and Moffett Rd	17,153	17,697
18	Service Rd between El Camino Ave and Mitchell Rd	19,588	28,240
19	Lucas Rd south of Service Rd	799	1,015
20	Lucas Rd north of Mitchell Rd[2]	799	753
21	E Redwood Rd between Central Ave and Moffett Rd	853	5,855
22	E Redwood Rd between Moffett Rd and Lucas Rd	302	13,384

No.[1]	Segment	Average Daily Traffic	
		Cumulative w/o CTSP	Cumulative w/ CTSP
23	New Project Rd between E Redwood Rd and Lucas Rd	0	395
24	New Project Rd between Blaker Rd and Central Ave	0	1,238
25	New Project Rd between Central Ave and Moffett Rd	0	356
26	New Project Rd between Moffett Rd and Lucas Rd	0	17,826
27	Mitchell Rd between E Redwood Rd and Lucas Rd[2]	0	1,462

[1] See Figure 16-1 for locations.
[2] Existing segment average daily traffic is assumed to be the same as the adjacent segment.
[3] This segment would cease to exist with construction of the Service Road interchange.
Source: Wood Rodgers 2024.

As has been noted, VMT is the metric used to determine the significance of the transportation impacts of a project on the environment. The potential traffic effects of the CTSP on VMT under the Cumulative scenarios were analyzed in the Transportation Impact Analysis, with a focus on residential, office, and retail land uses.

Under Cumulative Plus Project conditions, the net change to County VMT is -13,149 – a net decrease in total County VMT. Therefore, CTSP retail land uses would make a contribution to cumulative impacts on VMT that is less than considerable. However, the CTSP VMT would exceed significance thresholds established for residential and office land uses. Although VMT was calculated based on Near-Term conditions, it is expected that impacts and applicable mitigation would also apply to Cumulative conditions. Therefore, implementation of Mitigation Measure TRANS-1 in Chapter 16.0, Transportation, would reduce the potential cumulative contribution of the CTSP on VMT. However, project contributions to VMT would remain considerable.

Contribution to Significant Cumulative Impacts: Considerable

Mitigation Measures: Mitigation Measure TRANS-1.

Significance after Mitigation: Considerable

18.3.14 Utilities and Energy

Cumulative utility impacts are appropriately considered at the level of the utility service area. For water, sewer, stormwater drainage, and solid waste services, this would be the City of Ceres, as the City either provides these services directly or contracts these services out to franchisees. For energy and communications services, the service area is regional or statewide, but the project would involve no potential effects that could reasonably extend

outside the immediate project vicinity.

Potable Water

Ceres's groundwater supplies are treated at the wellheads, and therefore impacts on groundwater treatment are not cumulative in nature. Surface water treatment facilities are being developed cooperatively by local governments. The Stanislaus Regional Water Authority, a joint powers authority comprised of the cities of Ceres and Turlock, is constructing a water treatment plant to serve Ceres, Hughson, South Modesto, and Turlock. The initial capacity of the water treatment plant will be 15 mgd, with 5 mgd capacity for the City of Ceres. However, the plant will be expandable, with plans for potential future expansion up to 45 mgd. Development in the jurisdictions served by the plant could have a significant cumulative impact, requiring the expansion of the plant. The initial capacity of 5 mgd of supply for Ceres is expected to adequately serve buildout under the proposed project; therefore, the proposed project is not expected to contribute to the need for expanded facilities. However, within the cumulative context, the proposed project could contribute to the need for expansion. The General Plan's contribution to cumulative impacts is considerable.

The City of Ceres water distribution system is essentially isolated from other city distribution systems. Although Ceres and Turlock will both receive water from the same water treatment plant, the water will be conveyed to each city in separate transmission pipelines. Portions of the city of Ceres receive water from Modesto (the North Ceres and Walnut Manor areas). There is no connection between Ceres's system and Modesto's North Ceres system, but there is an emergency interconnection between Ceres' system and the Walnut Manor system. However, the emergency interconnections are not normally used, and thus the distribution systems are essentially isolated from each other. Thus, the impacts on water distribution systems are not cumulative in nature, and the impact is less than cumulatively considerable.

The proposed project would have similar impacts on potable water services to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 17.0, Utilities and Energy, and all potential impacts would be less than significant. Therefore, the proposed project's contribution to cumulative water service impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

Wastewater

Ceres's wastewater flows to three wastewater treatment plants in Ceres, Turlock, and Modesto respectively. As the wastewater treatment facilities are shared across jurisdictions, impacts on the wastewater treatment facilities are cumulative in nature. Development in each jurisdiction could result in significant cumulative impacts. Implementation of the General Plan would result in future residential, commercial, and industrial land uses in the Planning Area, resulting in additional population and additional

demand for wastewater collection, conveyance, and treatment services over currently established levels. According to the Ceres 2013 Sewer System Master Plan, planned improvements to Ceres's sewer and wastewater treatment system will meet Central Valley RWQCB requirements and provide adequate capacity for buildout under the General Plan. However, Ceres will also export wastewater for treatment at the Turlock and Modesto treatment plants. Therefore, implementation of the General Plan could contribute to the expansion of wastewater treatment facilities in the region. The General Plan's contribution to this cumulative impact is considerable.

Within the City of Ceres there are two sewer systems. The primary sewer system flows to Ceres's wastewater treatment plant, and the smaller system in the northwest portion of Ceres flows to Modesto's wastewater treatment plant. These sewer systems are essentially isolated from each other. Thus, the impacts on the sewer system facilities are not cumulative in nature and are less than cumulatively considerable.

The proposed project would have similar impacts on wastewater services to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 17.0, Utilities and Energy, and all potential impacts would be less than significant. Therefore, the proposed project's contribution to cumulative wastewater impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

Storm Drainage

The storm drainage system is a proposed standalone drainage system that will be divided into four drainage sheds, with each shed containing its own retention basin. The basins are intended to discharge through infiltration into the groundwater. These sheds are isolated from each other and from nearby drainage systems. Thus, the impacts on the stormwater system facilities are not cumulative in nature.

The proposed project would have similar impacts on storm drainage services to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 17.0, Utilities and Energy, and all potential impacts would be less than significant. Therefore, the proposed project's contribution to cumulative storm drainage impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

Solid Waste

The Fink Road Sanitary Landfill is owned by Stanislaus County and provides municipal solid waste services to Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, Waterford, and the unincorporated areas of Stanislaus County. Growth

in each of the jurisdictions could contribute to a significant cumulative impact on the landfill's capacity. Although the estimated solid waste generation from the General Plan only accounts for a small amount of the total capacity of the Fink Road Sanitary Landfill, the solid waste from the Planning Area contributes to the cumulative impact on the landfill. Therefore, the General Plan's contribution to cumulative impacts is considerable.

The proposed project would have similar impacts on solid waste services to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 17.0, Utilities and Energy, and all potential impacts would be less than significant. Therefore, the proposed project's contribution to cumulative solid waste impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

Energy

Future development under the General Plan would generate vehicle trips, which would consume gasoline and diesel. Future development would also result in the consumption of electricity and natural gas for power, heating, and cooking. The GPEIR projected an increase in total energy consumption within the Planning Area from 2014 to 2035. However, the amount of energy consumed per service population would decrease by approximately 32%. The GPEIR concluded that all potential impacts related to energy would be less than significant with implementation of State actions and proposed General Plan policies, in addition to fuel savings achieved by proposed General Plan transportation policies that reduce overall VMT (City of Ceres 2018a).

The proposed project would have similar impacts on energy to those described in the GPEIR. There would be no new impacts, nor would any identified impacts become more severe than as discussed in the GPEIR. Impacts of the proposed project were analyzed in Chapter 17.0, Utilities and Energy, and were determined to be less than significant.

The GPEIR did not discuss impacts on the electricity and natural gas distribution systems that serve the Planning Area. Existing facilities are on or near the project site, and state-regulated franchise utilities are obligated to extend services to new development as necessary. Overall, the proposed project's contribution to cumulative energy impacts would be less than considerable.

Contribution to Significant Cumulative Impacts: Less than considerable

Mitigation Measures: None required

19.0 ALTERNATIVES TO THE PROPOSED PROJECT

19.1 INTRODUCTION

CEQA Guidelines Section 15126.6(a) requires an EIR to "consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." More specifically, the EIR shall "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives."

The alternatives analysis must provide sufficient information about each potential alternative to allow meaningful evaluation and comparison with the proposed project. There are no set rules governing the nature and scope of the alternatives to be discussed, other than the "rule of reason." While the "rule of reason" is not defined, it is understood to mean that not all conceivable alternatives need to be considered. If an alternative is not feasible or does not provide an opportunity to avoid or substantially reduce environmental effects, then the alternative need not be analyzed in detail. However, the reasons for limiting the analysis should be identified. Feasibility considerations are discussed in the following section.

CEQA Guidelines Section 15126.6(e) states that the alternatives analysis must include evaluation of a "no project" alternative. "No project" is defined as no action with respect to the proposed project and the continuation of existing circumstances without approval of the project. More specifically, when the project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy, or operation into the future. The projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under continuation of the existing conditions (CEQA Guidelines Section 15126.6(e)(3)(A)).

The following sections describe 1) the selection of alternatives for evaluation; 2) alternatives that were considered but not analyzed in detail; 3) alternatives that were analyzed in detail; and 4) the "environmentally superior alternative." The alternatives analysis conforms to CEQA and the CEQA Guidelines and represents the best professional opinion of the EIR preparer, City staff, and their technical reviewers. However, the final authority for the selection or rejection of alternatives and their feasibility or infeasibility rests with the City agencies that have approval authority over the proposed project.

19.2 SELECTION OF ALTERNATIVES

Alternatives to the project were selected for evaluation in this EIR based on the criteria set forth in CEQA Guidelines Section 15126.6. These criteria include:

1) Ability of the alternative to meet most of the basic objectives of the project;

2) Feasibility of the alternative; and

3) Ability of the alternative to avoid or substantially reduce one or more of the significant environmental effects of the project.

Ability of the Alternative to Meet Project Objectives

Potential alternatives to the project were evaluated and selected with respect to the objectives of the project, as identified and discussed in Chapter 3.0 of this EIR. There are several project objectives, including General Plan implementation, comprehensive planning of the CTSP Area, a balanced land use mix, housing diversity, the meeting of RHNA targets, economic viability, and fiscal responsibility, among others. More detailed descriptions of these objectives are in Chapter 3.0.

Feasibility of the Alternative

Alternatives to the project were evaluated with respect to the "rule of reason" and general feasibility criteria suggested by the CEQA Guidelines. The criteria include:

- Suitability of the site or alternative site,
- Economic viability of the alternative,
- Availability of infrastructure,
- Consistency of the alternative with general plan designations, zoning or other plans or regulatory limitations,
- Effect of applicable jurisdictional boundaries, and
- Whether the proponent can reasonably acquire, control, or otherwise have access to an alternative site. This includes consideration of whether or not the site is already owned by the project applicant.

The application of these criteria to potential alternatives to the proposed project is described in this section and in Section 19.3.

Avoidance or Substantial Reduction of Significant Effects

The alternatives analysis must consider the potential of the alternative to avoid or substantially lessen any of the significant environmental effects of the proposed project, as identified in Chapters 4.0 through 17.0 of this EIR and summarized in Chapter 2.0, Summary. The analysis also should account for the potentially significant environmental effects of the alternatives as compared to the proposed project.

Some of the potential effects of the project and the alternatives are common to virtually all development and would not vary from alternative to alternative. Similarly, certain environmental effects are addressed by routine requirements that would apply uniformly to any alternative. Since the focus of the alternatives analysis is comparison to the proposed

project, issues that do not vary substantially between the alternatives are not extensively analyzed. These include the following:

Cultural Resources and Tribal Cultural Resources. The project and other planned development have the potential to impact currently unknown archaeological resources within the project site. These potential impacts can be avoided by mitigation measures typically required of development projects. Also, tribes and consultation procedures would be the same, and mitigation measures have been identified for potential impacts on any unknown tribal cultural resources during construction. As such, this issue is not considered in detail in this alternatives analysis.

Geology, Soils, and Mineral Resources. The project site has soils with characteristics that impose potential development constraints. These constraints, common in Stanislaus County, would be addressed through routine soils engineering that would be required for development pursuant to the CTSP. Soil erosion is a potential issue that would be addressed through the SWRCB's Construction General Permit process. Potential impacts related to inadvertent discovery of paleontological resources can be avoided by mitigation measures included in this EIR and typically required of other development projects. No mineral resources have been identified on the project site. Therefore, issues related to geology, soils, and mineral resources are not considered in this alternatives analysis.

Hydrology and Water Quality. The project would not involve significant hydrology and water quality impacts since there are no vulnerable surface waters in the project area. The project would comply with NPDES General Permit No. CAS000004, which would minimize water quality impacts. Groundwater impacts have been documented as being less than significant; the project would not affect groundwater supplies or quality. The project is not within a flood hazard area. Because of this, this issue is not considered in this alternatives analysis.

Land Use. The project would not involve significant land use effects, as proposed land uses and pre-zoning that would occur as part of the annexation process would be consistent with the City General Plan. This issue is not considered in detail in this alternatives analysis.

Public Services and Recreation. The project would generate new demands for public services that are common to new land development in the City and County. Application of routine requirements, including the payment of public improvement fees, school impact fees, and park fees, would reduce these potential effects to a level that would be less than significant. This issue is not considered in detail in this alternatives analysis.

Utilities and Energy. The project would involve new demands for water, wastewater, stormwater drainage, and other utilities. Facilities needed to serve new development would be available, either from existing systems or from onsite facilities. Issues identified in the EIR are routine matters that would be addressed by City review of development design and improvements. Utility issues are not considered in detail in this analysis.

As described in the CTSP and this EIR, the City's planning and development review process would address and internalize mitigation for any potentially significant environmental effects associated with land development pursuant to the CTSP, this EIR

and the Mitigation Monitoring/Reporting Program for the project. This environmental impact analysis effort and implementation of recommended mitigation measures will result in substantial reductions in the potential environmental effects of the project, narrowing the potential for identification of alternatives that could reduce potential environmental effects. All the significant environmental effects of the project identified in this EIR can be reduced to a level that is less than significant level with the recommended mitigation measures, as documented in Chapters 4.0 through 18.0. Effects that have already been addressed in the GPEIR do not require additional discussion.

19.2 ALTERNATIVES NOT CONSIDERED

The following alternatives were identified in the process of EIR preparation but were not addressed in detail, as they did not meet the criteria for detailed analysis. These alternatives 1) would not meet most of the basic objectives of the project, 2) were clearly infeasible, or 3) did not have the ability to avoid or substantially lessen the significant environmental effects of the project as discussed below.

Alternative Location

This alternative would involve a City-sponsored specific plan proposal on an alternative site that might offer the potential to reduce the potential environmental effects of the CTSP. The alternative location does not necessarily have to be of the same acreage as the CTSP Area, which is approximately 534.6 acres. However, to be a reasonable alternative, the location would need to accommodate a similar number of residential units and regional commercial floor area as the CTSP. On less extensive acreage, this could be accomplished through a slight increase in residential unit development density and increased height of commercial structures.

A review of the Ceres General Plan Land Use Map indicates that there would be no feasible locations within the existing City limits, as there is no vacant land that could accommodate the proposed development. The most feasible alternative locations would be in the far eastern and far southwestern portions of the Planning Area. Both these areas have been designated as agricultural land and have not been designated for any urban development. As such, alternative locations in these areas would be inconsistent with the General Plan designations, and they would have a more severe impact related to agricultural land conversion. They also would conflict with the project objective of an orderly expansion of the City within its Sphere of Influence, as development in the alternative locations could be considered "leapfrog" development. In addition, these alternative locations would likely lead to an increase in VMT from the proposed project, along with its attendant impacts on air quality and GHG emissions.

An alternative location that would require an increase in residential unit density would most likely mean multifamily structures, which may involve increased aesthetic impacts. An increase in the height of commercial buildings would have similar impacts. Depending on the location, infrastructure may need to be extended or improved, which would likely have effects on the local environment. Alternative locations would likely conflict with the

project objectives related to improving Service Road, as these locations would not likely be accessed by this road.

In summary, this alternative is inconsistent with the project objectives and would likely have more severe environmental impacts. The CTSP is a public/private planning collaboration that is addressed specifically to concerns with existing General Plan designations and zoning in the CTSP Area and no other geographic location. Therefore, this alternative was not analyzed in detail.

Alternative Land Use Plan or Design

For some Specific Plans, it is possible that a change in designation of certain lands may avoid some environmental impacts of the proposed project. Also, it is possible that a change in the design of proposed development may also avoid identified environmental impacts.

This EIR has identified various environmental impacts associated with development under the proposed CTSP – lands outside the proposed CTSP area would experience minor environmental impacts, if any. Alternative land use patterns or designs could be consistent with the project objectives and may be feasible to implement. However, of the potentially significant environmental effects identified in this EIR with the CTSP, none of the potential effects are related to the location of planned development within the CTSP Area. Changes in the land use designation or design would have little effect on potential environmental impacts. Therefore, this alternative would provide no identified opportunity to reduce potential environmental effects and was not analyzed in detail.

19.3 ALTERNATIVES ADDRESSED IN DETAIL

The alternatives to the proposed project that have been considered in detail are addressed in the following sections. The overall analysis is summarized in Table 19-1.

19.3.1 Alternative No. 1: No Project/County Zoning

As discussed in Section 19.1, the No Project Alternative for the revision of an existing land use or regulatory plan, policy, or ongoing operation is the continuation of the existing plan, policy, or operation into the future. As an alternative to the proposed adoption of the CTSP, the "no project" alternative involves no action by the City with respect to the CTSP or related development entitlement actions, including the proposed annexations.

Under this alternative, existing County General Plan land use designations and zoning on the project site would remain in place, as would existing public roads and other urban infrastructure in the area. As noted in Chapter 13.0, Land Use, the County General Plan designates the entire project site as Urban Transition. However, the CTSP Area is currently zoned General Agriculture. Therefore, under this alternative, existing parcels in the CTSP Area would generally remain in their current condition, mainly agriculture and rural residential. The existing schools would likewise remain. Outside the CTSP Area, parcels

are currently zoned for agriculture and various types of urban development. It is expected that these land uses would over time occur on these parcels under the No Project alternative, in accordance with their zoning.

The continuation of existing uses would not result in any substantial immediate change to the existing environment within or near the CTSP Area. Existing soil, water, and biological resource conditions would be unchanged. For the CTSP Area, this alternative would involve no substantial change in land use, no increase in population, and no new demand for public services and utilities. This alternative would not result in any increased traffic, with its related air pollution and noise impacts. In addition, agricultural land conversion would be eliminated.

Future development of the Pocket Area under existing zoning would involve some residential and non-residential development. However, this development would be substantially less than within the CTSP Area; as such, environmental impacts of development in the Pocket Area would not be significant.

However, the No Project alternative is not consistent with the project objectives nor with the proposed development in the City's General Plan. Moreover, the alternative would eliminate housing options that would otherwise satisfy housing objectives set forth in the Housing Element of the City's General Plan. As a consequence, this may require the City to pursue alternative residential development, either through more intensive development, development on currently open space lands, or a combination of the two. This could result in new or more severe environmental impacts in these areas, including traffic, noise, aesthetics, cultural resources, and hazards. In addition, the alternative housing development may place additional demand on existing water, sewer, and storm drainage facilities, requiring new or expanded facilities that could have environmental impacts.

Under the No Project alternative, the proposed regional commercial development would either be moved elsewhere or not be developed at all. Alternative commercial development could have similar environmental impacts to the alternative housing development. No commercial development would avoid these environmental impacts, but it would mean the City would not realize revenue from additional sales and property taxes that could be used to support public services.

In summary, the No Project alternative would avoid or substantially lessen the significant environmental effects of the project. However, it would not be consistent with the project objectives, and it could potentially generate new and more severe environmental impacts.

TABLE 19-1
COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT IMPACTS

Issue Area	*Proposed Project*	Alt 1: No Project/ County Zoning	Alt 2: 2007 CTSP	Alt 3: Current GP Map
Agricultural Land Conversion	*Potentially significant*	Avoided	Reduced	No change
Air Pollutant/GHG Emissions	*Potentially significant*	Avoided	Reduced	May be more or less severe
Biological Resources	*Less than significant with mitigation*	Avoided	No change	No change
Hazardous Materials	*Less than significant*	Possibly more severe	Reduced	Possibly more severe
Water Quality	*Potentially significant*	Avoided	Reduced	Similar to project
Noise Generation	*Potentially significant*	Avoided	Minimal reduction	May be more or less severe
Population and Housing	*Less than significant*	Avoided, but no housing	Reduced, but less housing	No change, but more housing
Traffic Generation	*Less than significant*	Avoided	Reduced	May be more or less severe

19.3.2 Alternative No. 2: 2007 CTSP

Under the 2007 CTSP Alternative, the CTSP as published for a public hearing in 2007 would be adopted. The 2007 CTSP covered approximately 175 acres, as opposed to the 534.6 acres covered by the proposed CTSP (Figure 19-1). The land area covered by the 2007 CTSP included all land within the proposed CTSP west of Central Avenue. The development proposed in the 2007 CTSP is shown in Table 19-2 below, in comparison with the proposed CTSP.

As shown in Table 19-2, the 2007 CTSP alternative would permit substantially less development than under the proposed CTSP. The number of residential units would be reduced to 411, and the majority of these units would be single-family residential (Low Density Residential). No regional commercial development would occur. Neighborhood parks, a "pocket park," and linear parkways would be provided, along with adequate pedestrian/bicycle links from residences to the recreational facilities.

Under this alternative, improvements would be made to Service Road, Central Avenue, and Blaker Road, along with the installation of an internal collector street and local streets. As with the proposed CTSP, water, sewer, and storm drainage services to the 2007 CTSP area would be provided by the City of Ceres, and utility lines would be extended to the area. Installation of these utilities, along with park areas, would occur under a phasing program that proposes three phases of development, with no rigid schedule as to when these phases would be implemented.

TABLE 19-2
COMPARISON OF PROPOSED AND 2007
COPPER TRAILS SPECIFIC PLAN DEVELOPMENT

	Acres		Dwelling Units	
Land Use	**Proposed**	**2007**	**Proposed**	**2007**
Low-Density Residential	179.6	58.5	988	411
Medium-Density Residential	33.1	8.1	298	80
Medium High-Density Residential	16.8	-	336	-
High-Density Residential	30.8	6.8	770	87
Regional Commercial	107.4	-	-	-
Park/Open Space	42.3	15.0	-	-
New Public Usage	3.4	-	-	-
Existing Public Usage (schools)	74.1	56.0	-	-
Major Roadway/Landscape Corridor	47.1	30.6	-	-
TOTAL	**534.6**	**175.0**	**2,392**	**411**

This alternative would reduce the proposed project's direct physical environmental effects because of the reduced acreage involved. Fewer acres of Farmland would be converted to urban uses, and much of the existing rural landscape would remain in place. More agricultural open space would remain, which would potentially mean more foraging and nesting habitat for birds and other species. With a reduction in housing units and elimination of commercial development, a substantial reduction in traffic generation and related noise and air pollutant emissions would be expected. Demands on the City's potable water supplies and wastewater treatment capacity would be reduced, as would demands for public services. Storm water runoff would decrease, thereby reducing demand on the City's storm drainage system.

However, the 2007 CTSP Alternative would not meet all the objectives of the proposed project. Specifically, the alternative would not meet the overall objective of development of commercial uses, and it would not meet the CTSP-specific objective of providing a balance of residential and non-residential land uses. Also, one of the CTSP project objectives is to aid the City in achieving its fair-share obligation to accommodate a percentage of the region's forecasted population growth, as set forth in the RHNA prepared by StanCOG. With the substantial reduction in total housing units, the City would be less likely to achieve its obligation under this alternative. Moreover, this alternative proposes mainly single-family residential units, which would conflict with the CTSP objective of providing a diverse array of housing types.

As noted, this project would reduce residential development potential in the City. As such, the City's options for accommodating the housing needs of all economic segments would

be sharply reduced; land for market-rate housing would be less available and may become less desirable or affordable, affecting housing production. These are economic and social effects that typically are not considered under CEQA. However, these economic and social consequences could have effects on the physical environment. With less land available, more intensive residential development may need to occur for the City to meet its fair-share obligations. As discussed under the No Project Alternative, this could have significant environmental impacts, especially in the areas where the residential development occurs.

In summary, the 2007 CTSP Alternative would lead to a reduction of environmental effects associated with the proposed project, specifically those pertaining to the project site. However, this alternative is not consistent with some of the project objectives, and it could to new or more severe environmental impacts in other parts of the Ceres Planning Area and may make Housing Element compliance more difficult.

19.3.3 Alternative No. 3: Current Ceres General Plan Map

Under the Current Ceres General Plan Map Alternative, the project site would be annexed and developed in accordance with the current land use designations of the Ceres General Plan and City development standards. As the land use designations within the Pocket Area are the same under both the proposed project and this alternative, the focus of this analysis is on the CTSP Area.

Within the CTSP Area, there are currently three major land use designations under the Ceres General Plan: Low Density Residential, Business Park, and Schools. Smaller areas have been designated Commercial Recreation and Very Low Density Residential. Table 19-3 provides a summary of land uses as currently proposed by the General Plan for the CTSP Area. In addition, the General Plan has applied designations of indefinite land area for Medium Density Residential, High Density Residential, Neighborhood Commercial, Parks, and Community Facilities.

Based on the maximum density allowed, this alternative would lead to the construction of up to 2,461 housing units, all lower density. This would slightly exceed the maximum 2,392 housing units that could be developed under the proposed CTSP. The Medium Density and High Density Residential designations would provide for additional housing units, although an estimate cannot be determined since no acreages are available. The maximum amount of Business Park development under this alternative would be approximately 1,183,960 square feet, based on the maximum floor-area ratio allowed under the General Plan. The square footage would be slightly greater than the proposed 1,169,586 square feet of Regional Commercial development under the proposed CTSP.

It is assumed that improvements would be made to roads in the area, although specific improvements are unknown. As with the proposed CTSP, water, sewer, and storm drainage services would be provided by the City of Ceres, and utility lines would be extended to the area. No phasing plan or other construction schedule for development under this alternative is available.

TABLE 19-3
CURRENT CERES GENERAL PLAN DESIGNATIONS FOR CTSP AREA

Land Use	Acres[1]	Dwelling Units[2]
Very Low Density Residential	9.4	42
Low-Density Residential	345.0	2,419
Medium-Density Residential	N/D	-
High-Density Residential	N/D	-
Business Park	90.6	-
Park	N/D	-
Community Facilities	N/D	-
Community Recreation	15.5	-
Neighborhood Commercial	N/D	-
Schools (existing)	74.1	-
TOTAL	**534.6**	**2,461**

N/D - not defined
[1] Acreage of underlying designations. Indefinite designations not included.
[2] Estimated at maximum density as defined in Ceres General Plan.

This alternative would meet the CTSP objectives of providing diversity in housing and in meeting the targets of the RHNA. This would be accomplished by the greater number of housing units that would be developed. It also could meet the objective of a more balanced land use mix between residential and non-residential land uses. In particular, the Business Park designation would likely lead to the creation of jobs in the area, leading to a more balanced jobs-housing ratio, which may have beneficial environmental impacts such as reduced VMT, with associated reductions in air pollutant and GHG emissions and noise.

The environmental impacts of the General Plan Alternative in general would be similar to those of the proposed project. The same Farmland acreage would be converted to urban uses, and the existing rural landscape would be changed to an urban one. Impacts on biological resources would be the same, as would water quality impacts. Demands on the City's potable water supplies and wastewater treatment capacity would be increased, as would demands for public services. However, such increased demand would not be substantially greater than under the proposed CTSP. Demand on the City's storm drainage system would be similar to that under the proposed CTSP.

However, the General Plan Alternative may lead to more severe impacts on air quality, GHG emissions, noise, and traffic. This would be due to more traffic being generated by the additional housing units that would be made available. Moreover, development within the Business Park may introduce more trucks to local traffic in the area. Although more stringent State regulations would reduce the air quality impacts of these trucks, as described in Chapter 6.0, Air Quality, trucks would contribute to air pollutant and GHG emissions,

as well as to ambient noise levels. It was noted above that the alternative could lead to reductions in VMT, thereby reducing impacts on air quality, GHG emissions, and noise. How much of these impact reductions would be offset by the traffic generated by the additional housing units and potential truck traffic is not known. Therefore, it is possible that the General Plan Alternative may have greater or lesser impacts on these issues than the proposed CTSP.

In addition, development of the Regional Commercial area may introduce more hazardous materials to the area through increased transportation and storage. Therefore, potential upset or accident occurrences involving hazardous materials may increase.

This alternative would not meet all the objectives of the proposed project. Moreover, this alternative would not provide more specific guidance on the development of land uses such as parks and trails, and it would not provide for infrastructure and public facility development plans that would provide for more logical development of the area, as noted in the project objectives.

In summary, the General Plan Alternative would be consistent with many of the project objectives and could lead to some reduction of environmental effects associated with the proposed project. However, it also could lead to an increase in the severity of impacts, and it would not meet other project objectives.

19.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As the No Project Alternative would eliminate or avoid all potential environmental effects associated with the proposed project, it would be considered the environmentally superior alternative. However, this alternative would meet none of the project objectives, while it could generate adverse environmental impacts of its own.

CEQA Guidelines Section 15126.6(e)(2) requires that, if a No Project Alternative is identified as the environmentally superior alternative, then an EIR shall identify an environmentally superior alternative from the other alternatives. The 2007 CTSP Alternative would involve less severe environmental effects than the proposed project and therefore could be considered the Environmentally Superior Alternative. However, as noted, this alternative would not meet all the objectives of the proposed project.

SOURCE: City of Ceres

Figure 19-1
2007 Copper Trails Specific Plan Area

20.0 OTHER CEQA ISSUES

20.1 GROWTH-INDUCING IMPACTS

Definition of Growth-Inducing Impacts

CEQA Guidelines Section 15126(d) requires that an EIR shall consider the growth-inducing impacts of a proposed project. CEQA Guidelines Section 15126.2(e) further explains that the EIR shall discuss the ways in which a project could foster, directly or indirectly, economic or population growth or the construction of additional housing in the surrounding environment. Projects that could induce growth include those that extend new development into previously undeveloped areas, extend new infrastructure or remove physical or economic obstacles to population growth, or encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. The CEQA Guidelines note that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

As one example of a growth-inducing impact, a large new industrial facility that creates numerous new jobs may increase or accelerate demands for housing. In an area of relative housing shortage, this effect could be growth-inducing; however, the same project in a labor surplus area may have no growth-inducing effect at all. Another example of this phenomenon would be the development of major new recreational, shopping, or entertainment facilities that spur development of new residential areas or other related development.

Growth can also be induced by the development of new infrastructure such as a new sewage treatment facility or potable water system, or by the extension of existing street or utility infrastructure to or near previously unserved areas. The addition or extension of such infrastructure could thereby facilitate development of these areas. However, the extension of new infrastructure in conjunction with proposed development that would be served by the new facilities may not have a distinguishable growth-inducing effect outside of its contribution to the overall development proposal.

Growth may be induced by a variety of government actions that permit or may promote additional development. These may include general plan amendments or rezonings that favor additional development, issuance of permits or approvals that establish new precedents for land development, and changes in policy that have the same result.

Growth-Inducing Impacts of the Proposed Project

The proposed project involves a request for City approval of the CTSP, along with the annexation of the CTSP Area and the Pocket Area. Most of the Pocket Area is already developed; therefore, the project would have a minimal growth-inducing effect there. However, the requested actions are inherently growth-inducing in that they would promote the urban development of the CTSP Area.

The CTSP Area is already designated for urban development by the Ceres General Plan. and is partially developed with schools and scattered residences, though much of the area currently remains in agricultural use. The CTSP Area is adjacent to existing development in the City and some urban infrastructure is already in place, such as water lines and roads. Therefore, the CTSP would not involve "leapfrog" development.

The CTSP as proposed would ultimately result in the construction of up to 2,392 residential units, accommodating as many as 8,492 people. To the extent that the housing constructed is individually or cumulatively attractive to new industry or other development, the CTSP could contribute to the inducement of new industrial and/or commercial growth in Ceres within or outside the CTSP Area. As has been noted, the CTSP is intended to stimulate commercial development within the CTSP Area. However, there is no evidence to suggest that housing resulting from the project would have any substantial influence on the amount or location of new commercial or industrial development outside the CTSP Area.

The CTSP would involve the extension of existing urban infrastructure to serve new development. Infrastructure extension would take the form of new streets needed for access and new utility lines that would be installed in new streets. It is expected that major utility extensions would be needed for development of the CTSP Area, particularly potable water and wastewater lines. The growth-inducing effect of these infrastructure projects would be incremental, as these projects would support urban development as it occurs in the CTSP Area. As discussed, all these properties are already planned for urban development, and such development would be subject to City review and approval before it can occur.

The proposed CTSP has the potential to promote or stimulate future development of lands adjacent to the CTSP Area, mainly to the south and west. The City of Ceres is to the north, and SR 99 and the Ceres Main Canal would be barriers to development of lands to the east. New investment in the CTSP Area could increase the desirability, and therefore the growth pressure, on neighboring parcels to the west and south in the form of increased land values. However, lands to the west are already substantially developed, and the Ceres General Plan has designated these lands for urban development.

The agricultural lands south of the CTSP Area are not within either the Ceres General Plan Planning Area or the City's Sphere of Influence. Moreover, these lands would be separated from the CTSP Area by TID Lower Lateral 2, which would act as a barrier. Any development project south of this lateral that seeks to connect to City utilities would require approval from TID for any crossing of the lateral. In summary, the CTSP is not expected to have substantial growth-inducing effects on adjacent lands to the west and south.

As noted, development proposed under the CTSP would increase the number of residential units, thereby incrementally increasing the demand for new commercial development. Some of this demand would be met by planned commercial development in the CTSP Area. It is anticipated that demands for commercial development generated by the project would be met on existing or planned commercial sites, rather than from promoting the entitlement of undeveloped lands.

20.2 IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126(c) requires that an EIR address significant irreversible environmental changes that would be involved in the proposed project if it were implemented. As further explained in CEQA Guidelines Section 15126.2(d), uses of non-renewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or non-use thereafter unlikely. Primary impacts and, particularly, secondary impacts such as highway improvement which provides access to a previously inaccessible area, generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Urban development promoted by the CTSP would involve the irreversible commitment of non-renewable materials and energy consumption to construction of proposed urban infrastructure, residential and non-residential areas and related development. Construction materials would involve sand and gravel, concrete, asphalt, plastics, and metals as well as various renewable resources. Energy use would occur from project construction activities within the CTSP Area. These materials would not be used in highly significant or unusual quantities and would be obtained from existing commercial sources. CTSP development would not vary substantially in commitment of resources from development of the area under existing Ceres General Plan designations.

The CTSP would involve significant irreversible environmental changes in the loss of agricultural land, involving the conversion of approximately 319.5 acres of Important Farmland (see Chapter 5.0, Agricultural Resources) from the present agricultural uses to urban residential, commercial, and other urban uses. Adoption of the CTSP would eventually result in an irreversible commitment of the CTSP Area to urban uses; subdivision, development, dispersion of ownership, and infrastructure installation would make any return to agricultural use unlikely. Additional information on agricultural land conversion associated with the CTSP is provided in Chapter 5.0 of this EIR.

Commitment of the CTSP Area to urban uses would involve an essentially irreversible loss of open space and the biological resource values associated with undeveloped land. Both values have been compromised to an extent by past urban development such as the two schools and by agricultural activities. As discussed in Chapter 7.0, Biological Resources, biological resources would be affected, but impacts would be reduced through the implementation of identified mitigation measures. Therefore, the CTSP's effects on these resources would be less than significant.

Development of the CTSP Area would involve an essentially irreversible reduction in groundwater recharge that would otherwise occur on the undeveloped soils of the area. New impervious surfaces would involve increases in runoff during rainfall events; however, these waters would be routed to storm drainage facilities where some of these waters would eventually be returned to the groundwater system. Groundwater recharge losses and increased runoff are not considered significant. These considerations are discussed in more detail in Chapters 12.0 and 17.0 of this EIR.

No other irreversible changes or irretrievable commitment of resources are associated with implementation of the CTSP. As discussed in Chapter 17.0, Utilities and Energy, development under the CTSP would comply with the adopted Energy Code and CALGreen in effect at the time the development is approved. Compliance with these codes would reduce the energy consumption of future development. Also, as discussed in Chapter 17.0, future development would comply with the water conservation measures of CALGreen.

20.3 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) states that an EIR shall discuss significant environmental effects that cannot be avoided if a proposed project is implemented. This includes significant impacts that can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, the implications of these impacts, and the reasons why the project is being proposed notwithstanding their effects, should be described.

Table 2-1 of this EIR identifies all the potentially significant environmental effects of the project and the mitigation measures to address these effects. In most cases, the potentially significant impacts of the project can be reduced to levels that are less than significant with identified mitigation measures. However, there were four impacts that were identified as significant and unavoidable, even when mitigation measures were implemented:

- The project would convert approximately 309 acres of Prime Farmland and approximately 10.5 acres of Farmland of Statewide Importance. Although the project would participate in the City's Agricultural Lands Mitigation Program, conversion of this farmland cannot be avoided. This issue had been previously addressed in the EIR for the Ceres General Plan, the Planning Area for which included the project site.

- Air pollutant emissions generated by project development would exceed the SJVAPCD significance thresholds, even with compliance with SJVAPCD rules and regulations and implementation of project features that would reduce emissions.

- GHG emissions generated by project development were determined to be significant and unavoidable, even with project features that are designed to reduce such emissions.

- The VMT impacts of the project were considered significant and unavoidable, even with implementation of CTSP features that would reduce VMT.

20.4 ENVIRONMENTAL JUSTICE

Environmental justice is not an issue that CEQA explicitly requires to be addressed, as it is more of a socioeconomic issue than one with physical environmental impacts. However, the State of California has recently emphasized the incorporation of environmental justice concerns in land use and environmental planning.

State law defines “environmental justice” as “the fair treatment of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” Low-income residents, communities of color, tribal nations, and immigrant communities have historically experienced disproportionate environmental burdens with their related health problems. This inequity has resulted from many factors, including inappropriate zoning and incomplete land use planning that have led to development patterns concentrating environmental hazards in communities without the political power to protect themselves. These environmental hazards include air pollutant emissions, water contamination, hazardous wastes, and pesticide exposure, among others. The State of California has made reducing disproportionate environmental burdens on these communities a priority.

In 2012, the Legislature passed SB 535, directing that 25 percent of the proceeds from the Greenhouse Gas Reduction Fund go to projects that provide a benefit to disadvantaged communities. To assist in identifying a disadvantaged community for the purposes of SB 535, the California Office of Environmental Health Hazard Assessment has developed the California Communities Environmental Health Screening Tool (CalEnviroScreen). CalEnviroScreen measures pollution and population characteristics using 20 indicators such as air quality, drinking water quality, waste sites, toxic emissions, asthma rates, and poverty. It applies a formula based on these indicators to each U.S. Census tract in California to generate a score that rates the level of cumulative environmental impacts on each area. A Census tract with a higher score is one that experiences higher pollution burdens and vulnerability than one with a lower score. A Census tract that scores in the top 25% under the CalEnviroScreen formula is considered a disadvantaged community.

The project site is located within Census Tract 6099003002, which has an overall CalEnviroScreen score of 71 (OEHHA 2023). This score is not in the top 25 percentile; therefore, the Census tract is not considered a disadvantaged community as defined by SB 535. In addition, as discussed in Chapter 13.0, Land Use, the project site is not within any identified DUCs. Because of this, environmental justice issues related to the proposed project are not considered significant and are not discussed further in this EIR.

21.0 REFERENCES CITED AND PERSONS CONSULTED

21.1 EIR PREPARERS

This document was prepared by BaseCamp Environmental, Inc. of Lodi, with assistance from, and under the direction of, the City of Ceres and Wood Rodgers. Participants in document preparation included the following:

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21.3 PERSONS CONSULTED

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Nolan Thompson, EIT. West Yost Engineering.

Anna-Maria Trimboli. Purchasing and Contracts Specialist, Ceres Unified School District.

Roberto Vera, PE, RCE. West Yost Engineering.

APPENDIX A
NOTICE OF PREPARATION AND COMMENTS

Planning and Building Division
2220 Magnolia Street
Ceres, CA 95307
209-538-5774
Fax 209-538-5675

Date: September 27, 2023

To: Responsible Agencies, Trustee Agencies, Interested Parties and Organizations

Subject: Notice of Preparation of a Draft Environmental Impact Report

Project Title: Copper Trails Specific Plan and Annexation

Lead Agency: City of Ceres
Community Development Department
2200 Magnolia Street
Ceres, CA 95307

Project Applicant: Stewart S. Fahmy and Nav Athwal
c/o NorthStar Engineering Group, Inc.
620 12th Street
Modesto, CA 95354

The City of Ceres is the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Copper Trails Specific Plan and Annexation project. As required by the California Environmental Quality Act (CEQA), the City is soliciting the views of Responsible and Trustee Agencies as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by the City when considering a permit or other approval for the project. The City is also providing a copy of this Notice of Preparation to other parties and organizations that may have an interest in the Copper Trails Specific Plan and EIR.

The Copper Trails Specific Plan and Annexation project and its probable environmental effects are described in the full version of the NOP, which is available for review. The City of Ceres has determined that an EIR will be prepared without preparation of an Initial Study as permitted in Section 15060(d) of the State CEQA Guidelines.

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

If you would like to discuss the project or the environmental impacts that should be addressed in the EIR, the Ceres Planning Commission will conduct a public scoping meeting on October 16, 2023 at 6:00 p.m. at the Ceres Community Center, 2701 4th Street, Ceres, CA

Please send your comments by mail or email to Christopher Hoem, Director of the Ceres Community Development Department as shown below. Please provide the contact person's name and associated contact information for your agency or organization.

_____ _____

Christopher Hoem, AICP
Community Development Director, City of Ceres
christopher.hoem@ci.ceres.ca.us
(209) 538-5778

Date

PROJECT DESCRIPTION
COPPER TRAILS SPECIFIC PLAN AND ANNEXATION PROJECT

Project Location

The project site is in unincorporated Stanislaus County south of and adjacent to the City of Ceres (Figure 1). The Copper Trails Specific Plan (CTSP) area is bounded by SR 99 and Mitchell Road on the east, Service Road on the north, Blaker Road on the west, and TID Lower Lateral 2 on the south. The non-CTSP annexation area is located north and east of the CTSP and south of the existing City boundary. Much of the non-CTSP area is located west of SR 99 and is bounded by Service Road to the south, Central Avenue to the west, Industrial Way to the north, and SR 99 to the east. The eastern portion of the non-CTSP annexation area consists primarily of the mainline SR 99 and associated State Highway right-of-way between 9th Street on the northwest and Moore Road to the southeast. An additional area to be annexed is located between the SR 99 right-of-way and the existing City of Ceres boundary to the northeast.

Project Description

The proposed project consists of the approval, annexation, and subsequent development of the CTSP area, including related permits and approvals. The CTSP establishes a plan for, and would result in, development of residential, commercial, and other urban land uses within the approximately 534.6-acre CTSP area (Figure 2). Proposed urban development within the CTSP would require City approvals of the CTSP, the proposed annexation, amendments of the Ceres General Plan, pre-zoning of the annexation area, one or more development agreements, and future Tentative Map application submittals. Othe required permits and approvals would include cancellation of Williamson Act contracts, adjustment of the boundaries of the Ceres Fire Protection District, and encroachment permits from the Turlock Irrigation District.

CTSP approval and annexation would result in the potential development of approximately 260.3 acres of low-, medium-, medium high-, and high-density residential units within the CTSP area. The total dwelling units that would be potentially developed is 2,392. Approximately 107.4 acres is proposed for Regional Commercial development, which is estimated at 1,169,586 square feet of floor area. The CTSP also proposes approximately 42.3 acres of parks and open space, including street landscapes, and 3.4 acres for new public uses that would be in addition to the 74.1 acres already occupied by the Central Valley High School and Hidahl Elementary School, both operated by the Ceres Unified School District. The CTSP planned circulation system would utilize and improve existing roads and add new roads and streets and provide for development of new bicycle and pedestrian trails and open space linkages to provide access to and between the residential neighborhoods, commercial areas, schools, and parks of the developed CTSP area.

Along with annexation of the CTSP area, the project proposes the annexation of 146.1 acres of currently unincorporated land outside the CTSP area to the City of Ceres (Figure 3). The non-CTSP annexation area is located between the existing City boundary and the CTSP area (Figure 3). This annexation would avoid the creation of unincorporated “islands,” which are contrary to State and local annexation statutes and policies.

All annexations would require approval from the Stanislaus LAFCo. City approvals would also be required for the annexation of the non-CTSP lands. Annexation of the non-CTSP area would include pre-zoning of the area consistent with the Ceres General Plan and potentially extending the availability of City utilities and services to this largely developed unincorporated area. The non-CTSP area includes discontiguous tracts of undeveloped land with some new development potential, which is quantified in other parts of the Project Description.

PROBABLE ENVIRONMENTAL EFFECTS OF THE COPPER TRAILS SPECIFIC PLAN AND ANNEXATION PROJECT

The CTSP EIR will consider the potential environmental effects of urban development that could result from adoption and implementation of the Copper Trails Specific Plan, referred to as "CTSP development", as well as of the annexation of the CTSP area and the non-CTSP area. The anticipated scope of the analysis and issues to be addressed are described in the following sections. The EIR will be a programmatic analysis of the potential environmental effects of urban development facilitated by the CTSP and will focus on mitigation measures that can be used to guide future development by incorporation into the goals, policies, standards, and implementation measures of the CTSP wherever feasible.

Many of the potential environmental effects of urban development of the CTSP area have already been addressed in the certified Ceres General Plan EIR (the "GPEIR") at a programmatic level. The General Plan EIR analysis is consistent with the anticipated level of detail of the CTSP EIR, but the relationship between the two documents will be considered in detail in the CTSP EIR. Both the General Plan EIR analysis and the CTSP EIR will address all of the potential environmental effects listed in the current Environmental Checklist in CEQA Guidelines Appendix G.

The Specific Plan and EIR documents will be prepared concurrently. This process will provide the opportunity for the specific plan and environmental consultants to collaborate in identifying mitigation measures for potentially significant impacts that can be incorporated directly into the Specific Plan.

Aesthetics

Planned development of the CTSP and potential development of the non-CTSP areas would result in conversion of existing vacant land and land in agricultural uses to urban use. CTSP development will proceed in accordance with the Ceres General Plan, and the Municipal Code, as modified by the goals, policies, and urban design standards prescribed n the CTSP. The GPEIR considered the potential aesthetic effects of urban development and found that implementation of General Plan policies would reduce effects to a less-than-significant level. Additional community planning and design requirements in the CTSP would be expected to further reduce any potential aesthetic effects associated with urban development.

Agricultural and Forestry Resources

Urban development envisioned by the CTSP will result in the conversion of Farmland, as defined in CEQA Guidelines Appendix G, to non-agricultural uses. The amount of potential Farmland conversion will be quantified in the EIR. Project construction will be related to the conversion of agricultural land and loss of soil productivity. CTSP development will contribute to agricultural land conversion envisioned in the Ceres General Plan and addressed in the GPEIR, which were determined to be significant and unavoidable even with implementation of General Plan policies. The potential effects of planned urban development in the CTSP area were considered in the City's CEQA findings and Statement of Overriding Considerations adopted in conjunction with approval of the Ceres General Plan.

Development proposed under the CTSP may include lands currently under Williamson Act contracts that are intended to encourage continued use of these lands for agriculture. Prior to development on any of these lands, the Williamson Act contracts will need to be cancelled. The GPEIR considered the potential impacts of urban development on lands under Williamson Act contracts and found them to be significant and unavoidable. These potential effects of planned urban development in the CTSP area will be described in the CTSP EIR, noting that these effects were addressed in the City's CEQA findings and Statement of Overriding Considerations adopted in conjunction with approval of the Ceres General Plan.

There are no forest lands located in or near the project area; the project would have no impact on forest lands, and these concerns would not be addressed in the EIR.

Air Quality

Development pursuant to adoption of the CTSP as well as further development in vacant portions of the non-CTSP annexation area will result in new ozone precursor and particulate matter emissions from diesel and other construction equipment, as well as dust generated by construction activity on exposed soils. New development envisioned by the CTSP will result in substantial new vehicle trip generation and associated emissions of ozone precursors, carbon monoxide, and particulate matter, and contributions to attainment or non-attainment levels of criteria air pollutant standards. Potential air emissions from urban development in the project area were analyzed in the GPEIR and were determined to be significant and unavoidable even with implementation of applicable General Plan policies. These potential effects will be described in the CTSP EIR, noting that emissions from planned urban development in the CTSP area were addressed in the City's CEQA findings and Statement of Overriding Considerations adopted in conjunction with approval of the Ceres General Plan.

Construction and operational emission impacts from new development will be quantified in the EIR and compared to current SJVAPCD CEQA significance thresholds, using the CalEEMod program and other air quality models as necessary. Likewise, potential mitigation measures for air quality impacts will be reexamined, including measures that can be incorporated into the CTSP. The EIR will consider whether projected future traffic congestion would result in elevated local concentrations of carbon monoxide.

Construction, vehicle traffic, and other aspects of new development in the CTSP and non-CTSP areas would involve new generation of air toxics, including diesel particulate matter. Potential generation of diesel particulate matter and other air toxics, and their potential effects on sensitive land uses, will be considered in the EIR. A Health Risk Assessment of the project will be conducted if project activities could potentially exceed applicable SJVAPCD cancer and non-cancer risk thresholds.

Biological Resources

The CTSP area was historically in intensive agriculture, primarily almond orchards, and has since been partially developed with urban infrastructure and land uses. There are few areas of native vegetation with wildlife habitat values; these are primarily ruderal areas in underutilized lands, lands along the TID canal alignment, and areas adjacent to existing roads. The GPEIR described the potential biological effects of urban development, which were potentially significant but would be reduced to a less-than-significant level with implementation of General Plan policies.

The EIR will reconsider the potential biological effects of new development on the project area based on an updated biological database check, selected field reviews of the project area, and review of the potential biological effects identified in the GPEIR. Issues to be analyzed will include potential effects on special-status species, potential Waters of the U.S., and migratory bird species. Any applicable habitat conservation plans and local biological requirements will be evaluated.

Cultural Resources and Tribal Cultural Resources

Development of CTSP and non-CTSP lands may affect cultural, archaeological, or historical resources that may be present, including those of value to local Native American tribes. The GPEIR indicated that development could affect cultural resources, but the General Plan includes goals and policies that would reduce or avoid adverse cultural resource effects. The CTSP EIR will report on cultural resource outreach efforts and a new cultural resource record search for the project area; the EIR will describe the sensitivity of the area in more detail, and identify potential cultural resources that may require additional investigation in conjunction with specific site development.

Geology and Soils

The GPEIR considered the potential geology and soil effects of urban development and found that implementation of Ceres General Plan policies would reduce effects to a less-than-significant level. Future urban development in the CTSP area will occur on soils in the Ceres area that are generally sandy loam or

loamy sand. The project area is not subject to any known geologic hazards and does not contain designated mineral resources. The CTSP EIR will identify the nature and location of geologic hazards in the region and the character of soils in the CTSP area, including expansiveness of soils and potential for liquefaction. The potential for soil erosion and sedimentation in conjunction with urban development and the effectiveness of the City's required storm water pollution controls in avoiding significant effects will be analyzed. If required, additional mitigation measures will be identified.

Greenhouse Gas Emissions

New development in the CTSP and non-CTSP areas will result in potentially significant amounts of greenhouse gas (GHG) emissions generated by increased motor vehicle traffic, with lesser emissions from fuel combustion and energy usage in residences and businesses. The GPEIR considered the potential effects of urban development on GHG emissions and found that implementation of General Plan policies would reduce effects of development on GHG emissions to a less-than-significant level.

The CTSP will include land planning and urban design requirements intended to provide a more integrated and energy-efficient land development, to facilitate pedestrian and bicycle usage, and to reduce indirectly out-of-area trips and vehicle miles traveled (VMT). The CTSP EIR will quantify potential GHG emissions associated with new development within the CTSP area and consider the effectiveness of elements of the CTSP that would tend to reduce future GHG emissions vs. future "business-as-usual" emissions, based on applicable significance thresholds and GHG reduction plans.

Hazardous Materials

Construction activity and future land uses will involve the use of hazardous materials and risk of new environmental contamination, as well as potentially involve exposure of workers and residents to existing and potential future environmental contamination in the project area, such as residual agricultural chemicals and aerial lead deposits. The GPEIR considered the potential effects of urban development related to hazards and hazardous materials and found that implementation of General Plan policies would reduce effects to a less-than-significant level, except for emissions of hazardous materials near schools. These emissions were determined by the GPEIR to be significant and unavoidable.

The CTSP EIR will report the results of a detailed hazardous material database search as well as State database checks. The EIR will describe the potential for human exposure to or for further environmental contamination in areas with existing environmental hazards, with particular attention to emissions near the existing elementary school and high school. The EIR will also assess the potential hazards the project site would be subject to from Modesto City-County Airport operations and from wildland fires.

Hydrology and Water Quality

The GPEIR considered the potential hydrology and water quality effects of urban development and found that implementation of Ceres General Plan policies would reduce effects to a less-than-significant level. The existing City water supply is currently from groundwater only. New development will involve increased demand on the City's groundwater supply; potential effects on groundwater and the availability of potable water will be addressed in a Water Supply Assessment or equivalent document, as required. The CTSP EIR will also discuss applicable groundwater management plans, including plans required by the Sustainable Groundwater Management Act.

There are no existing natural surface waters in or adjacent to the project site. Drainage from the area is collected by existing ditches alongside roads or percolates into the ground. New development will involve the generation of additional urban runoff and need for treatment and disposal. The CTSP EIR will identify the applicable NPDES Permit and other applicable storm water requirements that are in place reduce potential urban runoff effects. If required, additional water quality mitigation measures will be specified in the EIR.

Land Use

The CTSP is intended to modify the existing adopted land use plans, designations, and development standards applicable to the CTSP area. The intended result is more specific planning guidance and a regulatory tool that will produce a more attractive, accessible, and integrated development that will complement existing and planned development in the City of Ceres. The CTSP EIR will identify land use changes that will result from CTSP adoption, potential conflicts between the proposed land uses and existing adjacent uses. The CTSP EIR will evaluate the consistency of planned development with the Ceres General Plan and the Subdivision and Zoning titles in the Ceres Municipal Code. These and other potential land use effects are, however, expected to be generally beneficial.

Noise

Existing noise sources in the CTSP area include the SR 99 freeway, the railway adjacent to the freeway, and local traffic on Service Road, Redwood Road, Central Avenue, and other existing roadways in the area. Future CTSP development will generate new vehicular traffic and commercial activities, which will add to existing noise and contribute to anticipated future noise levels. CTSP development will include residential and other uses that could be exposed to noise levels in excess of City standards. Potential noise effects of urban development were analyzed in the GPEIR and were determined to be significant and unavoidable even with implementation of applicable General Plan policies. The potential effects of urbanization of the CTSP area were addressed in the GPEIR and in the City's CEQA findings and Statement of Overriding Considerations adopted in conjunction with approval of the Ceres General Plan.

Project-related potential increases in roadway noise and potentially significant exposure of noise-sensitive uses to existing and future noise levels will be specifically identified and discussed in the CTSP EIR. Noise levels would be compared to applicable City standards established in the Ceres General Plan and Ceres Municipal Code. Feasible mitigation measures with potential to reduce noise effects will be identified. Potential exposure of land uses to groundborne vibrations will also be analyzed.

Population and Housing

Land use designations in the CTSP will replace other designations in the existing Ceres General Plan, and the population growth and housing capacity inherent in those designations. The CTSP includes land use designations that would permit some higher-density residential development. The CTSP EIR will analyze potential population growth and its consistency with growth anticipated in the Ceres General Plan. It also will analyze potential housing and its consistency with applicable housing plans, especially the Housing Element of the Ceres General Plan.

Public Services

New development under the CTSP and in the non-CTSP areas will place potentially significant additional demands on the City of Ceres and other public service entities with responsibility in the project area for public services such as fire protection, police protection, schools, and parks and recreation. The GPEIR considered the potential effects of urban development on public services and found that implementation of General Plan policies would reduce effects to a less-than-significant level. The CTSP EIR will, however, report on project-related contacts made with each service entity as to potential environmental effects that may be associated with the construction or operation of proposed land uses, including the potential need for new or expanded service facilities.

Transportation

New development within the CTSP and non-CTSP areas will generate additional motor vehicle use and transportation demand on the freeway, arterial, collector and local road systems serving the project area. Additional residential development will increase the need for pedestrian and bicycle access in the area, particularly to the existing schools. Potential transportation effects of urban development were analyzed in the GPEIR and were determined to be significant and unavoidable even with implementation of applicable General Plan policies. The potential effects of planned urban development in the CTSP area considered in the GPEIR and addressed in the City's CEQA findings and Statement of Overriding Considerations adopted in conjunction with approval of the Ceres General Plan.

The CTSP EIR will analyze the impacts of the proposed specific plan land use designations and development standards on traffic, both on existing and proposed roadways. The CTSP EIR will consider the potential effects of CTSP development in terms of vehicle miles traveled (VMT) as provided in SB 743, as well as the magnitude of potential future traffic and its consistency with planned urban street infrastructure. The transportation analysis will extend to potential effects on pedestrian, bicycle, transit, and other relevant transportation modes.

Utilities and Services

New development within the CTSP and non-CTSP areas will place increasing demands on City potable water, wastewater, and storm drainage systems. Future development will also increase demands for electrical, gas, and communication facilities. The GPEIR considered the potential effects of urban development on utilities and found that implementation of General Plan policies would reduce effects to a less-than-significant level. The CTSP EIR will consider the area-specific utility effects of potential new development and report on contacts with the regulated utilities as to their ability to accommodate new development. As noted above, a Water Supply Assessment or equivalent document will be prepared for the project. Also, potential impacts related to the extension of infrastructure will be analyzed, as well as impacts on existing infrastructure such as Turlock Irrigation District Lower Lateral 2.

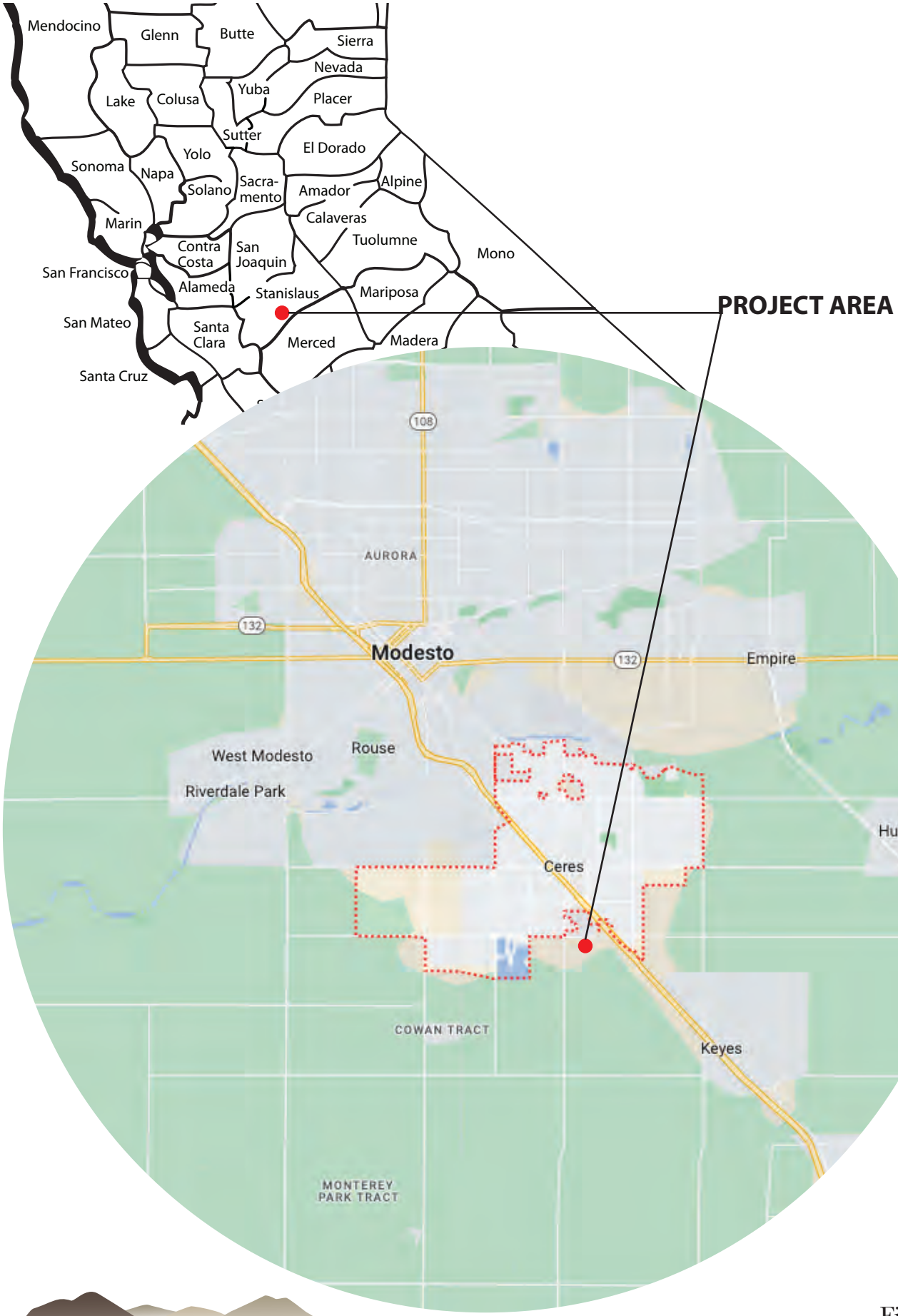
Cumulative Impacts

The cumulative impacts of planned urban development in the City of Ceres are described in the certified GPEIR, which will form the basis of the cumulative impact analysis for the CTSP EIR. The CTSP EIR will assess the potential cumulative impacts of the project by issue area and compare them to the analysis in the GPEIR. Should impacts substantially differ between the CTSP EIR and the GPEIR, feasible mitigation measures to reduce CTSP impacts will be identified.

Other CEQA Issues

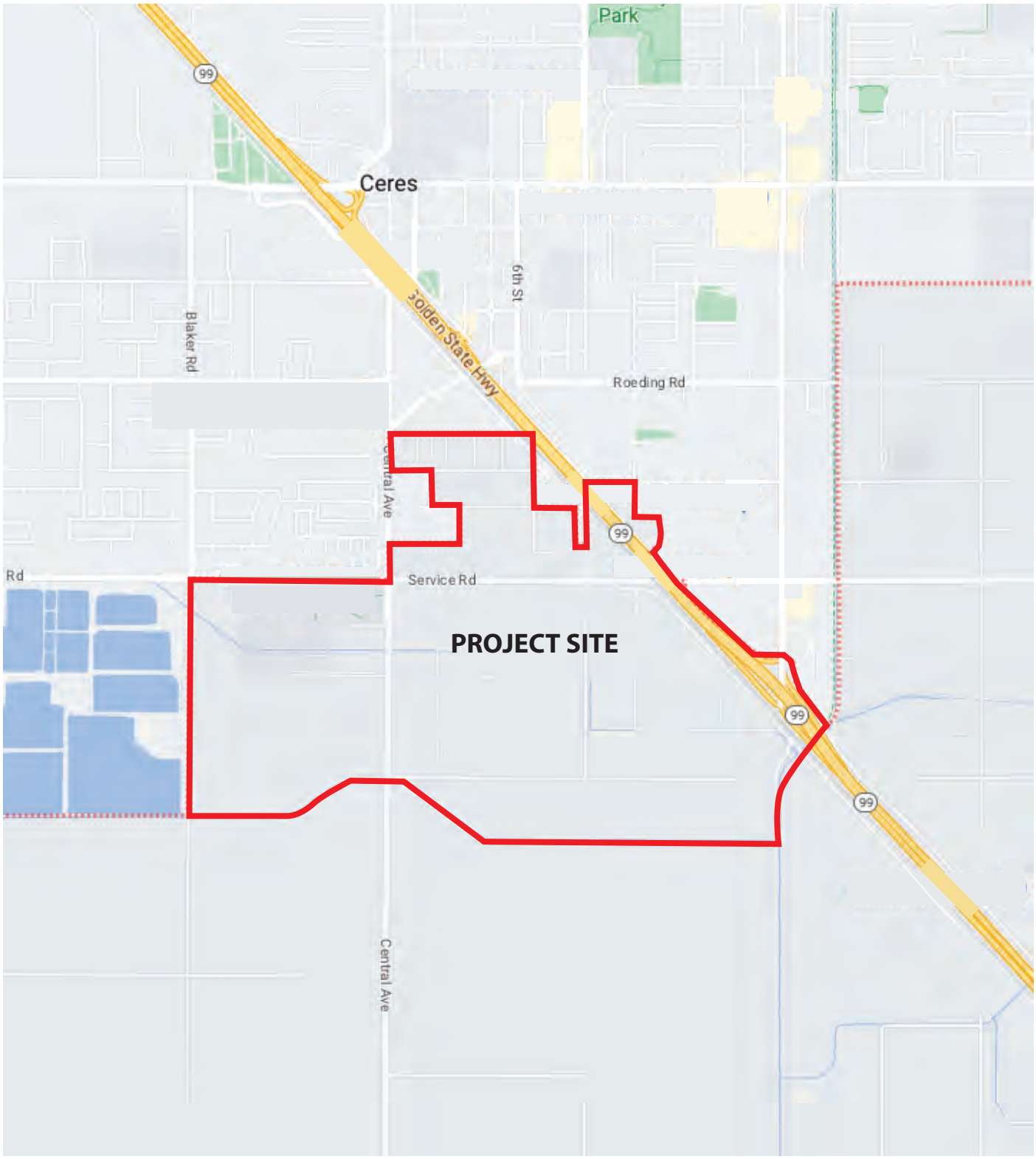
State law defines "environmental justice" as "the fair treatment of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." Environmental justice is not an issue that CEQA explicitly requires to be addressed, as it is more of a socioeconomic issue than one concerning the physical environment. However, the State of California has recently emphasized the incorporation of environmental justice concerns in land use and environmental planning, particularly in relation to "disadvantaged communities" as defined by SB 535. The

GPEIR did not discuss environmental justice. The CTSP EIR will identify any disadvantaged communities in the project area. If any are determined to exist, the EIR will analyze potential adverse environmental impacts of the project on these communities.



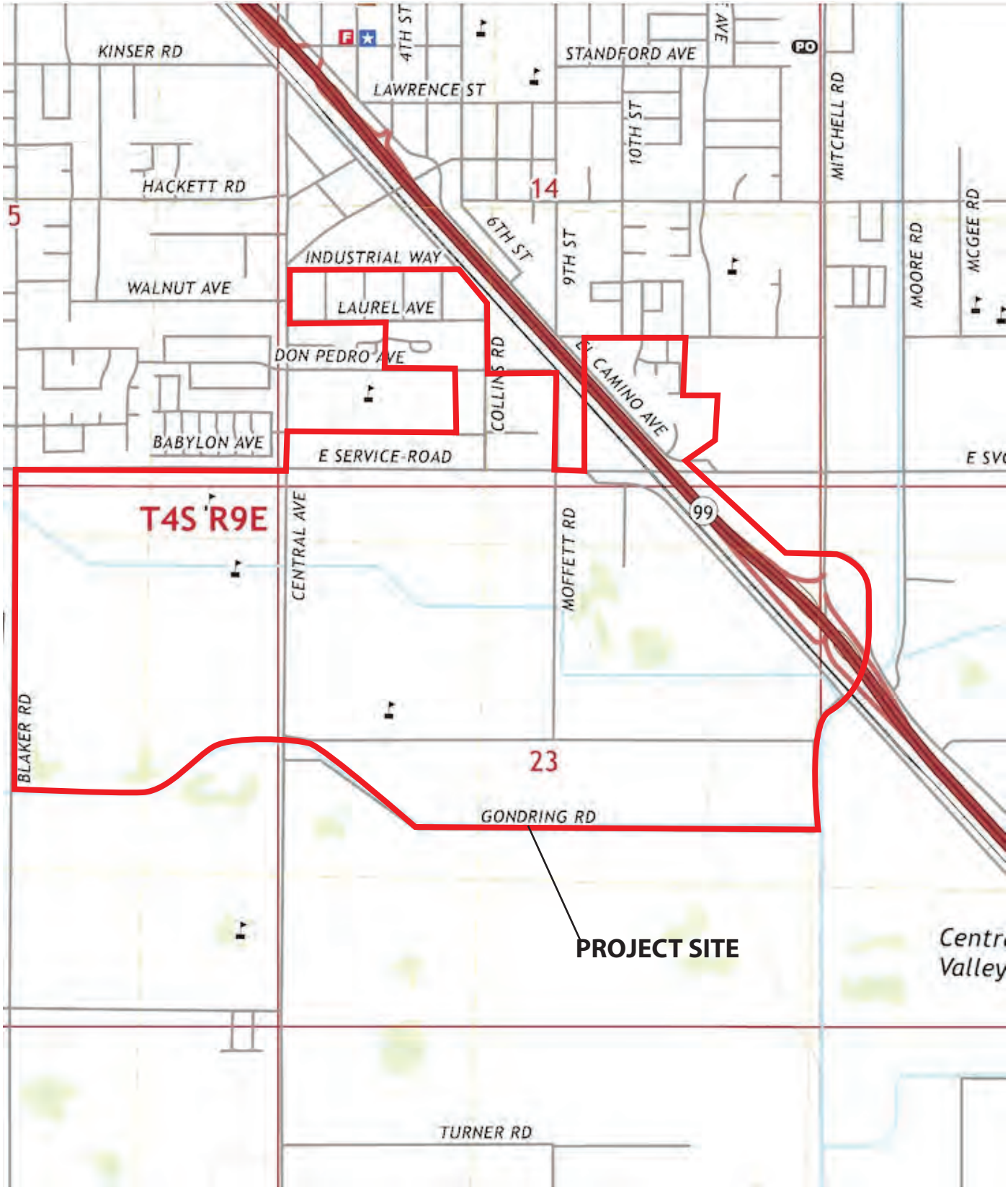
BaseCamp Environmental

Figure 1-1
REGIONAL LOCATION MAP

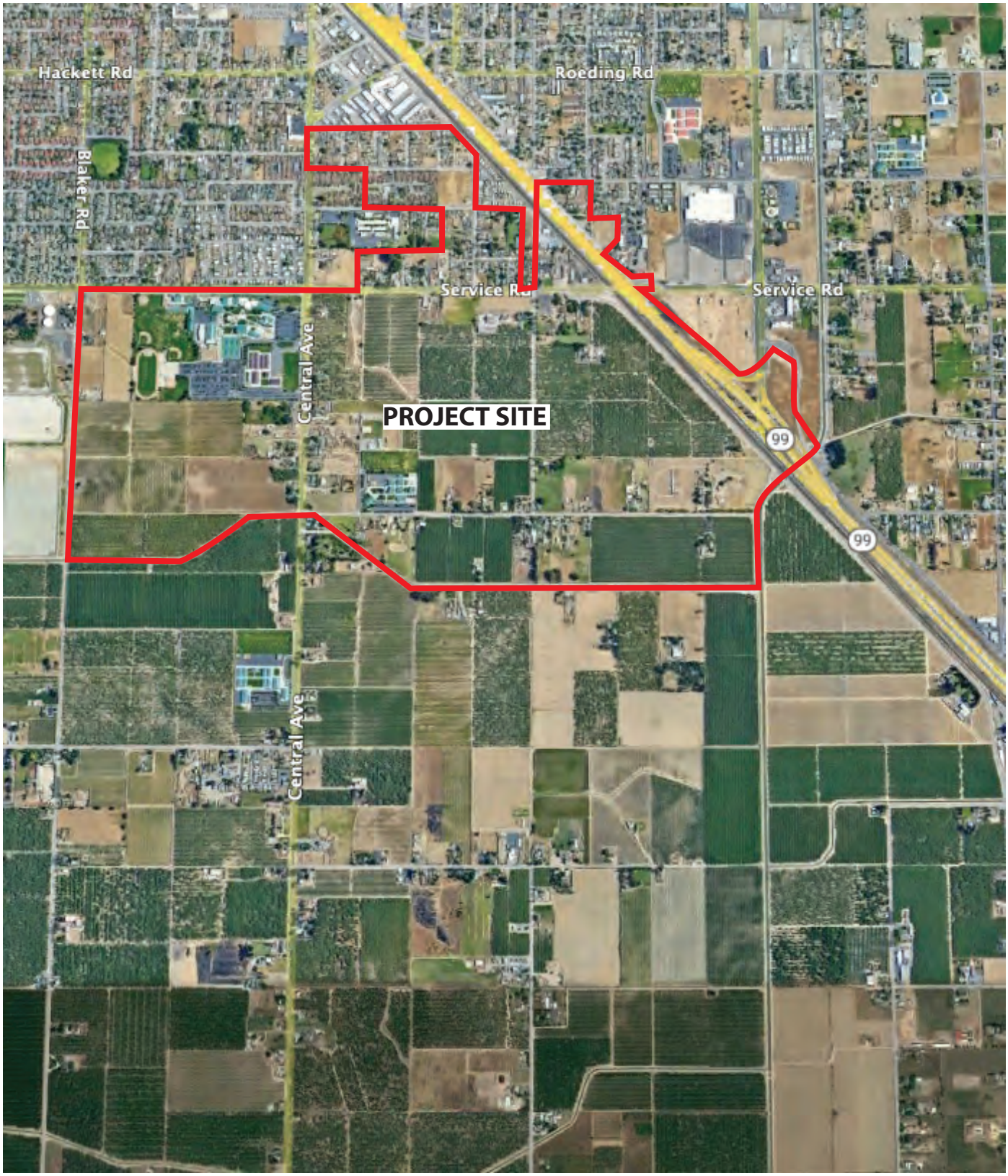


BaseCamp Environmental

Figure 1-2
STREET MAP

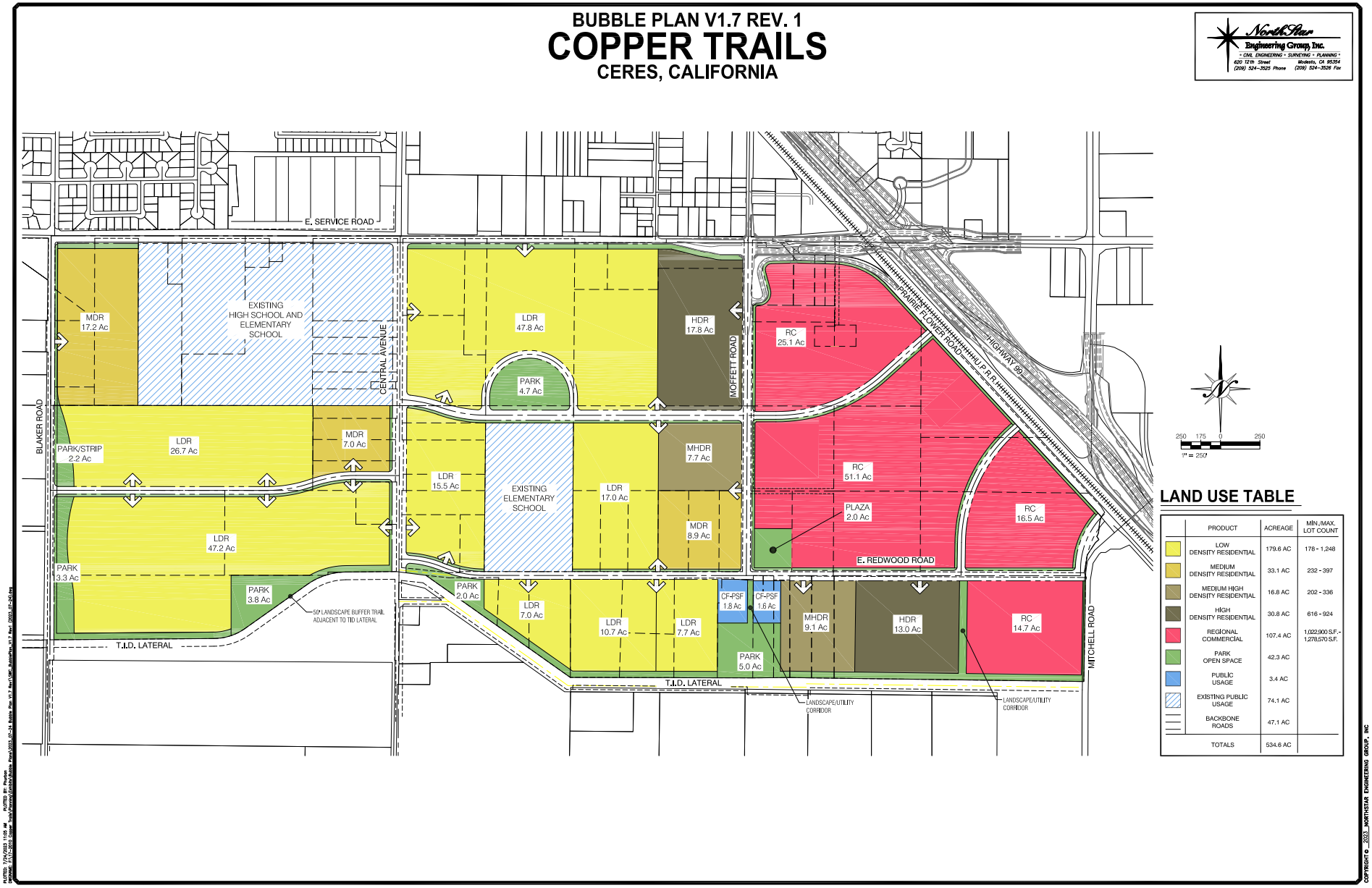


SOURCE: USGS Quadrangle Map, Ceres, CA 2021.



SOURCE: Google Earth

Figure 1-4
AERIAL PHOTO



BaseCamp Environmental

Figure 3-1
PROPOSED SPECIFIC PLAN LAND USES

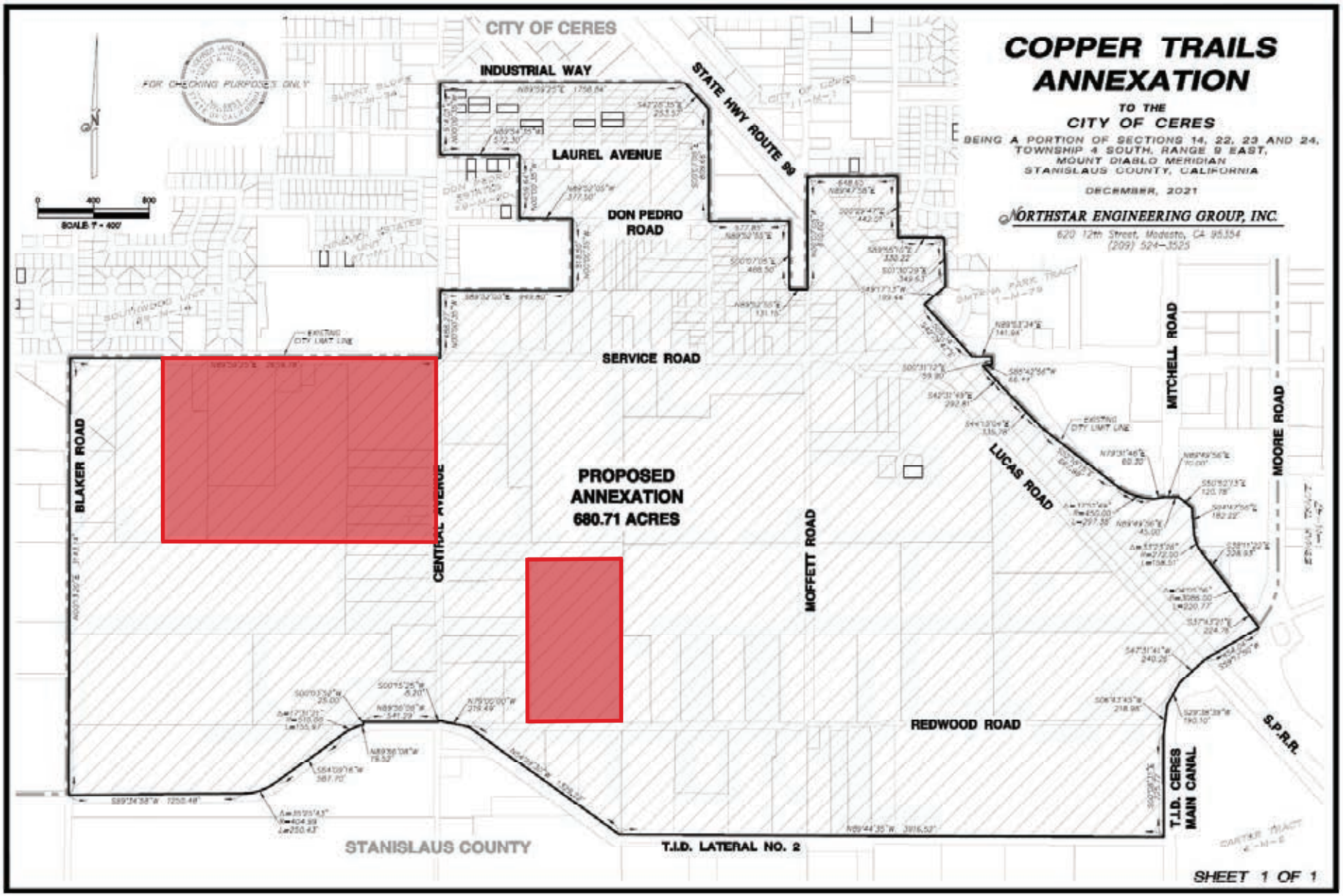


Figure 3-2
COPPER TRAILS SPECIFIC PLAN AREA

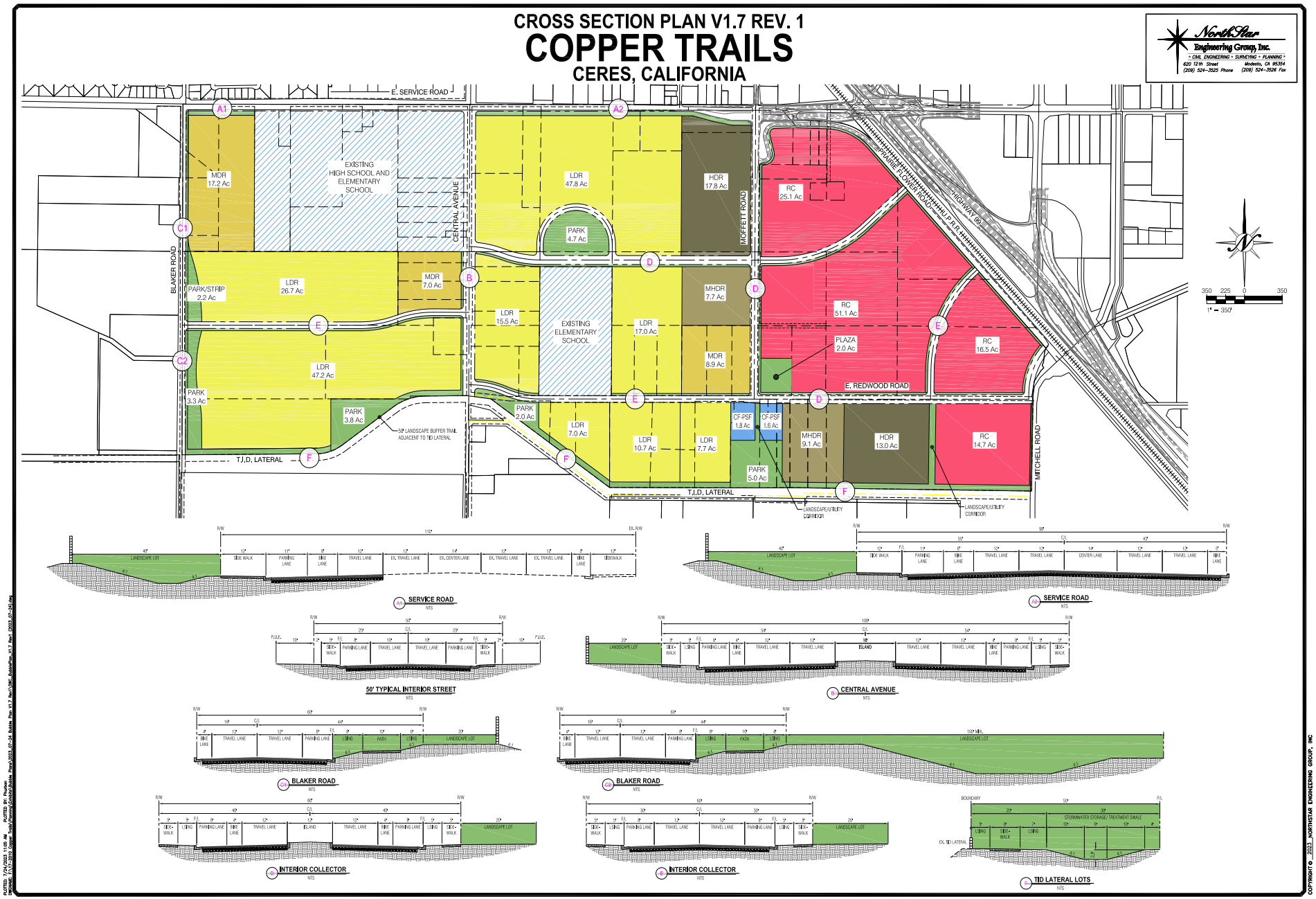


FIGURE 3-3
PROPOSED STREET IMPROVEMENT STANDARDS

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

October 30, 2023

Christopher Hoem, Director
City of Ceres Community Development Department
2200 Magnolia Street
Ceres, California 95307
christopher.hoem@ci.ceres.ca.us

Subject: Copper Trails Specific Plan and Annexation Project (Project)
Notice of Preparation (NOP) of an Environmental Impact Report
State Clearinghouse No. 2023090637

Dear Christopher Hoem:

The California Department of Fish and Wildlife (CDFW) received a NOP from the City of Ceres Community Development Department for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code. While the comment period may have ended, CDFW would appreciate it if you would still consider our comments.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically

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

sustainable populations of those species (*Id*., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PROJECT DESCRIPTION SUMMARY

Proponent: Stewart S. Fahmy and Nav Athwal

Objective: The Project consists of the approval, annexation, and subsequent development of the Project area, including related permits and approvals. The Project establishes a plan for, and would result in, development of residential, commercial, and other urban land uses within the approximately 534.6-acre Project area. Proposed urban development within the Project area would require City approval of the Project, the proposed annexation, amendments of the Ceres General Plan, pre-zoning of the annexation area, one or more development agreements, and future Tentative Map application submittals. Other required permits and approvals would include cancellation of Williamson Act contracts, adjustment of the boundaries of the Ceres Fire Protection District, and encroachment permits from the Turlock Irrigation District.

Project approval and annexation would result in the potential development of approximately 260.3 acres of low-, medium-, medium high-, and high-density residential units within the Project area. Approximately 107.4 acres is proposed for Regional Commercial development. The Project also proposes approximately 42.3 acres of parks and open space, including street landscapes, and 3.4 acres for new public uses that would be in addition to the 74.1 acres already occupied by the Central Valley High

School and Hidahl Elementary School, both operated by the Ceres Unified School District. The Project planned circulation system would utilize and improve existing roads and add new roads and streets and provide for development of new bicycle and pedestrian trails and open space linkages to provide access to and between the residential neighborhoods, commercial areas, schools, and parks of the developed Project area.

Along with annexation of the Project area, the Project proposes the annexation of 146.1 acres of currently unincorporated land outside the Project area to the City of Ceres.

All annexations would require approval from the Stanislaus Local Agency Formation Commission (LAFCO). City approvals would also be required for the annexation of the non-Project lands. Annexation of the non-Project area would include pre-zoning of the area consistent with the Ceres General Plan and potentially extending the availability of the City utilities and services to this largely developed unincorporated area. The non-Project area includes discontinuous tracts of undeveloped land with some new development potential.

Location: The Project area is located in unincorporated Stanislaus County south of and adjacent to the City of Ceres. The Project area is bounded by State Route 99 and Mitchell Road on the east, Service Road on the north, Blaker Road on the west, and Turlock Irrigation District's Lower Lateral 2 on the south. The non-Project annexation area is located just north and east of the Project area and south of the existing City boundary. Much of the non-Project area is located west of State Route 99 and is bounded by Service Road to the south, Central Avenue to the west, Industrial Way to the north, and State Route 99 to the east. The eastern portion of the non-Project annexation area consists primarily of the mainline State Route 99 and associated State Highway right-of-way between 9th Street on the northwest and Moore Road to the southeast. An additional area to be annexed is located between the State Route 99 right-of-way and the existing City of Ceres boundary to the northeast.

Timeframe: Unspecified.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the City of Ceres Community Development Department in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, indirect, and cumulative impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the EIR for this Project.

The EIR that will be prepared will determine the likely environmental impacts associated with the Project. CDFW is concerned regarding potential impacts to special-status

species from the ground disturbance development activities, including but not limited to, the State threatened Swainson's hawk (*Buteo swainsoni*).

In order to adequately assess potential impacts to biological resources, CDFW advises a qualified biologist perform database and other research of the Project area, then conduct focused habitat assessments and/or focused biological surveys during the appropriate survey period(s) in order to determine whether any special-status species may be present within the Project site. CDFW recommends this initial work be documented and used to inform further efforts that may be needed thereafter including the need for additional protocol surveys and/or the development of avoidance, minimization, and/or mitigation measures. This information and analysis may then be used to consider the development of modified or new project alternatives to avoid and minimize potentially significant environmental impacts on the biological environment. This information is critical to make an informed decision during the CEQA process and to ensure Project compliance with CESA, Fish and Game code, and other applicable State and federal laws and regulations.

Swainson's Hawk (SWHA)

SWHA exhibit high nest-site fidelity year after year in the San Joaquin Valley (CDFW 2016). The Project as proposed will involve noise, groundwork, and movement of workers that could affect nests and has the potential to result in nest abandonment, significantly impacting local nesting SWHA. Without appropriate avoidance and minimization measures for SWHA, potential significant impacts that may result from Project activities include nest abandonment, and reduced nesting success (loss or reduced health or vigor of eggs or young) from loss of foraging habitat.

CDFW recommends that protocol surveys for SWHA be conducted using SWHA survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000). In addition, CDFW recommends a minimum no-disturbance buffer of 0.5-mile be delineated around all active nests 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 care for survival. If construction or other disturbance could occur within the 0.5 mile buffer of an active nest, CDFW recommends that the Project obtain an Incidental Take Permit, pursuant to Fish and Game Code section 2081 subdivision (b).

Nesting birds

CDFW encourages that all Project construction activities occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project proponent is responsible for ensuring that implementation of the Project does not result

in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW recommends 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. These buffers are advised to 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 on-site parental care for survival.

Lake and Stream Alteration: Potential streams such as Turlock Irrigation District's Lateral and other waterbodies are located within the Project site. Therefore, the Project may be subject to notification under Fish and Game Code Section 1602. Fish and Game Code section 1602 requires the Project proponent to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake; or (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial in nature. If a Lake or Streambed Alteration Agreement (LSA Agreement) is needed, CDFW is required to comply with CEQA in the issuance of an LSA Agreement. For additional information on notification requirements, please contact our staff in the LSA Program at (559) 243-4593, or by electronic mail at R4LSA@wildlife.gov.

Cumulative Impacts: CDFW recommends that a cumulative impact analysis be conducted for all biological resources that will either be significantly or potentially significantly impacted by implementation of the Project, including those whose impacts are determined to be less than significant with mitigation incorporated or for those resources that are rare or in poor or declining health and will be impacted by the project, even if those impacts are relatively small (i.e., less than significant). CDFW recommends cumulative impacts be analyzed using an acceptable methodology to evaluate the impacts of past, present, and reasonably foreseeable future projects on resources and be focused specifically on the resource, not the Project. An appropriate resource study area identified and utilized for this analysis is advised. CDFW staff is available for consultation in support of cumulative impacts analyses as a trustee and responsible agency under CEQA.

CDFW is available to meet with you ahead of draft EIR preparation to discuss potential impacts and possible mitigation measures for some or all of the resources that may be analyzed in the EIR. If you have any questions, please contact Jim Vang, Senior

Environmental Scientist Specialist, at the address provided on this letterhead, by telephone at (559) 580-3203, or by electronic mail at Jim.Vang@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Bob Stafford
5343A684FF02469...

Bob Stafford for Julie A. Vance
Regional Manager

ec: State Clearinghouse
Governor's Office of Planning and Research
state.clearinghouse@opr.ca.gov

CDFW LSA/1600
R4LSA@wildlife.ca.gov

LITERATURE CITED

California Department of Fish and Wildlife. 2016. Five-year status review: Swainson's hawk (*Buteo swainsoni*). Sacramento, California, USA.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley. Swainson's Hawk Technical Advisory Committee.

OCTOBER 17, 2023

VIA EMAIL: CHRISTOPHER.HOEM@CI.CERES.CA.US
CHRISTOPHER HOEM, DIRECTOR
CITY OF CERES
COMMUNITY DEVELOPMENT DEPARTMENT
2200 MAGNOLIA STREET
CERES, CA 95307

Dear Mr. Hoem:

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE COPPER TRAILS SPECIFIC PLAN AND ANNEXATION PROJECT, SCH# 2023090637

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of an Environmental Impact Report for the Copper Trails Specific Plan and Annexation Project (Project).

The Division monitors and maps farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. Public Resources Code, section 614, subdivision (b) authorizes the Department to provide soil conservation advisory services to local governments, including review of CEQA documents.

Protection of the state's agricultural land resources is part of the Department's mission and central to many of its programs. The CEQA process gives the Department an opportunity to acknowledge the value of the resource, identify areas of Department interest, and offer information on how to assess potential impacts or mitigation opportunities.

The Department respects local decision-making by informing the CEQA process, and is not taking a position or providing legal or policy interpretation.

We offer the following comments for consideration with respect to the project's potential impacts on agricultural land and resources within the Department's purview.

PROJECT ATTRIBUTES

The proposed project consists of the approval, annexation, and subsequent development of the Copper Trails Specific Plan (CTSP) area, including related permits and approvals. The CTSP establishes a plan for, and would result in, development of residential, commercial, and other urban land uses within the approximately 534.6-acre CTSP area. CTSP approval and annexation would result in the potential development of

approximately 260.3 acres of low-, medium-, medium high-, and high-density residential units within the CTSP area. The total dwelling units that would be potentially developed is 2,392. Approximately 107.4 acres is proposed for Regional Commercial development.

The CTSP also proposes approximately 42.3 acres of parks and open space, including street landscapes, and 3.4 acres for new public uses that would be in addition to the 74.1 acres already occupied by the Central Valley High School and Hidahl Elementary School. Along with annexation of the CTSP area, the project proposes the annexation of 146.1 acres of currently unincorporated land outside the CTSP area to the City of Ceres.

The project site contains Prime Farmland, Farmland of Statewide Importance, and Unique Farmland as designated by DOC's Farmland Mapping and Monitoring Program. A portion of the project site is subject to a Williamson Act contract.

PROJECT CONSIDERATIONS

The conversion of agricultural land represents a permanent reduction and impact to California's agricultural land resources. The Department generally advises discussion of the following in any environmental review for the loss or conversion of agricultural land:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for impacted agricultural lands within the proposed project area.
- The project's compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract.

WILLIAMSON ACT

Where, as here, the project site is located on land subject to a Williamson Act contract, the Department advises that the environmental review discuss the compatibility of the project with the contract and local Williamson Act program requirements.

MITIGATING AGRICULTURAL LAND LOSS OR CONVERSION

Consistent with CEQA Guidelines, the Department advises that the environmental review address mitigation for the loss or conversion of agricultural land. An agricultural conservation easement is one potential method for mitigating loss or conversion of agricultural land. (*See* Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or

environments, including through permanent protection of such resources in the form of conservation easements."]; *see also King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814.)

Mitigation through agricultural conservation easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land may be viewed as an impact of at least regional significance. Hence, the search for replacement lands may not need to be limited strictly to lands within the project's surrounding area. A helpful source for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

California Council of Land Trusts

Of course, the use of conservation easements is only one form of mitigation, and the Department urges consideration of any other feasible measures necessary to mitigate project impacts.

Thank you for giving us the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Copper Trails Specific Plan and Annexation Project. Please provide the Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber

Monique Wilber

Conservation Program Support Supervisor

26 October 2023

Christopher Hoem
City of Ceres
2220 Magnolia Street
Ceres, CA 95307
christopher.hoem@ci.ceres.ca.us

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, COPPER TRAILS SPECIFIC PLAN AND ANNEXATION, SCH#2023090637, STANISLAUS COUNTY

Pursuant to the State Clearinghouse's 27 September 2023 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Copper Trails Specific Plan and Annexation, located in Stanislaus County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore, our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification
If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter Minkel

Peter Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

DEPARTMENT OF ENVIRONMENTAL RESOURCES
3800 Cornucopia Way, Suite C Modesto, CA 95358-9494
Phone: 209.525.6700 Fax: 209.525.6774

STANISLAUS COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES REFERRAL RESPONSE FORM

TO: City of Ceres Community Development Department
Attn: Christopher Hoem
Director, City of Ceres
Christopher.hoem@ci.ceres.ca.us

FROM: Stanislaus County Department of Environmental Resources, Environmental Health Division

SUBJECT: **ENVIRONMENTAL REFERRAL – NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR COPPER TRAILS SPECIFIC PLAN AND ANNEXATION**

Based on this agency's particular field(s) of expertise, it is our position the above described project:

__X__ Will not have a significant effect on the environment.
_____ May have a significant effect on the environment.
_____ No Comments.

Listed below are specific impacts which support our determination (e.g., traffic general, carrying capacity, soil types, air quality, etc.) – (attach additional sheet if necessary)

Listed below are possible mitigation measures for the above-listed impacts: *PLEASE BE SURE TO INCLUDE WHEN THE MITIGATION OR CONDITION NEEDS TO BE IMPLEMENTED (PRIOR TO RECORDING A MAP, PRIOR TO ISSUANCE OF A BUILDING PERMIT, ETC.):*

In addition, our agency has the following comments (attach additional sheets if necessary).

- The applicant(s) shall demonstrate and secure any necessary permits for the destruction/ relocation of all onsite wastewater treatment systems (OWTS) and/or water wells impacted or proposed by this project, under the direction of the Stanislaus County Department of Environmental Resources (DER), where applicable.
- Any person proposing to build or remodel a FOOD FACILITY shall submit complete, easily readable plans drawn to scale, and specifications to the Stanislaus County Department of Environmental Resources (DER) for review, and shall receive plan approval before starting any new construction or Remodeling of any facility for use as a RETAIL FOOD FACILITY (California Retail Food Code Section §114380).
- If required, a grease trap or grease interceptor shall not be located in a food or utensil handling area. (California Retail Food Code §114201).

Response prepared by: Date: 10/06/2023

Parminder Dhillon, R.E.H.S.
Senior Environmental Health Specialist

Stanislaus
LAFCO
LOCAL AGENCY FORMATION COMMISSION

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October 17, 2023

Christopher Hoem
City of Ceres Community Development Dept
2200 Magnolia Street
Ceres, CA 95307

SUBJECT: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE COPPER TRAILS SPECIFIC PLAN AND ANNEXATION

Dear Mr. Hoem:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the City's preparation of a draft Environmental Impact Report (EIR) for the Copper Trails Specific Plan. The proposal includes a large-scale annexation of 680.71 acres. As Lead Agency, the City of Ceres is responsible for considering the effects, both individual and collective, of all activities involved in the project (Public Resources Code §21102.1). LAFCO, as a Responsible Agency, will utilize the CEQA documents prepared by the City in reviewing the subject proposal.

Among the purposes of LAFCO are discouraging urban sprawl, preserving open space and agricultural lands, encouraging the efficient provision of services, and encouraging the orderly formation and development of local agencies based upon local conditions and circumstances (Government Code section 56301). The Commission has adopted local policies and findings related to these purposes. The following summarizes some of these policies, as well as information the Commission will need in order to make determinations related to the proposed annexation:

1. Agricultural Resources – The majority of the acreage in the annexation proposal is considered prime farmland. One of LAFCO's main charges, as set forth by the Legislature, is to protect and promote agriculture. The Commission's Agricultural Preservation Policy will require the City to prepare a Plan for Agricultural Preservation ("Plan"). The Plan must include information such as the proposal's direct and indirect impacts to agricultural resources, the availability of other lands in the City's existing boundaries, and relevant General Plan policies. The Plan must also specify the method or strategy proposed to minimize the loss of agricultural lands. For example, the City's Whitmore Ranch Specific Plan area, annexed in 2019, incorporated 1:1 mitigation as its identified strategy, consistent with LAFCO's policy, to minimize the loss of agricultural lands. The information provided in the Plan should be consistent with the environmental documentation prepared by the City.

2. Vacant Land Inventory – State law and Commission policies encourage the development of vacant or underutilized land within an agency's existing boundaries *prior* to annexation of additional land. As part of the City's Plan for Agricultural Preservation, the City must demonstrate that there is insufficient alternative land available within the existing sphere of influence or boundaries of the agency. Additional annexations will not be approved unless development is shown to be imminent.

3. Williamson Act Lands – The proposed Master Plan area includes lands with active Williamson Act Contracts. The Williamson Act is considered a mechanism to preserve agricultural land both in the short and long term. Government Code §56856.5 prohibits the Commission from approving an annexation that contains Williamson Act lands unless it makes specific findings. The EIR should discuss the location of these lands as it relates to general plan policies, development, and financing scenarios that would preserve the agricultural viability of this land for as long as possible. Ultimately, the City's resolution of application to LAFCO will also need to identify the City's intent to succeed or not succeed to the Williamson Act contracts. At least one of the involved contracts (#80-3717) does not qualify for immediate termination and will require the City to succeed to the contract.

4. Public Services and Facilities – Pursuant to LAFCO policies, the proposal must show that the City has the necessary public services available to serve the development upon annexation. This analysis, also known as a "Plan for Services," is outlined in Government Code Section 56653 and must include detailed evidence of current service levels, sufficient sewer capacity, sufficient quantities and quality of water, adequate levels of fire and police protection, plans for associated infrastructure and roads improvements, as well as information on financing mechanisms for these services.

5. Logical Boundaries – Commission Policy 19 requires annexations to include the entire right-of-way adjacent irrigation canals or laterals, unless the City presents compelling evidence to support its exclusion. Staff would also recommend inclusion of the canal right-of-way westerly of the annexation site (south of the City's wastewater treatment plant) in order to create a consistent jurisdictional boundary along the south side of the existing City limits.

6. Impacts to Special Districts – The proposed annexation is located within the boundaries of the Ceres Fire Protection District and Keyes Fire Protection District. Commission policies recognize that city spheres of influence generally take precedence over these district spheres. The environmental analysis should identify the intended detachment of territory from these districts and include a discussion of any service and/or financial impacts as a result. In particular, the potential detachment from the Ceres Fire Protection District represents approximately one-quarter of the District's total acreage and a significant portion of its special assessment revenue. Although the District currently contracts with the City of Ceres (and in turn, the City of Modesto), the District's budget is heavily reliant on these special assessments. Pursuant to LAFCO policy, the Commission will deny proposals that would result in significant unmitigable adverse effects upon other service recipients or other agencies servicing the affected area unless the approval is conditioned to avoid such impacts. The City is encouraged to consult with each of these Districts to resolve any identified concerns prior to application to LAFCO.

LAFCO Staff has provided this response for the City's use in the development of an environmental impact report and other studies that will assist in LAFCO's review of the project. If you have any questions regarding these comments, please contact our office at (209) 525-7660.

Sincerely,

Sara Lytle-Pinhey

Sara Lytle-Pinhey
Executive Officer

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
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October 4, 2023

Christopher Hoern
City of Ceres
2220 Magnolia Street
Ceres, CA 95307

Re: 2023090637, Copper Trails Specific Plan and Annexation Project, Stanislaus County

Dear Mr. Hoern:

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

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

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

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

AB 52

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

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

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

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

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

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

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

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

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

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

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

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

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

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

SB 18

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

Some of SB 18's provisions include:

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

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

NAHC Recommendations for Cultural Resources Assessments

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

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

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

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

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

October 23, 2023

Christopher Hoem
City of Ceres
Community Development Department
2200 Magnolia Street
Ceres, CA, 95307

Project: Notice of Preparation for a Draft Environmental Impact Report for Copper Trails Specific Plan and Annexation

District CEQA Reference No: 20230879

Dear Mr. Hoem:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) from the City of Ceres (City) for the Copper Trails Specific Plan and Annexation (CTSPA). Per the CTSPA, the project consists of the development of 260.3 acres for 2,392 dwelling units, 107.4 acres for 1,169,586 square feet of commercial development, 42.3 acres of parks and open space, 3.4 acres of new public uses, and the annexation of 146.1 acres of unincorporated land (Project). The Project is bounded by SR 99 and Mitchell Road on the east, Service Road on the north, Blaker Road on the west, and TID Lower Lateral 2 on the south, in unincorporated Stanislaus County, CA.

The District offers the following comments at this time regarding the Project:

1) Land Use Planning

Nearly all development projects within the San Joaquin Valley Air Basin, from specific plan to individual projects have the potential to generate air pollutants, making it more difficult to attain state and federal ambient air quality standards. Land use decisions are critical to improving air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence transportation needs, and motor vehicle emissions are the largest source of air pollution in the Valley. Land use decisions and project design elements such as preventing urban sprawl, encouraging mix-use development, and project design elements that reduce vehicle miles traveled (VMT) have proven to be beneficial for air quality. The District recommends that the CTSPA incorporate strategies that reduce VMTs and require the cleanest available heavy duty trucks, vehicles, and off-road equipment, including

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zero and near-zero technologies. VMTs can be reduced through encouragement of mix-use development, walkable communities, etc. Additional design element options can be found at:
https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

In addition, the District recommends that the CTSPA incorporate strategies that will advance implementation of the best practices listed in Tables 5 and 6 of California Air Resource Board's (CARB's) Freight Handbook Concept Paper, to the extent feasible. This document compiles best practices designed to address air pollution impacts as "practices" which may apply to the siting, design, construction, and operation of freight facilities to minimize health impacts on nearby communities. The concept paper is available at:
https://ww2.arb.ca.gov/sites/default/files/2020-03/2019.12.12%20-%20Concept%20Paper%20for%20the%20Freight%20Handbook_1.pdf

2) Project Related Emissions

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM2.5) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 standards.

As such, the District recommends that the CTSPA stipulate that future development projects within the CTSPA identify and characterize project construction and operational air emissions. The District recommends the air emissions be compared to the District significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts:
https://www.valleyair.org/transportation/GAMAQI.pdf. The District recommends that future projects be mitigated to the extent feasible, and that future projects with air emissions above the aforementioned thresholds be mitigated to below these thresholds.

The District understands that the CTSPA is a specific plan level project where future individual project-specific data may not be available at this time. As such, the DEIR should include a discussion of policies, which when implemented, will require assessment and characterization of project-level emissions, and subsequently require mitigation of air quality impacts to the extent feasible at the individual project-specific level. Environmental reviews of potential impacts on air quality should incorporate the following items:

2a) Construction Emissions

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment.

2b) Operational Emissions

Operational (ongoing) air emissions from mobile sources and stationary sources should be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://www.valleyair.org/transportation/GAMAQI.pdf.

Recommended Mitigation Measure: At a minimum, project related impacts on air quality should be reduced to levels below the District's significance thresholds through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at: https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

2c) Recommended Model for Quantifying Air Emissions

Project-related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

3) Health Risk Screening/Assessment

The City should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for future development projects that may be approved under implementation of the Project. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard

Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):
A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology. Please contact the District for assistance with performing a Prioritization analysis.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

Health Risk Assessment:
Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the health impacts would exceed the District's established risk thresholds, which can be found here: http://www.valleyair.org/transportation/ceqa_idx.htm.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors to prevent the creation of a significant health risk in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources.

4) Health Impact Discussion

As required by the recent decision in Sierra Club v. County of Fresno (2018) 6 Cal.4th 502, a reasonable effort to discuss relevant specifics regarding the connection between potential adverse air quality impacts from the Project with the likely nature and magnitude of potential health impacts may be required. If the potential health impacts from the Project cannot be specifically correlated, explain what is known and why, given scientific constraints, potential health impacts cannot be translated.

5) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for any future development projects that may be approved under implementation of the Project with emissions that exceed 100 pounds per day of any pollutant.

An AAQA uses air dispersion modeling to determine if emission increase from a project will cause or contribute to a violation of State or National Ambien Air Quality Standards. An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: www.valleyair.org/ceqa.

6) Voluntary Emission Reduction Agreement

Future development projects from the Project could have a significant impact on air quality. The District recommends the DEIR include a feasibility discussion on implementing a Voluntary Emission Reduction Agreement (VERA) as a mitigation measure for future development projects that may be approved under implementation of the Project that are determined to exceed the District's CEQA significance thresholds.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of agricultural equipment with the latest generation technologies.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

7) Allowed Uses Not Requiring Project-Specific Discretionary Approval

In the event that the City determines that a project be approved as an allowed use not requiring a project-specific discretionary approval, the District recommends the DEIR include language requiring such projects to prepare a technical assessment, in consultation with the District, to determine if additional analysis and/or mitigation is required.

8) Truck Routing

Truck routing involves the assessment of which roads Heavy Heavy-Duty (HHD) trucks take to and from their destination, and the emissions impact that the HHD trucks may have on residential communities and sensitive receptors.

The District recommends the City evaluate HHD truck routing patterns for future development projects, with the aim of limiting exposure of residential communities and sensitive receptors to emissions. This evaluation would consider the current truck routes, the quantity and type of each truck (e.g., Medium Heavy-Duty, HHD, etc.), the destination and origin of each trip, traffic volume correlation with the time of day or the day of the week, overall Vehicle Miles Traveled (VMT), and associated exhaust emissions. The truck routing evaluation would also identify alternative truck routes and their impacts on VMT and air quality.

9) Cleanest Available Heavy-Duty Trucks

The San Joaquin Valley will not be able to attain stringent health-based federal air quality standards without significant reductions in emissions from HHD trucks, the single largest source of NOx emissions in the San Joaquin Valley. Accordingly, to meet federal air quality attainment standards, the District's ozone and particulate matter attainment plans rely on a significant and rapid transition of HHD fleets to zero or near-zero emissions technologies.

Since the Project includes the development of approximately 1,169,586 square feet of commercial development, future development projects could include warehouses or distribution centers that would generate HHD truck traffic. As such, for future development projects, the District recommends that the following measures be considered by the City to reduce Project-related operational emissions:

- *Recommended Measure*: Fleets associated with operational activities utilize the cleanest available HHD trucks, including zero and near-zero technologies.

- *Recommended Measure*: All on-site service equipment (cargo handling, yard hostlers, forklifts, pallet jacks, etc.) utilize zero-emissions technologies.

10) Reduce Idling of Heavy-Duty Trucks

The goal of this strategy is to limit the potential for localized PM2.5 and toxic air contaminant impacts associated with the idling of Heavy-Duty trucks. The diesel exhaust from idling has the potential to impose significant adverse health and environmental impacts.

Since future development projects are expected to result in HHD truck trips, the District recommends the DEIR include measures to ensure compliance of the state

anti-idling regulation (13 CCR § 2485 and 13 CCR § 2480) and discuss the importance of limiting the amount of idling, especially near sensitive receptors. In addition, the District recommends the City consider the feasibility of implementing a more stringent 3-minute idling restriction and requiring appropriate signage and enforcement of idling restrictions.

11) Electric On-Site Off-Road and On-Road Equipment

Since the development project may include commercial uses that may include warehouse or distribution projects, future development projects may have the potential to result in increased use of off-road equipment (e.g., forklifts) and on-road equipment (e.g., mobile yard trucks with the ability to move materials). The District recommends that the DEIR include requirements for project proponents to utilize electric or zero emission off-road and on-road equipment.

12) Under-fired Charbroilers

Future development projects have the potential to occupy restaurants with under-fired charbroilers. Such charbroilers may pose the potential for immediate health risk, particularly when located in densely populated areas or near sensitive receptors.

Since the cooking of meat can release carcinogenic PM2.5 species, such as polycyclic aromatic hydrocarbons, controlling emissions from new under-fired charbroilers will have a substantial positive impact on public health. The air quality impacts on neighborhoods near restaurants with under-fired charbroilers can be significant on days when meteorological conditions are stable, when dispersion is limited and emissions are trapped near the surface within the surrounding neighborhoods. This potential for neighborhood-level concentration of emissions during evening or multi-day stagnation events raises air quality concerns.

Furthermore, reducing commercial charbroiling emissions is essential to achieving attainment of multiple federal PM2.5 standards. Therefore, the District recommends that the DEIR include a measure requiring the assessment and potential installation, as technologically feasible, of particulate matter emission control systems for new large restaurants operating under-fired charbroilers.

The District is available to assist the City and project proponents with this assessment. Additionally, the District is currently offering substantial incentive funding that covers the full cost of purchasing, installing, and maintaining the system during a demonstration period covering two years of operation. Please contact the District at (559) 230-5800 or technology@valleyair.org for more information, or visit: http://valleyair.org/grants/rctp.htm

13) Vegetative Barriers and Urban Greening

For future development projects within the Project area, and at strategic locations throughout the Project area in general, the District suggests the City consider incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residences, schools, healthcare facilities).

While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the update of gaseous pollutants. Examples of vegetative barriers include, but are not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help improve air quality and public health in addition to enhancing the overall beautification of a community with drought tolerant, low-maintenance greenery.

14) Clean Lawn and Garden Equipment in the Community

Since the Project consists of residential and commercial development, gas-powered residential and commercial lawn and garden equipment have the potential to result in an increase of NOx and PM2.5 emissions. Utilizing electric lawn care equipment can provide residents with immediate economic, environmental, and health benefits. The District recommends the Project proponent consider the District's Clean Green Yard Machines (CGYM) program which provides incentive funding for replacement of existing gas powered lawn and garden equipment. More information on the District CGYM program and funding can be found at:
http://www.valleyair.org/grants/cgym.htm
and http://valleyair.org/grants/cgym-commercial.htm.

15) On-Site Solar Deployment

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that the City consider incorporating solar power systems as an emission reduction strategy for future development projects that may be approved under implementation of the Project.

16) Electric Infrastructure

To support and accelerate the installation of electric vehicle charging equipment and development of required infrastructure, the District offers incentives to public agencies, businesses, and property owners of multi-unit dwellings to install electric charging infrastructure (Level 2 and 3 chargers). The purpose of the District's Charge Up! Incentive program is to promote clean air alternative-fuel technologies and the use of low or zero-emission vehicles. The District recommends that the City and project proponents install electric vehicle chargers at project sites, and at strategic locations.

Please visit www.valleyair.org/grants/chargeup.htm for more information.

17) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (209) 557-6446.

17a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

Future development projects may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and

may require District permits. Prior to construction, project proponents shall obtain an ATC permit from the District for equipment/activities subject to District permitting requirements.

Recommended Mitigation Measure: For projects subject to permitting by the San Joaquin Valley Air Pollution Control District, demonstration of compliance with District Rule 2201 (obtain ATC permit from the District) shall be provided to the City before issuance of the first building permit.

For further information or assistance, project proponents may contact the District's SBA Office at (209) 557-6446.

17b) District Rule 9510 - Indirect Source Review (ISR)

Accordingly, future development projects within the CTSPA may be subject to District Rule 9510 if upon full buildout, the project would equal or exceed any of the following applicability thresholds, depending on the type of development and public agency approval mechanism:

Table 1: ISR Applicability Thresholds

Development Type	Discretionary Approval Threshold	Ministerial Approval / Allowed Use / By Right Thresholds
Residential	50 dwelling units	250 dwelling units
Commercial	2,000 square feet	10,000 square feet
Light Industrial	25,000 square feet	125,000 square feet
Heavy Industrial	100,000 square feet	500,000 square feet
Medical Office	20,000 square feet	100,000 square feet
General Office	39,000 square feet	195,000 square feet
Educational Office	9,000 square feet	45,000 square feet
Government	10,00 square feet	50,000 square feet
Recreational	20,000 square feet	100,000 square feet
Other	9,000 square feet	45,000 square feet

District Rule 9510 also applies to any transportation or transit development projects where construction exhaust emissions equal or exceed two tons of NOx or two tons of PM.

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project

clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

In the case the individual development project is subject to District Rule 9510, per Section 5.0 of the rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency so that proper mitigation and clean air design under ISR can be incorporated into the public agency's analysis.

Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

District staff is available to provide assistance with determining if the Project will be subject to Rule 9510, and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

17c) District Rule 9410 (Employer Based Trip Reduction)

Future development projects may be subject to District Rule 9410 (Employer Based Trip Reduction) if the project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees.

Information about District Rule 9410 can be found online at: www.valleyair.org/tripreduction.htm.

For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org

17d) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)

Future development projects may be subject to District Rule 4002. This rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Information on how to comply with District Rule 4002 can be found online at: http://www.valleyair.org/busind/comply/asbestosbultn.htm.

17e) District Rule 4601 (Architectural Coatings)

The Project may be subject to District Rule 4601 since it may utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: http://www.valleyair.org/rules/currntrules/r4601.pdf

17f) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at:
https://www.valleyair.org/busind/comply/PM10/forms/DCP-Form.docx

Information about District Regulation VIII can be found online at:
http://www.valleyair.org/busind/comply/pm10/compliance_pm10.htm

17g) District Rule 4901 - Wood Burning Fireplaces and Heaters

The purpose of this rule is to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices. This rule establishes limitations on the installation of new wood burning fireplaces and wood burning heaters.

Specifically, at elevations below 3,000 feet in areas with natural gas service, no person shall install a wood burning fireplace, low mass fireplace, masonry heater, or wood burning heater.

Information about District Rule 4901 can be found online at: http://valleyair.org/rule4901/

17h) Other District Rules and Regulations

Future development projects may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

18) Future Projects / Land Use Agency Referral Documents

Future development projects may require an environmental review and air emissions mitigation. A project's referral documents and environmental review documents provided to the District for review should include a project summary, the land use designation, project size, air emissions quantifications and impacts, and proximity to sensitive receptors and existing emission sources, and air emissions mitigation measures. For reference and guidance, more information can be found in the District's Guidance for Assessing and Mitigating Air Quality Impacts at: https://www.valleyair.org/transportation/GAMAQI.pdf

19) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Eric McLaughlin by e-mail at Eric.McLaughlin@valleyair.org or by phone at (559) 230-5808.

Sincerely,

Brian Clements
Director of Permit Services

For: Mark Montelongo
Program Manager

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October 26, 2023

City of Ceres
Planning and Building Division
Attn: Christopher Hoem
2220 Magnolia Street
Ceres, CA 95307

RE: Copper Trails Specific Plan & Annexation – NOP of a DEIR

Dear Mr. Hoem:

The Turlock Irrigation District (District) acknowledges the opportunity to review and comment on the referenced project. District standards require development occurring within the District's boundary that impacts irrigation and electric facilities, to meet the District's requirements.

The District's Ceres Main Canal borders a portion of the eastern project boundary and Lower Lateral 2 borders the southern boundary of the proposed Copper Trails Specific Plan (CTSP) area. The eastern half also includes the jointly owned TID/MID 230kV overhead electric transmission line located along these canals. The District will need to review the canal rights of way to ensure they are consistent with the current canal and electric facilities as constructed. Any inconsistencies shall be resolved prior to development of the adjoining property. District Standards require the construction of a minimum, 6-foot high concrete or masonry wall on developed property that adjoins a canal. Additionally, the plans also indicate a trail to be constructed along these canals. This trail, to the extent it adjoins the District's right of way, will be subject to District review and approval.

There are several irrigation improvement districts (ID) and numerous private facilities (pipelines, pumps, ditches, etc.) that exist in the plan area and will be subject to upgrading to current District Standards. One of the improvement districts (ID 91C, Lateral C), flows through the CTSP area, from east to west, to serve agricultural land beyond the plan area. A portion of this facility was upgraded as part of the development of the Central Valley High School. The remainder of this line will have to be upgraded and possibly relocated to accommodate development.

Depending on the sequence of development, including within the non-CTSP area, there exists an opportunity for the abandonment and removal of many of these other irrigation facilities. An overall strategy for mitigating impacts to irrigation should be developed to avoid inefficiencies that can occur when reviewing on a project-by-project basis. Development build-out should try to emphasize in-fill development to reduce conflicts between remaining agricultural production and the progressing development.

District records also indicate there is an abandoned underground drain pipeline (approximately 24" diameter) located along the Redwood Road corridor and also a separate segment along the east side of Blaker Road north of Lower Lateral 2. These drain pipelines shall be located and removed prior to development, or appropriately abandoned in place to eliminate voids and potential future subsidence.

If the District's canal system is to be used for storm water drainage, the existing Master Storm Drainage Agreement between City of Ceres and the Turlock Irrigation District must be reviewed to determine if the additional discharge can be accommodated. This additional discharge would be subject to District approval.

The District now requires 13-foot Public Utility Easement be dedicated along all street frontages. Additionally, the front building setback is to be a minimum of 15-feet from the property line and a minimum of 15-feet from the back-of-sidewalk to enable the safe placement of utilities.

When evaluating electric infrastructure requirements for CTSP area, understanding early on in the process the proposed building requirements related to solar, EV charging, and whether natural gas will be supplied, is extremely helpful. Furthermore, identifying the location of any public EV charging facilities and the proposed character of that service is important for infrastructure design purposes.

If you have any questions concerning irrigation system requirements, please contact me at (209) 883-8367. Questions regarding electric utility requirements should be directed to David Porath at (209) 883-8659.

Sincerely,

Todd Troglin

Todd Troglin
Supervising Engineering Technician, Civil
CF: 2023053

APPENDIX B
ANNEXATION MAP AND OWNERSHIP LIST

EXHIBIT B, COPPER TRAILS ANNEXATION PARCEL OWNER LIST

#	Owner Name	Street Address	City, State, and Zip	APN	Assessment	Code
1	WILFRIDO S ZAMUDIO	2412 BLAKER RD	CERES CA 95307	041-008-046	$298,408	121
2	WILFRIDO S ZAMUDIO	4112 BLAKER RD	CERES CA 95307	041-008-047	$155,014	121
3	JACK W BYRD, et. Al	19667 AMERICAN AVE #11	HILMAR CA 95324	041-008-053	$90,203	70
4	JACK W BYRD, et. Al	19667 AMERICAN AVE #11	HILMAR CA 95324	041-008-052	$75,380	121
5	EDWARD TOUMA	6652 N SEELEY AVE	CHICAGO IL 60645	041-008-038	$546,822	270
6	SARWAT SABET FAHMY, et. Al	331 SANTA ROSA DR	LOS GATOS CA 95032	041-008-036	$3,514,878	885
7	SARWAT SABET FAHMY, et. Al	331 SANTA ROSA DR	LOS GATOS CA 95032	041-008-026	$2,411,778	882
8	HARRY E PYATT	3204 ALLAN ADALE DR	MODESTO CA 95355	041-009-017	$199,172	815
9	NANCY FONTANA	1608 SEVEN FALLS	MODESTO CA 95355	041-008-025	$156,708	271
10	JUAN M CALVO, et. Al	4401 CENTRAL AVE	CERES CA 95307	041-008-024	$262,069	121
11	HORACIO FERREIRA MAGANA	3811 BULLOTI CT	CERES CA 95307	041-008-035	$399,446	121
12	ESPERANZA JAIME	1738 MARGARET WAY	CERES CA 95307	041-008-022	$221,327	121
13	ROBIN LORRAINE CARTER	4301 CENTRAL AVE	CERES CA 95307	041-008-054	$206,581	711
14	ROBIN LORRAINE CARTER	4301 CENTRAL AVE	CERES CA 95307	041-008-055	$231,815	711
15	HARINDER TOOR	1017 N CANYON DR	MODESTO CA 95351	041-010-003	$1,893,761	272
16	4224 CENTRAL AVENUE LLC	2561 4TH ST	CERES CA 95307	041-010-012	$406,131	272
17	INDERJIT TOOR	1017 N CANYON DR	MODESTO CA 95351	041-010-002	$673,020	271
18	S P N A LLC	2561 4TH ST	CERES CA 95307	041-010-001	$696,931	271
19	THOMAS HOLMQUIST, et. Al	5835 CHENAULT DR	MODESTO CA 95356	041-011-013	$342,373	630
20	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	041-011-014	$341,506	70
21	WINCHESTER FARMS INC	9312 N HILLS CT	OAKDALE CA 95361	041-011-012	$898,689	812
22	4224 CENTRAL AVE LLC	2561 4TH ST	CERES CA 95307	041-010-006	$382,772	121
23	SHANE PARSON, et. Al	6055 CENTRAL AVE	CERES CA 95307	041-010-007	$299,954	261
24	SUSANA DE ALBA	4342 CENTRAL AVE	CERES CA 95307	041-010-008	$596,421	711
25	HUMBERTO DE ALBA	4342 CENTRAL AVE	CERES CA 95307	041-010-013	$238,824	121
26	JANIECE MARTIN	16875 SUNDANCE DR	MORGAN HILL CA 95037	041-010-010	$64,442	121
27	DIMITRA KORDAZAKIS	1908 LARKSPUR LN	CERES CA 95307	041-010-011	$164,897	121
28	ALAN A AUTRAND	2219 E REDWOOD RD	CERES CA 95307	041-010-015	$233,796	711
29	CERES UNIFIED SCHOOL DISTRICT	PO BOX 307	CERES CA 95307	041-010-016	$0	--
30	RICHARD L CROUCH, et. Al	2236 E REDWOOD RD	CERES CA 95307	041-014-004	$89,444	711
31	MARJORIE R RATHBUN, et. Al	2324 E REDWOOD RD	CERES CA 95307	041-014-005	$98,947	711
32	MARY H DUFFY	2342 E REDWOOD RD	CERES CA 95307	041-014-006	$208,778	711
33	DARRELL LEDBETTER, et. Al	PO BOX 272	CERES CA 95307	041-014-007	$1,310,861	882
34	DARRELL LEDBETTER, et. Al	PO BOX 272	CERES CA 95307	041-014-011	$853,850	713
35	DARRELL LEDBETTER, et. Al	PO BOX 272	CERES CA 95307	041-014-012	$401,821	712
36	WILLIAM R HEYTZ RES TRUST	2459 E REDWOOD RD	CERES CA 95307	041-011-009	$248,807	121

EXHIBIT B, COPPER TRAILS ANNEXATION PARCEL OWNER LIST

37	ERNAN MENDOZA	3682 LARIAN WAY	CERES CA 95307	041-011-008	$203,062	121
38	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	041-011-007	$128,303	707
39	STEVEN B VILAS	2300 SWAN PARK DR	TURLOCK CA 95382	041-011-002	$490,833	882
40	JAMES ALLEN	PO BOX 272	CERES CA 95307	041-011-017	$98,377	712
41	DARRELL LEDBETTER, et. Al	PO BOX 272	CERES CA 95307	041-011-010	$179,519	712
42	RICHARD J NORTON, et. Al	2513 E REDWOOD RD	CERES CA 95307	041-011-011	$176,567	121
43	DARRELL LEDBETTER, et. Al	PO BOX 272	CERES CA 95307	041-014-024	$374,305	815
44	DAVID V PITTMAN	2572 E REDWOOD RD	CERES CA 95307	041-014-025	$171,042	714
45	MISTY G SPEEGLE	2600 E REDWOOD RD	CERES CA 95307	041-016-001	$250,173	711
46	SUDCHAI SOUNTHALA	2608 E REDWOOD RD	CERES CA 95307	041-016-002	$572,582	711
47	BE PONGBANDITH, et. Al	2612 E REDWOOD RD	CERES CA 95307	041-016-003	$541,047	711
48	CITLALIC MARQUEZ	2624 E REDWOOD RD	CERES CA 95307	041-016-004	$503,074	714
49	RAYMOND F HEGWOOD	2666 E REDWOOD RD	CERES CA 95307	041-016-005	$532,008	711
50	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	041-016-006	$947,255	812
51	VALLEY SPORTS ARENA LLC	2166 HILLSTONE DR	SAN JOSE CA 95138	041-013-006	$659,854	721
52	HERACLIO SOLTERO, et. Al	2743 E REDWOOD RD	CERES CA 95307	041-012-013	$474,679	272
53	ROY DEAN MC GUIRE, et. Al	2657 E REDWOOD RD	CERES CA 95307	041-012-018	$215,075	271
54	JAMES PORTER DAVIS, et. Al	4406 MOFFETT RD	CERES CA 95307	041-012-016	$242,973	271
55	NAPA FARMS LLC	3039 BERTOLLI DR	LIVERMORE CA 94550	041-012-017	$449,000	885
56	NAPA FARMS LLC	3039 BERTOLLI DR	LIVERMORE CA 94550	041-012-014	$470,000	885
57	NAPA FARMS LLC	3039 BERTOLLI DR	LIVERMORE CA 94550	041-013-005	$571,000	883
58	NAPA FARMS LLC	3039 BERTOLLI DR	LIVERMORE CA 94550	041-013-004	$457,000	885
59	NAPA FARMS LLC	3039 BERTOLLI DR	LIVERMORE CA 94550	041-012-010	$1,185,500	885
60	KODIAL PROPERTIES LLC	2301 FAIRVIEW DR #A	CERES CA 95307	041-012-008	$51,265	261
61	JUAN VELARDE	4001 JOSEPH RD	CERES CA 95307	041-012-009	$269,384	291
62	JAGDEV SINGH, et. Al	3557 WHISPERING OAK DR	CERES CA 95307	041-012-007	$83,609	141
63	REBECA PADGETT, et. Al	4137 JOSEPH RD	CERES CA 95307	041-012-006	$131,336	101
64	THOMAS E ANDERSON, et. Al	4112 MOFFETT RD	CERES CA 95307	041-012-005	$275,755	121
65	SHIRLEY LANGLEY, et. Al	3941 COLLINS RD	CERES CA 95307	041-012-001	$16,731	121
66	TONY A MANGIPANE, et. Al	4225 CROWS LANDING RD	MODESTO CA 95358	041-012-002	$70,174	121
67	HECTOR H ROMO, et. Al	2630 E SERVICE RD	CERES CA 95307	041-012-003	$665,849	121
68	HECTOR H ROMO, et. Al	2630 E SERVICE RD	CERES CA 95307	041-012-004	$194,736	121
69	S & R PROPERTIES LLC	3826 OLD OAK DR	CERES CA 95307	053-034-001	$735,907	121
70	DENISE CUETO	PO BOX 2052	CERES CA 95307	053-034-002	$203,062	121
71	SONIA MANZUR VARGAS	2313 E SERVICE RD	CERES CA 95307	053-034-003	$272,685	111
72	GAIL L FONTANA, et. Al	2331 E SERVICE RD	CERES CA 95307	053-036-001	$180,172	271
73	IRMA DAGIO DE MONTOYA, et. Al	2401 E SERVICE RD	CERES CA 95307	053-036-002	$201,204	121

EXHIBIT B, COPPER TRAILS ANNEXATION PARCEL OWNER LIST

74	RICARDO BARAJAS	2407 E SERVICE RD	CERES CA 95307	053-036-003	$246,217	101
75	MANUEL GUTIERREZ	2417 E SERVICE RD	CERES CA 95307	053-036-004	$413,747	101
76	PENTECOSTAL CHURCH OF GOD OF AMERICA	2425 E SERVICE RD	CERES CA 95307	053-036-005	$229,890	581
77	ARTHUR D HOLT, et. Al	2449 E SERVICE RD	CERES CA 95307	053-036-006	$70,399	271
78	ARTHUR D HOLT, et. Al	2451 E SERVICE RD	CERES CA 95307	053-036-016	$89,459	111
79	ARTHUR D HOLT, et. Al	2451 E SERVICE RD	CERES CA 95307	053-036-019	$57,229	101
80	JUSTIN MATTHEW SERPA	3959 COLLINS RD	CERES CA 95307	053-036-020	$176,911	101
81	DANIEL ARMANDO CERVANTES	3955 COLLINS RD	CERES CA 95307	053-036-018	$251,458	101
82	LINDA IWASKIEWICZ	3951 COLLINS RD	CERES CA 95307	053-036-017	$67,674	101
83	FRANCISCO ROMERO	3945 COLLINS RD	CERES CA 95307	053-036-015	$89,217	101
84	GUY J BRISBY	PO BOX 722	CERES CA 95307	053-036-014	$2,264	10
85	MORINE BRISBY	PO BOX 722	CERES CA 95307	053-036-013	$30,531	121
86	JESSE GROGAN	7525 PALMA AVE	HUGHSON CA 95326	053-036-012	$63,414	121
87	EDGAR ROBERTO LUNA	2436 LYNELL CT	CERES CA 95307	053-036-011	$170,042	101
88	DWIGHT FAULK	2437 LYNELL CT	CERES CA 95307	053-036-007	$90,463	101
89	ROBERT G WALKER	2441 LYNELL CT	CERES CA 95307	053-036-008	$48,087	101
90	JUAN A TORRES	2449 LYNELL CT	CERES CA 95307	053-036-009	$47,568	121
91	LEONIDES NAVARRO	4320 MONDAVI CT	STOCKTON CA 95206	053-036-010	$235,163	121
92	ONKAR BUILDERS INC	212 CAMPUS WAY	MODESTO CA 95350	053-037-033	$165,000	10
93	MARIA D BECERRA NIEBLAS	3942 COLLINS RD	CERES CA 95307	053-037-032	$95,390	101
94	ROQUE A VILLEDA, et. Al	2513 E SERVICE RD	CERES CA 95307	053-037-021	$136,703	101
95	ROCA DE SALVACION DE AIC MODESTO INC	2519 E SERVICE RD	CERES CA 95307	053-037-020	$436,917	580
96	VICENTE BARAJAS CANCINO	1618 E SAN FERNANDO ST	SAN JOSE CA 95116	053-037-019	$71,938	101
97	JUAN ANDRADE GARCIA	2528 E SERVICE RD	CERES CA 95307	053-037-013	$199,723	121
98	MARIBEL SAUCEDO	2541 E SERVICE RD	CERES CA 95307	053-037-012	$98,185	121
99	JOSE FERNANDO MARTINEZ	2545 E SERVICE RD	CERES CA 95307	053-037-006	$97,788	121
100	JESUS J RODRIGUEZ	3943 MOFFETT RD	CERES CA 95307	053-037-005	$200,727	101
101	AMARJIT S SAMRA, et. Al	3809 BANYAN TREE DR	MODESTO CA 95355	053-037-004	$56,037	101
102	JOEL TORRES	760 SAUCITO AVE	SALINAS CA 93906	053-037-010	$166,543	121
103	ANGEL PORTILLO	512 HUMBER CT	MODESTO CA 95354	053-037-011	$90,223	121
104	GABRIELA GUZMAN, et. Al	2522 LYNELL CT	CERES CA 95307	053-037-017	$340,690	261
105	ALEX CARRANZA, et. Al	2516 LYNELL CT	CERES CA 95307	053-037-018	$141,662	101
106	JUAN LUIS PARDO SANCHEZ	2508 LYNELL CT	CERES CA 95307	053-037-030	$270,000	101
107	GEORGE W LANKFORD	2500 LYNELL CT	CERES CA 95307	053-037-031	$74,249	101
108	EL SALTO LLC	6825 ZERILLO DR	RIVERBANK CA 95367	053-037-029	$75,077	121
109	MIGUEL GARCIA ZALDIVAR	555 SONORA AVE	LODI CA 95240	053-037-028	$237,433	101
110	KENNETH E WALKER	2517 LYNELL CT	CERES CA 95307	053-037-016	$49,567	101

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111	COIT GARRY 2021 TRUST	525 E KEYES RD	CERES CA 95307	053-037-015	$89,217	101
112	JOSUE M ORTIZ, et. Al	2533 LYNELL CT	CERES CA 95307	053-037-009	$92,281	101
113	ERIC THANE MEGEE, et. Al	2501 RIVER RD	MODESTO CA 95351	053-037-008	$76,128	121
114	CHERISE M STUART	2020 JACKSON CT	TURLOCK CA 95382	053-037-003	$4,838	101
115	JAIME E PENA	1401 SAN PEDRO AVE	CERES CA 95307	053-037-002	$157,965	101
116	AARON RUBALCABA	2536 DON PEDRO RD	CERES CA 95307	053-037-007	$166,940	121
117	EVELYN PEARSON HEWES	312 E GRAYSON RD	MODESTO CA 95358	053-037-014	$32,910	271
118	ROBERT RISLEY, et. Al	1401 OHIO AVE	MODESTO CA 95358	053-037-027	$60,067	101
119	BEVERLY A JACKSON, et. Al	3621 HEMLOCK AVE	CERES CA 95307	053-037-026	$69,413	101
120	FRANCISCO JAVIER MALDONADO, et. Al	5104 BLOOMFIELD DR	KEYES CA 95328	053-037-035	$127,592	101
121	ROBERT HIGHTOWER, et. Al	PO BOX 459	CERES CA 95307	053-037-034	$183,638	261
122	BERTHA GUERRERO SANCHEZ	3401 S HALF MOON DR	BAKERSFIELD CA 93309	053-037-024	$262,794	261
123	MARIA VARGAS HERNANDEZ	3812 COLLINS RD	CERES CA 95307	053-037-023	$194,467	101
124	Y WORLD INVESTMENT LLC	721 GREEN HILL BLVD	BRENTWOOD TN 37027	053-037-022	$340,086	431
125	ANGILBERTO AGUILAR, et. Al	3907 COLLINS RD	CERES CA 95307	053-035-018	$187,296	121
126	BALDEMAR REYES	3901 COLLINS RD	CERES CA 95307	053-035-017	$125,836	101
127	MARIA M BETANCOURT	3817 COLLINS RD	CERES CA 95307	053-035-016	$130,113	101
128	PEDRO A HERNANDEZ, et. Al	1404 GENEVIEVE WAY	CERES CA 95307	053-035-015	$343,522	101
129	ADELA VALENZUELA, et. Al	3801 COLLINS RD	CERES CA 95307	053-035-014	$37,257	101
130	LEONA TAYLOR	2444 DON PEDRO RD	CERES CA 95307	053-035-013	$54,732	101
131	JOSE ROBERTO PORTILLO, et. Al	2440 DON PEDRO RD	CERES CA 95307	053-035-012	$47,690	101
132	DAVID P PAGE LIVING TRUST	2436 DON PEDRO RD	CERES CA 95307	053-035-011	$21,965	101
133	WILLIAM J LEDBETTER, et. Al	2337 DON PEDRO RD	CERES CA 95307	053-035-010	$433,279	121
134	JMANUAL H GARCIA, et. Al	2424 DON PEDRO RD	CERES CA 95307	053-035-009	$84,854	101
135	MIGUEL IBARRA, et. Al	2420 DON PEDRO RD	CERES CA 95307	053-035-008	$113,699	101
136	VINCENT CRANDELL, et. Al	2416 DON PEDRO RD	CERES CA 95307	053-035-007	$153,860	101
137	MARIA DE LA LUZ IBARRA	2412 DON PEDRO RD	CERES CA 95307	053-035-006	$56,806	101
138	MARCELINO CASTRO	2406 DON PEDRO RD	CERES CA 95307	053-035-005	$122,486	101
139	JOSE GARIBO GARCIA	2404 DON PEDRO RD	CERES CA 95307	053-035-004	$310,000	121
140	EXPEDITO VENEGAS, et. Al	2400 DON PEDRO RD	CERES CA 95307	053-035-003	$309,169	121
141	AXIAK FAMILY LIVING TRUST	2324 DON PEDRO RD	CERES CA 95307	053-035-002	$51,588	101
142	CERES SCHOOL DIST	PO BOX 307	CERES CA 95307	053-035-001	$0	--
143	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	053-032-015	$2,494,213	241
144	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	053-032-011	$92,394	211
145	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	053-032-012	$92,394	211
146	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	053-032-013	$92,394	211
147	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	053-032-014	$58,303	211

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148	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	053-032-010	$2,742,762	241
149	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	053-031-023	$673,405	320
150	FRED E ANDERSON, et. Al	2449 LAUREL AVE	CERES CA 95307	053-031-022	$60,654	101
151	FRED ANDERSON, et. Al	2449 LAUREL AVE	CERES CA 95307	053-031-021	$53,403	101
152	JERRY SONKE, et. Al	1658 DOAK BLVD	RIPON CA 95366	053-031-020	$135,057	101
153	JAMES L KRIGBAUM	3625 COLLINS RD	CERES CA 95307	053-031-019	$61,518	101
154	JERRY SONKE, et. Al	1658 DOAK BLVD	RIPON CA 95366	053-031-018	$68,221	171
155	RAUL F CAMPOS, et. Al	5979 WASHINGTON RD	HUGHSON CA 95326	053-031-017	$41,628	121
156	JEOVA VILLEDA, et. Al	2450 INDUSTRIAL WAY	CERES CA 95307	053-031-041	$198,015	101
157	MACARIO RAMIREZ JR	3604 LARCH AVE	CERES CA 95307	053-031-040	$104,208	101
158	LEODEGARIO VELAZQUEZ-RODRIGUEZ	3608 LARCH AVE	CERES CA 95307	053-031-015	$219,996	101
159	WILLIAM J LEDBETTER, et. Al	2337 DON PEDRO RD	CERES CA 95307	053-031-014	$283,421	101
160	WILLIAM TERRY LAWRENCE	5231 AVENUE A	MODESTO CA 95358	053-031-013	$78,063	101
161	LUIS A DE LEON	3620 LARCH AVE	CERES CA 95307	053-031-012	$317,511	121
162	ANDRES ARROYO AVILA, et. Al	713 W TUOLUMNE RD	CERES CA 95307	053-031-011	$53,652	101
163	MY COMMUNITY LLC.	7110 CAROLINA CT	MODESTO CA 95356	053-031-010	$164,207	261
164	WILLIAM J LEDBETTER, et. Al	2337 DON PEDRO RD	CERES CA 95307	053-031-009	$189,820	10
165	BILL LEDBETTER JR, et. Al	2337 DON PEDRO RD	CERES CA 95307	053-031-008	$24,614	10
166	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	053-031-007	$56,526	201
167	CHRISTIANSEN FAMILY PROPERTIES LLC	3404 KINGS POINT DR	MODESTO CA 95355	053-031-006	$10,653	121
168	SIQUI MORA	1313 EUGENE AVE	MODESTO CA 95351	053-031-005	$40,605	101
169	BEVERLY A JACKSON, et. Al	3621 HEMLOCK AVE	CERES CA 95307	053-031-004	$27,585	10
170	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	053-031-003	$59,119	101
171	ROSA E IBARRA	3601 LARCH AVE	CERES CA 95307	053-031-027	$111,894	101
172	MIGUEL TOPETE	2616 MORGAN RD	CERES CA 95307-9299 R005	053-030-048	$221,547	101
173	DARRELL LEDBETTER, et. Al	PO BOX 272	CERES CA 95307-0272 B003	053-030-049	$97,069	101
174	BEVERLY A JACKSON	3621 HEMLOCK AVE	CERES CA 95307	053-030-050	$104,093	101
175	LUIS A BARAJAS	3612 HEMLOCK AVE	CERES CA 95307	053-030-051	$169,513	121
176	YADER F CALDERON, et. Al	3616 HEMLOCK AVE	CERES CA 95307	053-030-052	$226,782	101
177	JOSE DIAZ, et. Al	2308 QUILLING CT	MODESTO CA 95351	053-030-053	$228,973	101
178	RUBEN AGUILERA ZARAGOZA	3624 HEMLOCK AVE	CERES CA 95307	053-030-054	$185,917	101
179	ERIC ROBERSON	1602 BRIER RD	TURLOCK CA 95380	053-030-055	$78,248	261
180	WILLIAM J LEDBETTER, et. Al	2337 DON PEDRO RD	CERES CA 95307	053-030-056	$200,043	101
181	BEVERLY A JACKSON	3621 HEMLOCK AVE	CERES CA 95307	053-030-057	$72,129	101
182	BEVERLY A JACKSON	3621 HEMLOCK AVE	CERES CA 95307	053-030-042	$65,556	101
183	JAMES A BEGIER, et. Al	2001 E 14TH ST	SAN LEANDRO CA 94577	053-030-043	$58,011	101
184	XIAOXIA LU BEGIER	2001 E 14TH ST	SAN LEANDRO CA 94577	053-030-044	$50,958	101

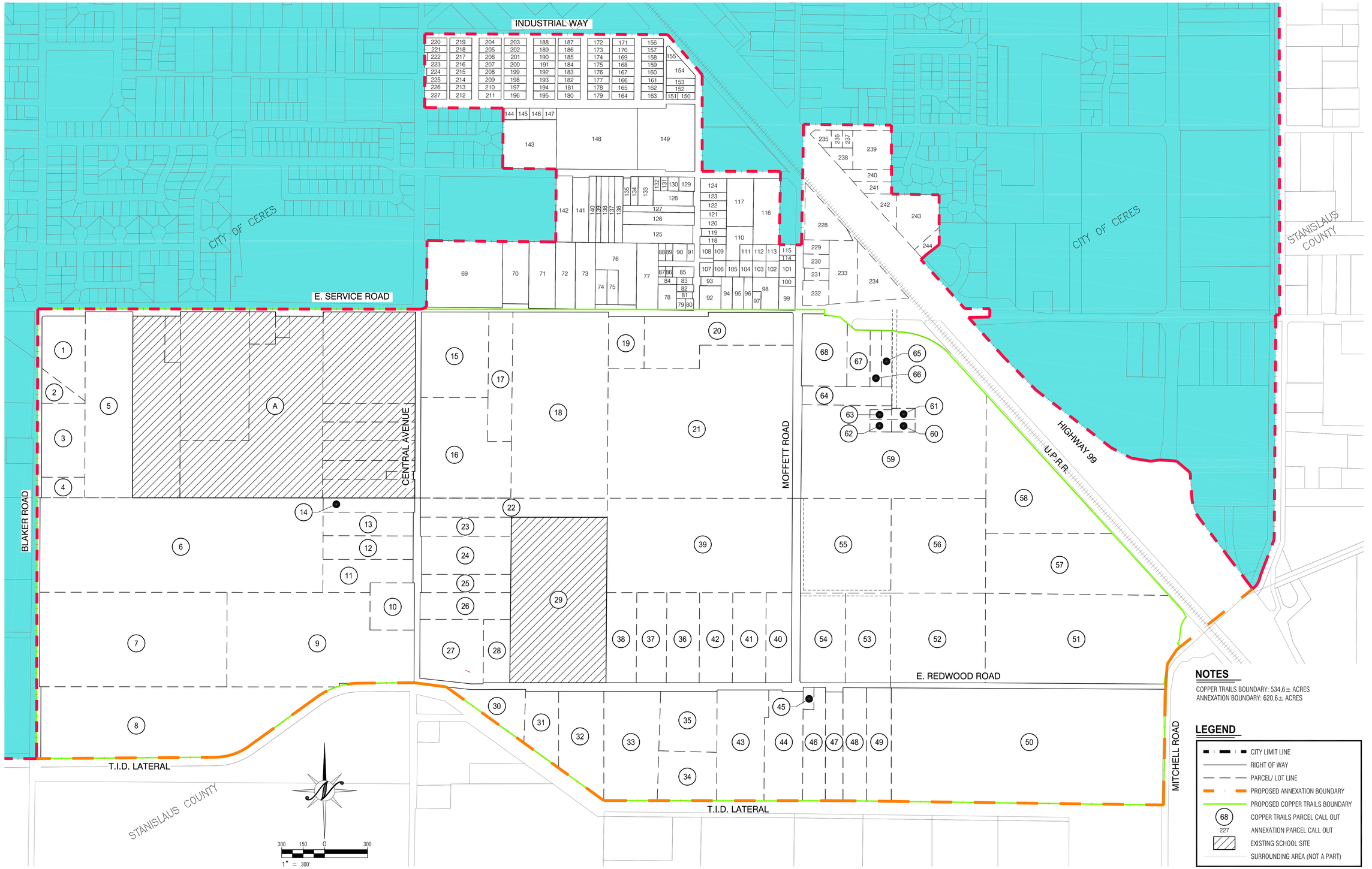
EXHIBIT B, COPPER TRAILS ANNEXATION PARCEL OWNER LIST

185	DARRELL LEDBETTER	PO BOX 272	CERES CA 95307	053-030-045	$84,392	101
186	DARRELL LEDBETTER	PO BOX 272	CERES CA 95307	053-030-046	$33,744	101
187	MACARIO O RAMIREZ	400 FLORES AVE	MODESTO CA 95351	053-030-047	$109,454	10
188	ANGELA LOPEZ	3600 SPRUCE AVE	CERES CA 95307	053-030-033	$275,553	101
189	RAFAEL H DIAZ, et. Al	2003 WALNUT AVE	CERES CA 95307	053-030-034	$71,372	101
190	MARTIN C CASTRO	3608 SPRUCE AVE	CERES CA 95307	053-030-035	$134,150	101
191	JOEL GOMEZ	3612 SPRUCE AVE	CERES CA 95307	053-030-036	$182,272	101
192	GUADALUPE ESBEIDI BONILLA LARA	908 MUSICK AVE	MODESTO CA 95351	053-030-037	$101,919	121
193	CARLOS E PEREZ ZAPIEN	3620 SPRUCE AVE	CERES CA 95307	053-030-038	$185,501	101
194	LUIS EXAULEMUS SAMAYOA	738 N 11TH ST	SAN JOSE CA 95112	053-030-039	$76,413	101
195	JESUS N SOSA, et. Al	3628 SPRUCE AVE	CERES CA 95307	053-030-040	$156,172	261
196	HELLO MAGALLANES	LAUREL AVE	CERES CA 95307	053-030-025	$318,263	261
197	JOSE NAVARRO, et. Al	3625 SPRUCE AVE	CERES CA 95307	053-030-026	$184,471	101
198	ROCELIA GARCIA OROSCO	3621 SPRUCE AVE	CERES CA 95307	053-030-027	$102,380	101
199	CV RESIDENTIAL LLC	2561 4TH ST	CERES CA 95307	053-030-028	$46,151	101
200	DIEHL NO 1 LLC	PO BOX 592	MODESTO CA 95353	053-030-029	$110,892	201
201	DIEHL NO 1 LLC	PO BOX 592	MODESTO CA 95353	053-030-030	$78,696	201
202	ROBERTO MANZO GARCIA, et. Al	3605 SPRUCE AVE	CERES CA 95307	053-030-031	$254,652	101
203	JESUS MEDINA	2212 INDUSTRIAL WAY	CERES CA 95307	053-030-032	$144,248	101
204	ROBERTO GUTIERREZ	2206 INDUSTRIAL WAY	CERES CA 95307	053-030-017	$107,700	261
205	GREGORIO RODRIGUEZ, et. Al	3604 TAMARACK AVE	CERES CA 95307	053-030-018	$128,715	101
206	WILLIAM J IRVING	2720 CHARLOTTE AVE	CERES CA 95307	053-030-019	$67,703	101
207	EDUARDO REBOLLAR	PO BOX 2223	CERES CA 95307	053-030-020	$45,302	101
208	RAVINDER MANN	3312 BLAKER RD	CERES CA 95307	053-030-021	$53,652	101
209	SUKHJIT S MANN	3312 BLAKER RD	CERES CA 95307	053-030-022	$101,939	121
210	SUKHJIT SINGH MANN	3312 BLAKER RD	CERES CA 95307	053-030-023	$74,939	261
211	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	053-030-024	$128,517	201
212	LEDBETTER FAMILY PARTNERSHIP	2337 DON PEDRO RD	CERES CA 95307	053-030-009	$261,549	201
213	SUKHJIT S MANN	3312 BLAKER RD	CERES CA 95307	053-030-010	$72,733	121
214	SUKHJIT S MANN	3312 BLAKER RD	CERES CA 95307	053-030-011	$29,730	101
215	AYDE RIOS	3617 TAMARACK AVE	CERES CA 95307	053-030-012	$107,582	101
216	RAVINDER K MANN	3312 BLAKER RD	CERES CA 95307	053-030-013	$71,008	101
217	IGNACIO M IBARRA, et. Al	3609 TAMARACK AVE	CERES CA 95307	053-030-014	$101,965	121
218	SAM H NASHER	3605 TAMARACK AVE	CERES CA 95307	053-030-015	$104,524	101
219	NASHER SAM HIZAM	3779 OLD OAK DR	CERES CA 95307	053-030-016	$262,793	431
220	EDWARD J SOARES, et. Al	3600 CENTRAL AVE	CERES CA 95307	053-030-001	$80,664	101
221	DOMINGO VALENZUELA, et. Al	3820 DRAKEWOOD CT	CERES CA 95307	053-030-002	$213,029	261

EXHIBIT B, COPPER TRAILS ANNEXATION PARCEL OWNER LIST

222	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	053-030-003	$137,601	201
223	JESUS IBARRA MELANO, et. Al	3612 CENTRAL AVE	CERES CA 95307	053-030-004	$54,364	121
224	IMELDA RUIZ	PO BOX 951	PATTERSON CA 95363	053-030-005	$52,211	261
225	JOE SILVA, et. Al	700 E TAYLOR RD	CERES CA 95307	053-030-006	$143,873	261
226	CARLOS A NALLEY	3624 CENTRAL AVE	CERES CA 95307	053-030-007	$144,685	121
227	ERIC PALAFOX	3628 CENTRAL AVE	CERES CA 95307	053-030-008	$187,633	101
228	SANGHERA 2020 FAMILY TRUST	6425 E HATCH RD	HUGHSON CA 95326	053-038-001	$299,026	630
229	MYIA DAVILA	4286 SPRING CREEK DR	MARIPOSA CA 95338	053-038-002	$115,848	491
230	LORENZO SANDOVAL	1863 VICTORIA CT	TURLOCK CA 95380	053-038-003	$72,227	310
231	AMARJIT SINGH SAMRA	3940 MOFFETT RD	CERES CA 95307	053-038-004	$75,024	690
232	JOSE FERNANDO MARTINEZ	2601 E SERVICE RD	CERES CA 95307	053-038-005	$197,015	121
233	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	053-038-006	$408,964	640
234	JIM L WYATT	3530 E SERVICE RD	CERES CA 95307	053-038-007	$189,221	630
235	CITY OF CERES	2720 2ND ST	CERES CA 95307	053-013-001	$0	900
236	LOUISE E BAKER	1629 W WHITMORE AVE	MODESTO CA 95358	053-013-002	$34,808	330
237	LOUISE E BAKER	1629 W WHITMORE AVE	MODESTO CA 95358	053-013-003	$75,418	101
238	DIRK L WYATT, et. Al	4761 E SERVICE RD	CERES CA 95307	053-013-005	$86,012	330
239	JAVIER JAIME, et. Al	2632 DON PEDRO RD	CERES CA 95307	053-013-004	$125,394	491
240	TONY GALVEZ	3736 EL CAMINO AVE	CERES CA 95307	053-013-006	$81,127	491
241	GERARDO JOSE SANCHEZ CORDOVA	1001 MOON RIVER WAY	CERES CA 95307	053-013-007	$242,046	261
242	ALSUMERI FAHMI	2001 CROWS LANDING RD	MODESTO CA 95358	053-013-008	$630,995	261
243	CITY OF CERES	2720 2ND ST	CERES CA 95307	053-013-009	$0	900
244	DIRK L WYATT, et. Al	4761 E SERVICE RD	CERES CA 95307	053-013-010	$173,979	491

ANNEXATION OWNERSHIP MAP
COPPER TRAILS
CERES, CALIFORNIA



NOTES

COPPER TRAILS BOUNDARY: 534.6± ACRES
ANNEXATION BOUNDARY: 620.6± ACRES

LEGEND

- CITY LIMIT LINE
- RIGHT OF WAY
- PARCEL/ LOT LINE
- PROPOSED ANNEXATION BOUNDARY
- PROPOSED COPPER TRAILS BOUNDARY
- 68 / 227 — COPPER TRAILS PARCEL CALL OUT / ANNEXATION PARCEL CALL OUT
- EXISTING SCHOOL SITE
- SURROUNDING AREA (NOT A PART)

NO.	DESCRIPTIONS	DATE	APPROVED

REVISIONS

EXHIBIT X

COPPER TRAILS

CERES, CALIFORNIA

NorthStar Engineering Group, Inc.
• CIVIL ENGINEERING • SURVEYING • PLANNING •
620 12th Street Modesto, CA 95354
(209) 524-3325 Phone (209) 524-3326 Fax

JOB #:	17-2010
DATE:	12/17/2021
SCALE:	AS SHOWN
DRAWN:	PMH
DESIGN:	PMH
CHK'D:	TPD

SHEET NUMBER

EX. C

PLOTTED: 03/01/2022 11:56 PLOTTED BY: Preetter
DWGNAME: P:\17-2010 Copper Trails\Planning\Exhibits\Entitlement Exhibits\Copper Trails_AnnexationOwnership\Map (2021 - 12.XX).dwg

APPENDIX C
AIR QUALITY MODELING RESULTS

Copper Trails max construct Summary Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Copper Trails max construct
Construction Start Date	4/1/2027
Operational Year	2035
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	29.2
Location	37.577990296205584, -120.95273877771139
County	Stanislaus
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2260
EDFZ	14
Electric Utility	Turlock Irrigation District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	478	Dwelling Unit	155	932,100	5,598,746	—	1,515	—
Regional Shopping Center	234	1000sqft	5.37	233,917	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.71	3.12	28.0	29.1	0.06	1.17	19.8	21.0	1.08	10.1	11.2	—	6,755	6,755	0.27	0.38	11.1	6,780
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.60	348	13.8	25.3	0.04	0.38	2.80	3.18	0.36	0.68	1.03	—	6,554	6,554	0.21	0.40	0.32	6,679
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.14	20.0	6.61	11.0	0.02	0.21	1.48	1.69	0.19	0.47	0.66	—	2,837	2,837	0.09	0.16	2.01	2,889
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.21	3.64	1.21	2.01	< 0.005	0.04	0.27	0.31	0.03	0.09	0.12	—	470	470	0.01	0.03	0.33	478

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	70.5	82.6	33.7	370	0.91	16.4	49.7	66.1	15.8	12.6	28.4	3,023	72,198	75,221	61.9	8.89	77.1	79,495
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	63.1	75.3	36.7	315	0.86	16.4	49.7	66.0	15.8	12.6	28.4	3,023	68,090	71,113	62.4	9.10	9.60	75,393
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	40.5	62.6	27.0	213	0.51	4.14	41.3	45.4	4.00	10.5	14.5	1,009	57,895	58,904	52.3	8.56	33.2	62,796
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.39	11.4	4.92	38.9	0.09	0.76	7.53	8.29	0.73	1.92	2.65	167	9,585	9,752	8.65	1.42	5.49	10,397

6. Climate Risk Detailed Report

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	12.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

CTSP Operations WR Detailed Report

Table of Contents

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CTSP Operations WR
Construction Start Date	4/15/2026
Operational Year	2050
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	29.2
Location	37.57670786707898, -120.9527522059472
County	Stanislaus
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2260
EDFZ	14
Electric Utility	Turlock Irrigation District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Single Family Housing	1,286	Dwelling Unit	418	2,507,700	15,062,734	—	4,077	—
Apartments Low Rise	880	Dwelling Unit	55.0	932,800	93,280	—	2,790	—
Condo/Townhouse	336	Dwelling Unit	21.0	356,160	35,616	—	1,065	—
Regional Shopping Center	676	1000sqft	15.5	676,269	67,627	—	—	—
Supermarket	65.0	1000sqft	1.49	65,000	6,500	—	—	—
General Office Building	195	1000sqft	4.47	194,931	19,493	—	—	—
Hotel	250	Room	8.33	363,000	36,300	—	—	—
Fast Food Restaurant with Drive Thru	19.6	1000sqft	0.45	19,602	1,960	—	—	—
High Turnover (Sit Down Restaurant)	19.6	1000sqft	0.45	19,602	1,960	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-18	Provide Pedestrian Network Improvement
Transportation	T-34*	Provide Bike Parking
Transportation	T-37*	Dedicate Land for Bike Trails
Transportation	T-50*	Required Project Contributions to Transportation Infrastructure Improvement
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Water	W-7	Adopt a Water Conservation Strategy
Waste	S-1/S-2	Implement Waste Reduction Plan

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	311	134	1,619	4.27	85.2	237	322	82.1	60.1	142	382,459
Mit.	304	128	1,565	4.12	85.0	222	307	82.0	56.3	138	359,991
% Reduced	2%	5%	3%	3%	< 0.5%	6%	5%	< 0.5%	6%	3%	6%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	283	143	1,305	4.08	85.0	237	322	82.0	60.1	142	364,044
Mit.	276	137	1,259	3.95	84.9	222	306	81.8	56.3	138	342,714
% Reduced	2%	5%	4%	3%	< 0.5%	6%	5%	< 0.5%	6%	3%	6%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	226	95.7	780	2.03	21.0	165	186	20.3	42.0	62.3	277,594
Mit.	220	90.6	745	1.93	20.9	155	175	20.2	39.3	59.5	259,755
% Reduced	2%	5%	4%	5%	1%	6%	6%	1%	6%	4%	6%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	41.2	17.5	142	0.37	3.84	30.1	34.0	3.70	7.66	11.4	45,959
Mit.	40.2	16.5	136	0.35	3.82	28.2	32.0	3.68	7.17	10.9	43,005
% Reduced	2%	5%	4%	5%	1%	6%	6%	1%	6%	4%	6%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	106	79.7	832	2.14	0.95	237	238	0.89	60.1	61.0	221,810
Area	203	31.8	774	1.98	82.5	—	82.5	79.4	—	79.4	42,176
Energy	1.28	22.4	12.7	0.14	1.77	—	1.77	1.77	—	1.77	93,079
Water	—	—	—	—	—	—	—	—	—	—	3,965

Waste	—	—	—	—	—	—	—	—	—	—	7,295
Refrig.	—	—	—	—	—	—	—	—	—	—	14,135
Total	311	134	1,619	4.27	85.2	237	322	82.1	60.1	142	382,459
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	100	90.9	719	1.96	0.95	237	238	0.89	60.1	61.0	204,016
Area	181	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Energy	1.28	22.4	12.7	0.14	1.77	—	1.77	1.77	—	1.77	93,079
Water	—	—	—	—	—	—	—	—	—	—	3,965
Waste	—	—	—	—	—	—	—	—	—	—	7,295
Refrig.	—	—	—	—	—	—	—	—	—	—	14,135
Total	283	143	1,305	4.08	85.0	237	322	82.0	60.1	142	364,044
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	81.3	65.7	539	1.44	0.69	165	166	0.65	42.0	42.6	149,479
Area	143	7.62	228	0.45	18.6	—	18.6	17.9	—	17.9	9,642
Energy	1.28	22.4	12.7	0.14	1.77	—	1.77	1.77	—	1.77	93,079
Water	—	—	—	—	—	—	—	—	—	—	3,965
Waste	—	—	—	—	—	—	—	—	—	—	7,295
Refrig.	—	—	—	—	—	—	—	—	—	—	14,135
Total	226	95.7	780	2.03	21.0	165	186	20.3	42.0	62.3	277,594
Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.8	12.0	98.4	0.26	0.13	30.1	30.3	0.12	7.66	7.78	24,748
Area	26.1	1.39	41.6	0.08	3.39	—	3.39	3.26	—	3.26	1,596
Energy	0.23	4.09	2.31	0.03	0.32	—	0.32	0.32	—	0.32	15,410
Water	—	—	—	—	—	—	—	—	—	—	656
Waste	—	—	—	—	—	—	—	—	—	—	1,208
Refrig.	—	—	—	—	—	—	—	—	—	—	2,340
Total	41.2	17.5	142	0.37	3.84	30.1	34.0	3.70	7.66	11.4	45,959

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	99.3	74.6	778	2.01	0.89	222	222	0.84	56.3	57.1	207,615
Area	203	31.8	774	1.98	82.5	—	82.5	79.4	—	79.4	42,176
Energy	1.23	21.5	12.2	0.13	1.70	—	1.70	1.70	—	1.70	91,070
Water	—	—	—	—	—	—	—	—	—	—	3,172
Waste	—	—	—	—	—	—	—	—	—	—	1,824
Refrig.	—	—	—	—	—	—	—	—	—	—	14,135
Total	304	128	1,565	4.12	85.0	222	307	82.0	56.3	138	359,991
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	93.7	85.1	673	1.84	0.89	222	222	0.84	56.3	57.1	190,959
Area	181	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Energy	1.23	21.5	12.2	0.13	1.70	—	1.70	1.70	—	1.70	91,070
Water	—	—	—	—	—	—	—	—	—	—	3,172
Waste	—	—	—	—	—	—	—	—	—	—	1,824
Refrig.	—	—	—	—	—	—	—	—	—	—	14,135
Total	276	137	1,259	3.95	84.9	222	306	81.8	56.3	138	342,714
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	76.1	61.5	505	1.35	0.64	155	155	0.61	39.3	39.9	139,912
Area	143	7.62	228	0.45	18.6	—	18.6	17.9	—	17.9	9,642
Energy	1.23	21.5	12.2	0.13	1.70	—	1.70	1.70	—	1.70	91,070
Water	—	—	—	—	—	—	—	—	—	—	3,172
Waste	—	—	—	—	—	—	—	—	—	—	1,824
Refrig.	—	—	—	—	—	—	—	—	—	—	14,135

Total	220	90.6	745	1.93	20.9	155	175	20.2	39.3	59.5	259,755
Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	13.9	11.2	92.1	0.25	0.12	28.2	28.3	0.11	7.17	7.28	23,164
Area	26.1	1.39	41.6	0.08	3.39	—	3.39	3.26	—	3.26	1,596
Energy	0.22	3.92	2.22	0.02	0.31	—	0.31	0.31	—	0.31	15,078
Water	—	—	—	—	—	—	—	—	—	—	525
Waste	—	—	—	—	—	—	—	—	—	—	302
Refrig.	—	—	—	—	—	—	—	—	—	—	2,340
Total	40.2	16.5	136	0.35	3.82	28.2	32.0	3.68	7.17	10.9	43,005

3. Construction Emissions Details

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	15.6	13.0	146	0.40	0.17	44.1	44.3	0.16	11.2	11.4	40,886
Apartments Low Rise	9.29	7.74	86.9	0.24	0.10	26.2	26.3	0.10	6.67	6.76	24,308
Condo/Townhouse	4.08	3.40	38.2	0.10	0.05	11.5	11.6	0.04	2.93	2.97	10,677
Regional Shopping Center	40.1	25.9	236	0.54	0.25	58.6	58.8	0.24	14.9	15.1	56,499

Supermarket	14.8	11.9	130	0.35	0.15	38.4	38.6	0.14	9.77	9.91	35,748
General Office Building	2.50	2.01	22.0	0.06	0.03	6.52	6.54	0.02	1.66	1.68	6,061
Hotel	2.25	1.81	19.8	0.05	0.02	5.86	5.88	0.02	1.49	1.51	5,444
Fast Food Restaurant with Drive Thru	14.3	11.4	125	0.33	0.15	37.1	37.3	0.14	9.43	9.56	34,498
High Turnover (Sit Down Restaurant)	3.18	2.55	27.9	0.07	0.03	8.27	8.30	0.03	2.10	2.13	7,690
Total	106	79.7	832	2.14	0.95	237	238	0.89	60.1	61.0	221,810
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	14.8	14.9	121	0.36	0.17	44.1	44.3	0.16	11.2	11.4	37,551
Apartments Low Rise	8.77	8.84	72.2	0.22	0.10	26.2	26.3	0.10	6.67	6.76	22,325
Condo/Townhouse	3.85	3.88	31.7	0.09	0.05	11.5	11.6	0.04	2.93	2.97	9,806
Regional Shopping Center	37.9	29.5	220	0.50	0.25	58.6	58.8	0.24	14.9	15.1	52,150
Supermarket	14.0	13.5	109	0.32	0.15	38.4	38.6	0.14	9.77	9.91	32,848
General Office Building	2.37	2.30	18.5	0.05	0.03	6.52	6.54	0.02	1.66	1.68	5,569
Hotel	2.12	2.06	16.7	0.05	0.02	5.86	5.88	0.02	1.49	1.51	5,002
Fast Food Restaurant with Drive Thru	13.5	13.1	106	0.31	0.15	37.1	37.3	0.14	9.43	9.56	31,699
High Turnover (Sit Down Restaurant)	3.00	2.91	23.5	0.07	0.03	8.27	8.30	0.03	2.10	2.13	7,066
Total	100	90.9	719	1.96	0.95	237	238	0.89	60.1	61.0	204,016

Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.64	2.50	22.1	0.07	0.03	7.73	7.76	0.03	1.96	1.99	6,214
Apartments Low Rise	1.44	1.36	12.0	0.04	0.02	4.21	4.23	0.02	1.07	1.09	3,383
Condo/Townhouse	0.63	0.60	5.28	0.02	0.01	1.85	1.86	0.01	0.47	0.48	1,486
Regional Shopping Center	5.45	3.88	29.6	0.07	0.03	7.67	7.71	0.03	1.95	1.98	6,490
Supermarket	1.71	1.33	10.7	0.03	0.01	3.12	3.14	0.01	0.79	0.81	2,585
General Office Building	0.33	0.30	2.59	0.01	< 0.005	0.88	0.89	< 0.005	0.22	0.23	713
Hotel	0.37	0.34	2.94	0.01	< 0.005	1.00	1.01	< 0.005	0.25	0.26	809
Fast Food Restaurant with Drive Thru	1.85	1.37	10.7	0.03	0.01	2.93	2.95	0.01	0.75	0.76	2,455
High Turnover (Sit Down Restaurant)	0.43	0.33	2.59	0.01	< 0.005	0.74	0.74	< 0.005	0.19	0.19	612
Total	14.8	12.0	98.4	0.26	0.13	30.1	30.3	0.12	7.66	7.78	24,748

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	14.6	12.2	137	0.37	0.16	41.3	41.5	0.15	10.5	10.6	38,269
Apartments Low Rise	8.70	7.25	81.3	0.22	0.10	24.6	24.7	0.09	6.24	6.33	22,753

Condo/Townhouse	3.82	3.18	35.7	0.10	0.04	10.8	10.8	0.04	2.74	2.78	9,994
Regional Shopping Center	37.5	24.2	221	0.51	0.23	54.8	55.0	0.22	13.9	14.1	52,883
Supermarket	13.8	11.1	121	0.32	0.14	36.0	36.1	0.13	9.14	9.28	33,460
General Office Building	2.34	1.88	20.6	0.05	0.02	6.10	6.13	0.02	1.55	1.57	5,673
Hotel	2.11	1.69	18.5	0.05	0.02	5.48	5.50	0.02	1.39	1.41	5,095
Fast Food Restaurant with Drive Thru	13.3	10.7	117	0.31	0.14	34.7	34.9	0.13	8.82	8.95	32,290
High Turnover (Sit Down Restaurant)	2.97	2.39	26.1	0.07	0.03	7.74	7.77	0.03	1.97	2.00	7,198
Total	99.3	74.6	778	2.01	0.89	222	222	0.84	56.3	57.1	207,615
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	13.8	13.9	114	0.34	0.16	41.3	41.5	0.15	10.5	10.6	35,148
Apartments Low Rise	8.21	8.28	67.6	0.20	0.10	24.6	24.7	0.09	6.24	6.33	20,897
Condo/Townhouse	3.61	3.64	29.7	0.09	0.04	10.8	10.8	0.04	2.74	2.78	9,178
Regional Shopping Center	35.4	27.6	206	0.47	0.23	54.8	55.0	0.22	13.9	14.1	48,812
Supermarket	13.1	12.7	102	0.30	0.14	36.0	36.1	0.13	9.14	9.28	30,745
General Office Building	2.21	2.15	17.4	0.05	0.02	6.10	6.13	0.02	1.55	1.57	5,213
Hotel	1.99	1.93	15.6	0.05	0.02	5.48	5.50	0.02	1.39	1.41	4,682
Fast Food Restaurant with Drive Thru	12.6	12.2	98.8	0.29	0.14	34.7	34.9	0.13	8.82	8.95	29,670

High Turnover (Sit Down Restaurant)	2.81	2.73	22.0	0.06	0.03	7.74	7.77	0.03	1.97	2.00	6,614
Total	93.7	85.1	673	1.84	0.89	222	222	0.84	56.3	57.1	190,959
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.47	2.34	20.7	0.06	0.03	7.23	7.26	0.03	1.84	1.87	5,816
Apartments Low Rise	1.34	1.27	11.3	0.03	0.02	3.94	3.96	0.01	1.00	1.02	3,167
Condo/Townhouse	0.59	0.56	4.94	0.01	0.01	1.73	1.74	0.01	0.44	0.45	1,391
Regional Shopping Center	5.10	3.64	27.7	0.06	0.03	7.18	7.21	0.03	1.83	1.85	6,075
Supermarket	1.60	1.25	9.99	0.03	0.01	2.92	2.94	0.01	0.74	0.75	2,419
General Office Building	0.31	0.28	2.43	0.01	< 0.005	0.83	0.83	< 0.005	0.21	0.21	668
Hotel	0.35	0.32	2.75	0.01	< 0.005	0.94	0.94	< 0.005	0.24	0.24	757
Fast Food Restaurant with Drive Thru	1.73	1.28	9.99	0.02	0.01	2.75	2.76	0.01	0.70	0.71	2,298
High Turnover (Sit Down Restaurant)	0.40	0.31	2.42	0.01	< 0.005	0.69	0.69	< 0.005	0.18	0.18	573
Total	13.9	11.2	92.1	0.25	0.12	28.2	28.3	0.11	7.17	7.28	23,164

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	21,515
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	7,676
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	3,402
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	12,317
Supermarket	—	—	—	—	—	—	—	—	—	—	6,242
General Office Building	—	—	—	—	—	—	—	—	—	—	7,825
Hotel	—	—	—	—	—	—	—	—	—	—	3,813
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	1,188
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	1,188
Total	—	—	—	—	—	—	—	—	—	—	65,165
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	21,515
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	7,676
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	3,402
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	12,317
Supermarket	—	—	—	—	—	—	—	—	—	—	6,242

General Office Building	—	—	—	—	—	—	—	—	—	—	7,825
Hotel	—	—	—	—	—	—	—	—	—	—	3,813
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	1,188
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	1,188
Total	—	—	—	—	—	—	—	—	—	—	65,165
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3,562
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	1,271
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	563
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	2,039
Supermarket	—	—	—	—	—	—	—	—	—	—	1,033
General Office Building	—	—	—	—	—	—	—	—	—	—	1,295
Hotel	—	—	—	—	—	—	—	—	—	—	631
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	197
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	197
Total	—	—	—	—	—	—	—	—	—	—	10,789

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	21,438
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	7,638
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	3,389
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	11,932
Supermarket	—	—	—	—	—	—	—	—	—	—	6,168
General Office Building	—	—	—	—	—	—	—	—	—	—	7,638
Hotel	—	—	—	—	—	—	—	—	—	—	3,760
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	1,177
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	1,177
Total	—	—	—	—	—	—	—	—	—	—	64,318
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	21,438
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	7,638
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	3,389

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	11,932
Supermarket	—	—	—	—	—	—	—	—	—	—	6,168
General Office Building	—	—	—	—	—	—	—	—	—	—	7,638
Hotel	—	—	—	—	—	—	—	—	—	—	3,760
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	1,177
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	1,177
Total	—	—	—	—	—	—	—	—	—	—	64,318
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3,549
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	1,265
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	561
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	1,975
Supermarket	—	—	—	—	—	—	—	—	—	—	1,021
General Office Building	—	—	—	—	—	—	—	—	—	—	1,265
Hotel	—	—	—	—	—	—	—	—	—	—	623
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	195
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	195

Total	—	—	—	—	—	—	—	—	—	—	10,649

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.55	9.45	4.02	0.06	0.76	—	0.76	0.76	—	0.76	12,023
Apartments Low Rise	0.20	3.38	1.44	0.02	0.27	—	0.27	0.27	—	0.27	4,298
Condo/Townhouse	0.12	1.97	0.84	0.01	0.16	—	0.16	0.16	—	0.16	2,507
Regional Shopping Center	0.08	1.45	1.22	0.01	0.11	—	0.11	0.11	—	0.11	1,733
Supermarket	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	598
General Office Building	0.09	1.68	1.41	0.01	0.13	—	0.13	0.13	—	0.13	2,012
Hotel	0.17	3.01	2.53	0.02	0.23	—	0.23	0.23	—	0.23	3,598
Fast Food Restaurant with Drive Thru	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	572
High Turnover (Sit Down Restaurant)	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	572
Total	1.28	22.4	12.7	0.14	1.77	—	1.77	1.77	—	1.77	27,914
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.55	9.45	4.02	0.06	0.76	—	0.76	0.76	—	0.76	12,023

Apartments Low Rise	0.20	3.38	1.44	0.02	0.27	—	0.27	0.27	—	0.27	4,298
Condo/Townhouse	0.12	1.97	0.84	0.01	0.16	—	0.16	0.16	—	0.16	2,507
Regional Shopping Center	0.08	1.45	1.22	0.01	0.11	—	0.11	0.11	—	0.11	1,733
Supermarket	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	598
General Office Building	0.09	1.68	1.41	0.01	0.13	—	0.13	0.13	—	0.13	2,012
Hotel	0.17	3.01	2.53	0.02	0.23	—	0.23	0.23	—	0.23	3,598
Fast Food Restaurant with Drive Thru	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	572
High Turnover (Sit Down Restaurant)	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	572
Total	1.28	22.4	12.7	0.14	1.77	—	1.77	1.77	—	1.77	27,914
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	1.72	0.73	0.01	0.14	—	0.14	0.14	—	0.14	1,990
Apartments Low Rise	0.04	0.62	0.26	< 0.005	0.05	—	0.05	0.05	—	0.05	712
Condo/Townhouse	0.02	0.36	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	415
Regional Shopping Center	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	287
Supermarket	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	98.9
General Office Building	0.02	0.31	0.26	< 0.005	0.02	—	0.02	0.02	—	0.02	333
Hotel	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	596

Fast Food Restaurant with Drive Thru	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	94.8
High Turnover (Sit Down Restaurant)	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	94.8
Total	0.23	4.09	2.31	0.03	0.32	—	0.32	0.32	—	0.32	4,621

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.53	9.02	3.84	0.06	0.73	—	0.73	0.73	—	0.73	11,483
Apartments Low Rise	0.19	3.23	1.38	0.02	0.26	—	0.26	0.26	—	0.26	4,113
Condo/Townhouse	0.11	1.88	0.80	0.01	0.15	—	0.15	0.15	—	0.15	2,397
Regional Shopping Center	0.08	1.38	1.16	0.01	0.10	—	0.10	0.10	—	0.10	1,649
Supermarket	0.03	0.49	0.41	< 0.005	0.04	—	0.04	0.04	—	0.04	584
General Office Building	0.09	1.62	1.36	0.01	0.12	—	0.12	0.12	—	0.12	1,936
Hotel	0.16	2.88	2.42	0.02	0.22	—	0.22	0.22	—	0.22	3,448
Fast Food Restaurant with Drive Thru	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	571
High Turnover (Sit Down Restaurant)	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	571
Total	1.23	21.5	12.2	0.13	1.70	—	1.70	1.70	—	1.70	26,752

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.53	9.02	3.84	0.06	0.73	—	0.73	0.73	—	0.73	11,483
Apartments Low Rise	0.19	3.23	1.38	0.02	0.26	—	0.26	0.26	—	0.26	4,113
Condo/Townhouse	0.11	1.88	0.80	0.01	0.15	—	0.15	0.15	—	0.15	2,397
Regional Shopping Center	0.08	1.38	1.16	0.01	0.10	—	0.10	0.10	—	0.10	1,649
Supermarket	0.03	0.49	0.41	< 0.005	0.04	—	0.04	0.04	—	0.04	584
General Office Building	0.09	1.62	1.36	0.01	0.12	—	0.12	0.12	—	0.12	1,936
Hotel	0.16	2.88	2.42	0.02	0.22	—	0.22	0.22	—	0.22	3,448
Fast Food Restaurant with Drive Thru	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	571
High Turnover (Sit Down Restaurant)	0.03	0.48	0.40	< 0.005	0.04	—	0.04	0.04	—	0.04	571
Total	1.23	21.5	12.2	0.13	1.70	—	1.70	1.70	—	1.70	26,752
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	1.65	0.70	0.01	0.13	—	0.13	0.13	—	0.13	1,901
Apartments Low Rise	0.03	0.59	0.25	< 0.005	0.05	—	0.05	0.05	—	0.05	681
Condo/Townhouse	0.02	0.34	0.15	< 0.005	0.03	—	0.03	0.03	—	0.03	397
Regional Shopping Center	0.01	0.25	0.21	< 0.005	0.02	—	0.02	0.02	—	0.02	273
Supermarket	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	96.7

General Office Building	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	321
Hotel	0.03	0.53	0.44	< 0.005	0.04	—	0.04	0.04	—	0.04	571
Fast Food Restaurant with Drive Thru	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	94.5
High Turnover (Sit Down Restaurant)	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	94.5
Total	0.22	3.92	2.22	0.02	0.31	—	0.31	0.31	—	0.31	4,429

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	63.4	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Consumer Products	110	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	8.21	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	21.9	1.80	201	0.01	0.17	—	0.17	0.13	—	0.13	621
Total	203	31.8	774	1.98	82.5	—	82.5	79.4	—	79.4	42,176
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	63.4	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Consumer Products	110	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	8.21	—	—	—	—	—	—	—	—	—	—
Total	181	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Annual	—	—	—	—	—	—	—	—	—	—	—
Hearths	2.60	1.23	23.5	0.08	3.37	—	3.37	3.25	—	3.25	1,546
Consumer Products	20.1	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.50	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.97	0.16	18.1	< 0.005	0.02	—	0.02	0.01	—	0.01	50.7
Total	26.1	1.39	41.6	0.08	3.39	—	3.39	3.26	—	3.26	1,596

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	63.4	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Consumer Products	110	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	8.21	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	21.9	1.80	201	0.01	0.17	—	0.17	0.13	—	0.13	621
Total	203	31.8	774	1.98	82.5	—	82.5	79.4	—	79.4	42,176
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	63.4	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Consumer Products	110	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	8.21	—	—	—	—	—	—	—	—	—	—
Total	181	30.0	574	1.97	82.3	—	82.3	79.3	—	79.3	41,554
Annual	—	—	—	—	—	—	—	—	—	—	—
Hearths	2.60	1.23	23.5	0.08	3.37	—	3.37	3.25	—	3.25	1,546
Consumer Products	20.1	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.50	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.97	0.16	18.1	< 0.005	0.02	—	0.02	0.01	—	0.01	50.7
Total	26.1	1.39	41.6	0.08	3.39	—	3.39	3.26	—	3.26	1,596

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1,619
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	519
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	198
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	735
Supermarket	—	—	—	—	—	—	—	—	—	—	117
General Office Building	—	—	—	—	—	—	—	—	—	—	507

Hotel	—	—	—	—	—	—	—	—	—	—	94.4
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	87.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	87.1
Total	—	—	—	—	—	—	—	—	—	—	3,965
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1,619
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	519
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	198
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	735
Supermarket	—	—	—	—	—	—	—	—	—	—	117
General Office Building	—	—	—	—	—	—	—	—	—	—	507
Hotel	—	—	—	—	—	—	—	—	—	—	94.4
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	87.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	87.1
Total	—	—	—	—	—	—	—	—	—	—	3,965
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	268

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	85.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	32.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	122
Supermarket	—	—	—	—	—	—	—	—	—	—	19.4
General Office Building	—	—	—	—	—	—	—	—	—	—	84.0
Hotel	—	—	—	—	—	—	—	—	—	—	15.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	14.4
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	14.4
Total	—	—	—	—	—	—	—	—	—	—	656

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1,295
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	415
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	158
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	588

Supermarket	—	—	—	—	—	—	—	—	—	—	93.9
General Office Building	—	—	—	—	—	—	—	—	—	—	406
Hotel	—	—	—	—	—	—	—	—	—	—	75.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	69.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	69.6
Total	—	—	—	—	—	—	—	—	—	—	3,172
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1,295
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	415
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	158
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	588
Supermarket	—	—	—	—	—	—	—	—	—	—	93.9
General Office Building	—	—	—	—	—	—	—	—	—	—	406
Hotel	—	—	—	—	—	—	—	—	—	—	75.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	69.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	69.6
Total	—	—	—	—	—	—	—	—	—	—	3,172

Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	214
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	68.7
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	26.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	97.4
Supermarket	—	—	—	—	—	—	—	—	—	—	15.6
General Office Building	—	—	—	—	—	—	—	—	—	—	67.2
Hotel	—	—	—	—	—	—	—	—	—	—	12.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	11.5
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	11.5
Total	—	—	—	—	—	—	—	—	—	—	525

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2,104

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	1,227
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	468
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	1,339
Supermarket	—	—	—	—	—	—	—	—	—	—	691
General Office Building	—	—	—	—	—	—	—	—	—	—	342
Hotel	—	—	—	—	—	—	—	—	—	—	258
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	426
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	440
Total	—	—	—	—	—	—	—	—	—	—	7,295
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2,104
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	1,227
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	468
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	1,339
Supermarket	—	—	—	—	—	—	—	—	—	—	691
General Office Building	—	—	—	—	—	—	—	—	—	—	342
Hotel	—	—	—	—	—	—	—	—	—	—	258

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	426
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	440
Total	—	—	—	—	—	—	—	—	—	—	7,295
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	348
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	203
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	77.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	222
Supermarket	—	—	—	—	—	—	—	—	—	—	114
General Office Building	—	—	—	—	—	—	—	—	—	—	56.6
Hotel	—	—	—	—	—	—	—	—	—	—	42.7
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	70.5
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	72.8
Total	—	—	—	—	—	—	—	—	—	—	1,208

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	526
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	307
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	117
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	335
Supermarket	—	—	—	—	—	—	—	—	—	—	173
General Office Building	—	—	—	—	—	—	—	—	—	—	85.5
Hotel	—	—	—	—	—	—	—	—	—	—	64.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	106
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	110
Total	—	—	—	—	—	—	—	—	—	—	1,824
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	526
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	307
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	117
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	335
Supermarket	—	—	—	—	—	—	—	—	—	—	173

General Office Building	—	—	—	—	—	—	—	—	—	—	85.5
Hotel	—	—	—	—	—	—	—	—	—	—	64.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	106
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	110
Total	—	—	—	—	—	—	—	—	—	—	1,824
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	87.1
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	50.8
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	19.4
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	55.4
Supermarket	—	—	—	—	—	—	—	—	—	—	28.6
General Office Building	—	—	—	—	—	—	—	—	—	—	14.1
Hotel	—	—	—	—	—	—	—	—	—	—	10.7
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	17.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	18.2
Total	—	—	—	—	—	—	—	—	—	—	302

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	6.68
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	2.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	3.25
Supermarket	—	—	—	—	—	—	—	—	—	—	13,476
General Office Building	—	—	—	—	—	—	—	—	—	—	0.47
Hotel	—	—	—	—	—	—	—	—	—	—	567
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	30.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	30.6
Total	—	—	—	—	—	—	—	—	—	—	14,135
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	6.68
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	2.55

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	3.25
Supermarket	—	—	—	—	—	—	—	—	—	—	13,476
General Office Building	—	—	—	—	—	—	—	—	—	—	0.47
Hotel	—	—	—	—	—	—	—	—	—	—	567
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	30.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	30.6
Total	—	—	—	—	—	—	—	—	—	—	14,135
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2.97
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	1.11
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	0.42
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	0.54
Supermarket	—	—	—	—	—	—	—	—	—	—	2,231
General Office Building	—	—	—	—	—	—	—	—	—	—	0.08
Hotel	—	—	—	—	—	—	—	—	—	—	93.9
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	5.07
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	5.07

Total	—	—	—	—	—	—	—	—	—	—	2,340

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	6.68
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	2.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	3.25
Supermarket	—	—	—	—	—	—	—	—	—	—	13,476
General Office Building	—	—	—	—	—	—	—	—	—	—	0.47
Hotel	—	—	—	—	—	—	—	—	—	—	567
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	30.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	30.6
Total	—	—	—	—	—	—	—	—	—	—	14,135
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	6.68
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	2.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	3.25
Supermarket	—	—	—	—	—	—	—	—	—	—	13,476
General Office Building	—	—	—	—	—	—	—	—	—	—	0.47
Hotel	—	—	—	—	—	—	—	—	—	—	567
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	30.6
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	30.6
Total	—	—	—	—	—	—	—	—	—	—	14,135
Annual	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2.97
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	1.11
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	0.42
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	0.54
Supermarket	—	—	—	—	—	—	—	—	—	—	2,231
General Office Building	—	—	—	—	—	—	—	—	—	—	0.08
Hotel	—	—	—	—	—	—	—	—	—	—	93.9

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	5.07
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	5.07
Total	—	—	—	—	—	—	—	—	—	—	2,340

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	14.2	0%
Apartments Low Rise	—	0%
Condo/Townhouse	—	0%
Regional Shopping Center	0.00	0%
Supermarket	0.00	0%
General Office Building	0.00	0%
Hotel	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	609	0.24	0.34
2027	0.00	609	0.24	0.34
2028	0.00	609	0.24	0.34
2029	0.00	609	0.24	0.34

2030	0.00	609	0.24	0.34
2031	0.00	609	0.24	0.34
2032	0.00	609	0.24	0.34
2033	0.00	609	0.24	0.34
2034	0.00	609	0.24	0.34
2035	0.00	609	0.24	0.34
2036	0.00	609	0.24	0.34
2037	0.00	609	0.24	0.34
2038	0.00	609	0.24	0.34
2039	0.00	609	0.24	0.34
2040	0.00	609	0.24	0.34
2041	0.00	609	0.24	0.34
2042	0.00	609	0.24	0.34
2043	0.00	609	0.24	0.34
2044	0.00	609	0.24	0.34
2045	0.00	609	0.24	0.34
2046	0.00	609	0.24	0.34
2047	0.00	609	0.24	0.34
2048	0.00	609	0.24	0.34
2049	0.00	609	0.24	0.34
2050	0.00	609	0.24	0.34
2051	0.00	609	0.24	0.34
2052	0.00	609	0.24	0.34
2053	0.00	609	0.24	0.34
2054	0.00	609	0.24	0.34
2055	0.00	609	0.24	0.34
2056	0.00	609	0.24	0.34

2057	0.00	609	0.24	0.34
2058	0.00	609	0.24	0.34
2059	0.00	609	0.24	0.34
2060	0.00	609	0.24	0.34
2061	0.00	609	0.24	0.34
2062	0.00	609	0.24	0.34
2063	0.00	609	0.24	0.34
2064	0.00	609	0.24	0.34
2065	0.00	609	0.24	0.34
2066	0.00	609	0.24	0.34
2067	0.00	609	0.24	0.34
2068	0.00	609	0.24	0.34
2069	0.00	609	0.24	0.34
2070	0.00	609	0.24	0.34
2071	0.00	609	0.24	0.34
2072	0.00	609	0.24	0.34
2073	0.00	609	0.24	0.34
2074	0.00	609	0.24	0.34

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,558	8,649	7,751	3,086,306	61,485	62,136	55,688	22,173,637
Apartments Low Rise	4,624	5,142	3,967	1,680,495	33,221	36,942	28,501	12,073,557
Condo/Townhouse	2,031	2,258	1,742	738,126	14,592	16,226	12,519	5,303,085

Regional Shopping Center	19,658	24,017	10,988	6,950,505	60,392	82,427	37,711	22,009,335
Supermarket	4,982	8,287	7,767	2,135,979	13,402	54,121	50,724	8,961,087
General Office Building	1,405	319	101	388,192	9,176	2,082	659	2,535,179
Hotel	1,262	1,236	898	440,294	8,242	8,074	5,863	2,875,442
Fast Food Restaurant with Drive Thru	6,113	7,997	6,148	2,331,332	13,816	52,228	40,152	8,419,069
High Turnover (Sit Down Restaurant)	1,402	1,530	1,783	538,240	3,777	9,990	11,642	2,112,690

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	8,010	8,095	7,255	2,888,783	57,550	58,159	52,124	20,754,524
Apartments Low Rise	4,328	4,813	3,713	1,572,944	31,095	34,578	26,677	11,300,850
Condo/Townhouse	1,901	2,114	1,631	690,886	13,658	15,188	11,717	4,963,688
Regional Shopping Center	18,400	22,480	10,285	6,505,672	56,527	77,151	35,298	20,600,737
Supermarket	4,663	7,757	7,270	1,999,276	12,545	50,657	47,477	8,387,578
General Office Building	1,315	298	94.5	363,348	8,588	1,949	617	2,372,927
Hotel	1,181	1,157	840	412,115	7,714	7,557	5,488	2,691,414
Fast Food Restaurant with Drive Thru	5,722	7,485	5,755	2,182,127	12,932	48,886	37,582	7,880,249
High Turnover (Sit Down Restaurant)	1,312	1,432	1,669	503,792	3,535	9,351	10,897	1,977,478

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	643
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	643
Conventional Wood Stoves	0
Catalytic Wood Stoves	64
Non-Catalytic Wood Stoves	64
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	440
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	440
Conventional Wood Stoves	0
Catalytic Wood Stoves	44
Non-Catalytic Wood Stoves	44
Pellet Wood Stoves	0
Condo/Townhouse	—

Wood Fireplaces	0
Gas Fireplaces	168
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	168
Conventional Wood Stoves	0
Catalytic Wood Stoves	17
Non-Catalytic Wood Stoves	17
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	643
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	643
Conventional Wood Stoves	0
Catalytic Wood Stoves	64
Non-Catalytic Wood Stoves	64
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	440
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	440
Conventional Wood Stoves	0
Catalytic Wood Stoves	44
Non-Catalytic Wood Stoves	44
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	168
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	168
Conventional Wood Stoves	0
Catalytic Wood Stoves	17
Non-Catalytic Wood Stoves	17
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
7688236.5	2,562,746	2,007,606	669,202	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	10,964,062	609	0.2373	0.3390	37,409,773
Apartments Low Rise	3,911,484	609	0.2373	0.3390	13,375,236
Condo/Townhouse	1,733,479	609	0.2373	0.3390	7,801,902
Regional Shopping Center	6,276,857	609	0.2373	0.3390	5,393,186
Supermarket	3,181,093	609	0.2373	0.3390	1,859,331
General Office Building	3,987,453	609	0.2373	0.3390	6,261,418
Hotel	1,943,013	609	0.2373	0.3390	11,195,793
Fast Food Restaurant with Drive Thru	605,289	609	0.2373	0.3390	1,780,867
High Turnover (Sit Down Restaurant)	605,289	609	0.2373	0.3390	1,780,867

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	10,924,757	609	0.2373	0.3390	35,730,800
Apartments Low Rise	3,892,470	609	0.2373	0.3390	12,798,810
Condo/Townhouse	1,727,145	609	0.2373	0.3390	7,459,048
Regional Shopping Center	6,080,502	609	0.2373	0.3390	5,130,028

Supermarket	3,143,422	609	0.2373	0.3390	1,817,329
General Office Building	3,892,463	609	0.2373	0.3390	6,025,397
Hotel	1,916,109	609	0.2373	0.3390	10,728,979
Fast Food Restaurant with Drive Thru	599,789	609	0.2373	0.3390	1,776,388
High Turnover (Sit Down Restaurant)	599,789	609	0.2373	0.3390	1,776,388

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	51,334,837	254,268,039
Apartments Low Rise	35,128,038	1,574,623
Condo/Townhouse	13,412,524	601,220
Regional Shopping Center	50,092,950	934,024
Supermarket	8,012,434	89,774
General Office Building	34,645,817	269,226
Hotel	6,341,693	501,354
Fast Food Restaurant with Drive Thru	5,949,868	27,070
High Turnover (Sit Down Restaurant)	5,949,868	27,070

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	41,067,870	203,414,431
Apartments Low Rise	28,102,430	1,259,698
Condo/Townhouse	10,730,019	480,976
Regional Shopping Center	40,074,360	747,219

Supermarket	6,409,947	71,819
General Office Building	27,716,654	215,381
Hotel	5,073,354	401,083
Fast Food Restaurant with Drive Thru	4,759,894	21,656
High Turnover (Sit Down Restaurant)	4,759,894	21,656

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1,116	—
Apartments Low Rise	651	—
Condo/Townhouse	248	—
Regional Shopping Center	710	—
Supermarket	367	—
General Office Building	181	—
Hotel	137	—
Fast Food Restaurant with Drive Thru	226	—
High Turnover (Sit Down Restaurant)	233	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	279	—
Apartments Low Rise	163	—
Condo/Townhouse	62.1	—
Regional Shopping Center	178	—
Supermarket	91.6	—

General Office Building	45.3	—
Hotel	34.2	—
Fast Food Restaurant with Drive Thru	56.4	—
High Turnover (Sit Down Restaurant)	58.3	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

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

Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0

Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	21.5	annual days of extreme heat
Extreme Precipitation	1.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	72.5
AQ-PM	56.7
AQ-DPM	67.4
Drinking Water	97.0
Lead Risk Housing	59.3
Pesticides	96.9
Toxic Releases	31.4
Traffic	50.7
Effect Indicators	—
CleanUp Sites	25.9
Groundwater	42.8
Haz Waste Facilities/Generators	56.4
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	44.1
Cardio-vascular	64.7
Low Birth Weights	32.5
Socioeconomic Factor Indicators	—
Education	83.6
Housing	31.2
Linguistic	56.9
Poverty	70.1
Unemployment	86.8

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	16.92544591
Employed	5.00449121
Median HI	23.29013217
Education	—
Bachelor's or higher	13.1271654
High school enrollment	100
Preschool enrollment	14.69267291
Transportation	—
Auto Access	43.30809701
Active commuting	28.32028744
Social	—
2-parent households	32.77300141
Voting	25.07378417
Neighborhood	—
Alcohol availability	75.7602977
Park access	24.3295265
Retail density	12.83202874
Supermarket access	46.20813551
Tree canopy	56.28127807
Housing	—
Homeownership	65.75131528
Housing habitability	29.21852945
Low-inc homeowner severe housing cost burden	25.83087386
Low-inc renter severe housing cost burden	10.77890414
Uncrowded housing	25.7153856

Health Outcomes	—
Insured adults	28.58976004
Arthritis	0.0
Asthma ER Admissions	54.4
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	11.8
Cognitively Disabled	1.8
Physically Disabled	4.7
Heart Attack ER Admissions	21.1
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	42.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	36.4
Elderly	65.5
English Speaking	60.2
Foreign-born	38.3
Outdoor Workers	9.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	79.4
Traffic Density	58.0
Traffic Access	0.0
Other Indices	—
Hardship	89.3
Other Decision Support	—
2016 Voting	33.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	12.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Evaluating operational emissions only.
Operations: Vehicle Data	Per project traffic study, less internal trips.

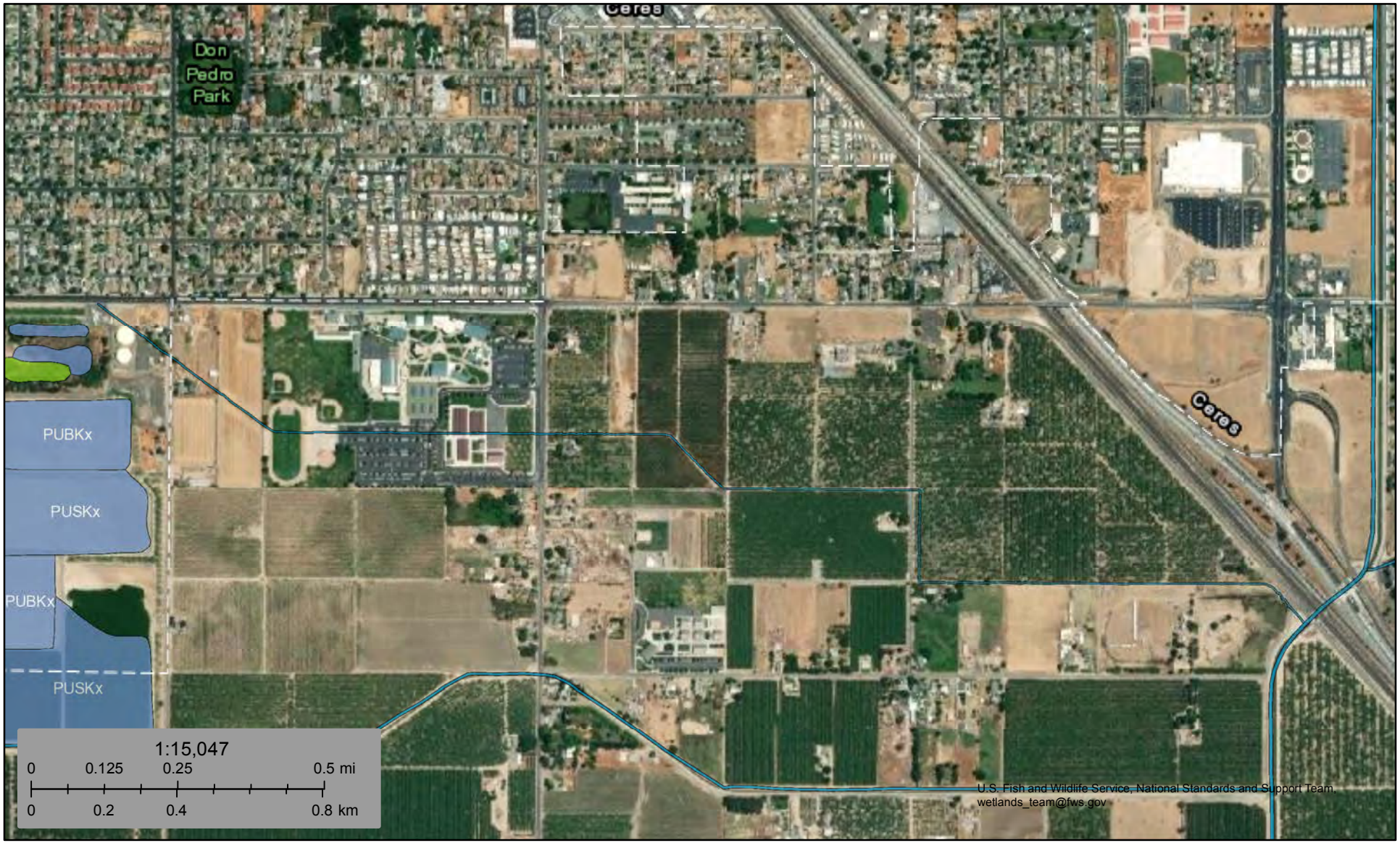
APPENDIX D
BIOLOGICAL RESOURCE MATERIALS

Element_Type	Scientific_Name	Common_Name	Element_Code	Federal_Status	State_Status	CDFW_Status	CA_Rare_Plant_Rank	Quad_Code	Quad_Name	Data_Status	Taxonomic_So
Animals - Birds	Buteo swainsoni	Swainsons hawk	ABNKC19070	None	Threatened	-	-	3712058	CERES	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainson
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Threatened	SSC	-	3712058	CERES	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3712058	CERES	Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Fish	Cottus gulosus	riffle sculpin	AFC4E02140	None	None	SSC	-	3712058	CERES	Unprocessed	Animals - Fish - Cottidae - Cottu gulosus
Animals - Fish	Mylopharodon conocephalus	hardhead	AFCJB25010	None	None	SSC	-	3712058	CERES	Mapped	Animals - Fish - Cyprinidae - Mylopharodon conocephalus
Animals - Fish	Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3712058	CERES	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus pop. 11
Animals - Fish	Oncorhynchus tshawytscha pop. 13	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	-	3712058	CERES	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha pop 13
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	3712058	CERES	Mapped	Animals - Insect - Apidae - Bombus caliginosus
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	Candidate Endangered	-	-	3712058	CERES	Mapped	Animals - Insect - Apidae - Bombus crotchii
Animals - Insects	Bombus pensylvanicus	American bumble bee	IIHYM24260	None	None	-	-	3712058	CERES	Mapped and Unprocessed	Animals - Insect - Apidae - Bombus pensylvanicus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3712058	CERES	Mapped	Animals - Insect - Cerambycidae Desmocerus californicus dimorphus
Animals - Insects	Lytta moesta	moestan blister beetle	IICOL4C020	None	None	-	-	3712058	CERES	Mapped	Animals - Insect - Meloidae - Lytt moesta
Animals - Mammals	Corynorhinus townsendii	Townsends big-eared bat	AMACC08010	None	None	SSC	-	3712058	CERES	Mapped	Animals - Mammals - Vespertilionidae Corynorhinus townsendii
Animals - Mollusks	Anodonta oregonensis	Oregon floater	IMBIV04110	None	None	-	-	3712058	CERES	Unprocessed	Animals - Mollusks - Unionidae -

											Anodonta oregonensis
Animals - Mollusks	Gonidea angulata	western ridged mussel	IMBIV19010	None	None	-	-	3712058	CERES	Mapped	Animals - Mollusks - Unionidae - Gonidea angulata
Plants - Vascular	Atriplex cordulata var. cordulata	heartscale	PDCHE040B0	None	None	-	1B.2	3712058	CERES	Mapped	Plants - Vascula - Chenopodiacea - Atriplex cordulata var. cordulata
Plants - Vascular	Atriplex subtilis	subtle orache	PDCHE042T0	None	None	-	1B.2	3712058	CERES	Mapped	Plants - Vascula - Chenopodiacea - Atriplex subtilis

U.S. Fish and Wildlife Service
National Wetlands Inventory

Copper Trails



September 22, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX E
CULTURAL RESOURCE MATERIALS

CENTRAL CALIFORNIA INFORMATION CENTER
California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: 12/20/2023

Records Search File #: 12758N
Project: Copper Trails Specific Plan EIR

Rayanna Beck
BaseCamp Environmental, Inc.
802 W. Lodi Ave.
Lodi, CA 95240
209-224-8213

rbeck@basecampenv.com

Dear Ms. Beck:

We have conducted a non-confidential extended records search as per your request for the above-referenced project areas located on the Ceres USGS 7.5-minute quadrangle map in Stanislaus County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area, and review of the following:

National Register of Historic Places (NRHP)
California Register of Historical Resources (CRHR)
California Inventory of Historic Resources (1976)
California Historical Landmarks
California Points of Historical Interest listing
Office of Historic Preservation Built Environment Resource Directory (BERD) and the Archaeological Resources Directory (ARD)
Survey of Surveys (1989)
Caltrans State and Local Bridges Inventory
General Land Office Plats
Other pertinent historic data available at the CCaIC for each specific county

The following details the results of the records search:

Prehistoric or historic resources within the project area:

- There are no formally recorded prehistoric or historic archaeological resources within the project area.

- There are 20 historic buildings (single family properties) and two historic structures (Southern Pacific Railroad and TID Ceres Main Canal) formally recorded on or adjacent to the project area (see attached list). Nineteen of the single family properties and the Southern Pacific Railroad are referenced in the Office of Historic Preservation Built Environment Resource Directory (BERD) with the evaluation status of "6Y", determined

ineligible for the National Register by consensus through the Section 106 process, not evaluated for the California Register of Historical Resources or for local listing (see attached list). Please be advised that there are additional listings for Ceres in the BERD that may fall within the project area that we do not have documents on file for (see attached Excel file).

- The General Land Office survey plat for T4S R9E (dated 1854) shows a road extending southwest to northeast through Sections 14 and 23, but no other historic features within Sections 22 or 24.

- The Official Map of the County of Stanislaus, California (1906) shows the City of Ceres street configuration and numerous parcels with no specific landowners referenced.

- The 1916 edition of the Ceres USGS quadrangle references the City of Ceres layout, the Southern Pacific Railroad and TID Ceres Main Canal.

Prehistoric or historic resources within the immediate vicinity of the project area: None other than the historic buildings and structures referenced above.

Resources that are known to have value to local cultural groups: None has been formally reported to the Information Center.

Previous investigations within the project area: There have been investigations within portions of the project area, referenced in the following fourteen documents:

Swenson, L. (Caltrans District 10)
1980 *An Archaeological Survey Report for the Proposed Keyes Freeway Segment of Highway 99 in Stanislaus County, 10-Sta-99, 7.3/10.9, 10204-058201.*
CCaIC Report ST-00936

Richards, R. J. (Caltrans District 10, Heritage Preservation Section)
1980 *Historic Property Survey Report: State Highway 99, Stanislaus County, Post Mile R7.3/R10.9, Keyes Freeway. [includes ASR by L. Swenson (also separate as ST-936) and HASR by J. Snyder].*
CCaIC Report ST-01754

Snyder, J. (Caltrans District 10)
1980 *An Historic Architectural Survey of 10-Sta-99, P.M. 7.3/10.9.*
CCaIC Report ST-01754

Hatoff, B., B. Voss, S. Waechter, S. Wee, and V. Bente (Woodward-Clyde Consultants; for Mojave Pipeline Company)

1995 *Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project.*
CCaIC Report ST-02759

Nelson, W. J. (Far Western Anthropological Research Group, Inc.; for Parsons, Brinckerhoff Network Services)

2000 *Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project; Segment WS04: Sacramento to Bakersfield.*
CCaIC Report ST-03995

SWCA Environmental Consultants (SWCA Environmental Consultants; for Qwest Communications)

2006 *Cultural Resources Final Report of Monitoring and Findings for the QWest Network Construction Project, State of California. SWCA Project No. 10715-180.*
CCaIC Report ST-06345

Peak, M. A. (Peak & Associates, Inc.; for EIP Associates)

2006 *Cultural Resources Assessment for the Turlock Irrigation District's Regional Water Supply Project, County of Stanislaus, California.*
CCaIC Report ST-06446

Haley, Kathryn (Jones & Stokes; for Caltrans District 10)

2006 *State Route 99/Mitchell Road/Service Road Interchange Reconstruction, Historic Property Survey Report (Includes Historical Resources Evaluation Report and Archaeological Survey Report), State Route 99/Mitchell Road, Ceres, Californis, 10-STA-99-KP 15.6-17.5 (PM 9.7-10.9), EA 10-1A690.*
CCaIC Report ST-06477

Jones & Stokes (Jones & Stokes; for City of Ceres, Nolte Associates, and Caltrans District 6)

2006 *Archaelogical Survey Report for the State Route 99/Mitchell Road/Service Road Interchange Reconstruction.*
CCaIC Report ST-06477b

Arrington, C., L. Harrington, and P. Daly (Cultural Research Associates; for Parus Consulting)

2009 *Cultural Resources Inventory for the Hughson-Grayson 115kV Transmission Line and Substation Project in Stanislaus County, California.*
CCaIC Report ST-06977

Peak, M. A. (Peak and Associates, Inc.; for Rincon Consultants, Inc.)
2009 *Letter Report Re: Elementary School Sites 13 and 14, Ceres Unified School District, (Job #09-057).*
CCIC Report ST-07057

Kuzak, C. (Caltrans District 10)
2011 *Historic Property Survey Report, 10-STA-99, P.M. 0.0/24.8, 2576 E-FIS1000020344, Stanislaus County, California.*
CCaIC Report ST-07537

Clifton, V., and M. Cornelius (EBI Consulting fo Verizon Wireless)
2015 *Cultural Resource Survey, Ceres-Moffet/Ensite #23420 (296105), 4037 Moffett Road, Ceres, Stanislaus Couny, California, 95307, NE 1/4 of the NW 1/4 of section 23 T04S R09E, EBI Projet No. 6114009751.*
CCaIC Report ST-08212

Haley, K. (ICF for City of Ceres and Caltrans)
2017 *Finding of No Adverse Effect for the State Route 99/Service Road/Mitchell Road Interchange Project, City of Ceres, Stanislaus County, California; California Department of Transportation District 10, Stanislaus County, State Route 99, Post Miles 9.5-11.4; EA 10-1A690; Project ID 10-0000-0375.*
CCaIC Report ST-08825

Recommendations/Comments:

Please be advised that a historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. Since the three proposed area has not been subject to project-specific investigations, there may be unidentified features involved that are 45 years or older and considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

If the current project does not include ground disturbance, further study for archaeological resources is not recommended at this time. If ground disturbance is considered a part of the current project, we recommend further review for the possibility of identifying prehistoric or historic-era archaeological resources.

If the proposed project contains buildings or structures that meet the minimum age requirement (45 years in age or older) it is recommended that the resource/s be assessed by a professional familiar with architecture and history of the county. Review of the available historic building/structure data has included only those sources listed above and should not be considered comprehensive.

If at any time you might require the services of a qualified professional the Statewide Referral

List for Historical Resources Consultants is posted for your use on the internet at http://chrisinfo.org

If archaeological resources are encountered during project-related activities**,** work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources.

If human remains are discovered, California Health and Safety Code Section 7050.5 requires you to protect the discovery and notify the county coroner, who will determine if the find is Native American. If the remains are recognized as Native American, the coroner shall then notify the Native American Heritage Commission (NAHC). California Public Resources Code Section 5097.98 authorizes the NAHC to appoint a Most Likely Descendant (MLD) who will make recommendations for the treatment of the discovery.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the State Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Thank you for transmitting the signed **Access Agreement Short Form.**

Note: Billing will be transmitted separately via email from the Financial Services office ($225.00), payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

https://commerce.cashnet.com/ANTHROPOLOGY

Sincerely,

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: ARBilling@csustan.edu, CSU Stanislaus Financial Services

Stanislaus	P-50-000001	CA-STA-000350H	San Joaquin Valley Railroad; Southern Pacific Railroad line;
Stanislaus	P-50-000073	CA-STA-000426H	TID Ceres Main Canal; TID Lower Lateral No. 2; TID (Upper)
Stanislaus	P-50-001968		2901 Redwood Rd.
Stanislaus	P-50-001969		4385 Lucas Rd.
Stanislaus	P-50-001972		2812, 2830, 2832 Service Rd.
Stanislaus	P-50-001973		4002 Joseph Rd.
Stanislaus	P-50-001974		4001 Joseph Rd.
Stanislaus	P-50-001975		4137 Joseph Road
Stanislaus	P-50-001976		4112 Moffett Rd.
Stanislaus	P-50-001977		4005 Lucas Rd.
Stanislaus	P-50-001979		2807 Service Rd.
Stanislaus	P-50-001980		2601 Service Rd.
Stanislaus	P-50-001981		2541 Service Rd.
Stanislaus	P-50-001982		2524 Service Rd.
Stanislaus	P-50-001983		2519 Service Rd.
Stanislaus	P-50-001984		3930 El Camino Ave.
Stanislaus	P-50-001985		3912 El Camino Ave.
Stanislaus	P-50-001986		3836 El Camino Ave.
Stanislaus	P-50-001987		3824 El Camino Ave.
Stanislaus	P-50-001988		2632 Don Pedro Rd.
Stanislaus	P-50-002014		4231 Central Avenue
Stanislaus	P-50-002015		4237 Central Avenue

Primary Nu	St Nu	St Name	City	County	Zip	Evaluation	Ownership	Constructio
50-000001		So Pac RR	CERES	STANISLAUS		6Y, 03/07/2007, FHWA070117A	002 152 07	1869
50-001988	2632	DON PEDRO RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-013-004	1937
50-001987	3824	EL CAMINO AVE	CERES	STANISLAUS		6Y, 03/07/2007, FHWA070117A		1947
50-001986	3836	EL CAMINO AVE	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-013-008	1943
50-001985	3912	EL CAMINO AVE	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-013-009	1940
50-001984	3930	EL CAMINO AVE	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-013-010	1953
50-001974	4001	JOSEPH RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-012-009	1949
50-001973	4002	JOSEPH RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-012-008	1950
50-001975	4137	JOSEPH RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-012-006	1895
50-001977	4005	LUCAS RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-012-003	1920
50-001969	4385	LUCAS RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-013-005	1922
50-001788	2079	MAGNOLIA ST	CERES	STANISLAUS	95307	6Y, 07/25/2000, DOE-50-00-	127-12-09	1947
50-001976	4112	MOFFETT RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-012-005	1920
50-001968	2901	REDWOOD RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-013-006	1905
50-001983	2519	SERVICE RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-037-020	1950
50-001982	2524	SERVICE RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-037-019	1956
50-001981	2541	SERVICE RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-037-012	1925
50-001980	2601	SERVICE RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-038-005	1940
50-001979	2807	SERVICE RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	053-013-015	1928
50-001972	2812	SERVICE RD	CERES	STANISLAUS	95307	6Y, 03/07/2007, FHWA070117A	041-013-003	1950

APPENDIX F
NOISE STUDY

Environmental Noise Assessment

Copper Trails Master Plan

City of Ceres, California

May 1, 2024

Project #240101

Prepared for:

BaseCamp Environmental, Inc.
802 West Lodi Avenue
Lodi, CA 95240

Prepared by:

Saxelby Acoustics LLC

Luke Saxelby, INCE Bd. Cert.
Principal Consultant
Board Certified, Institute of Noise Control Engineering (INCE)

(916) 760-8821
www.SaxNoise.com | Luke@SaxNoise.com
915 Highland Pointe Drive, Suite 250
Roseville, CA 95678

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INTRODUCTION

The Copper Trails Master Plan project is located in the City of Ceres, California. The planned development is bordered by E. Service Road to the north, the Union Pacific Railroad (UPRR), SR 99, and Mitchell Road to the east, T.I.D. Lower Lateral No. 2 to the south, and Blaker Road to the west. The project includes the preparation of a planned development which includes single and multi-family residential, regional commercial, public usage, and parks and open space land uses. The project is located outside of the Ceres City Limits, but is located within the City's Sphere of Influence and thus is proposed to be annexed into the City.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

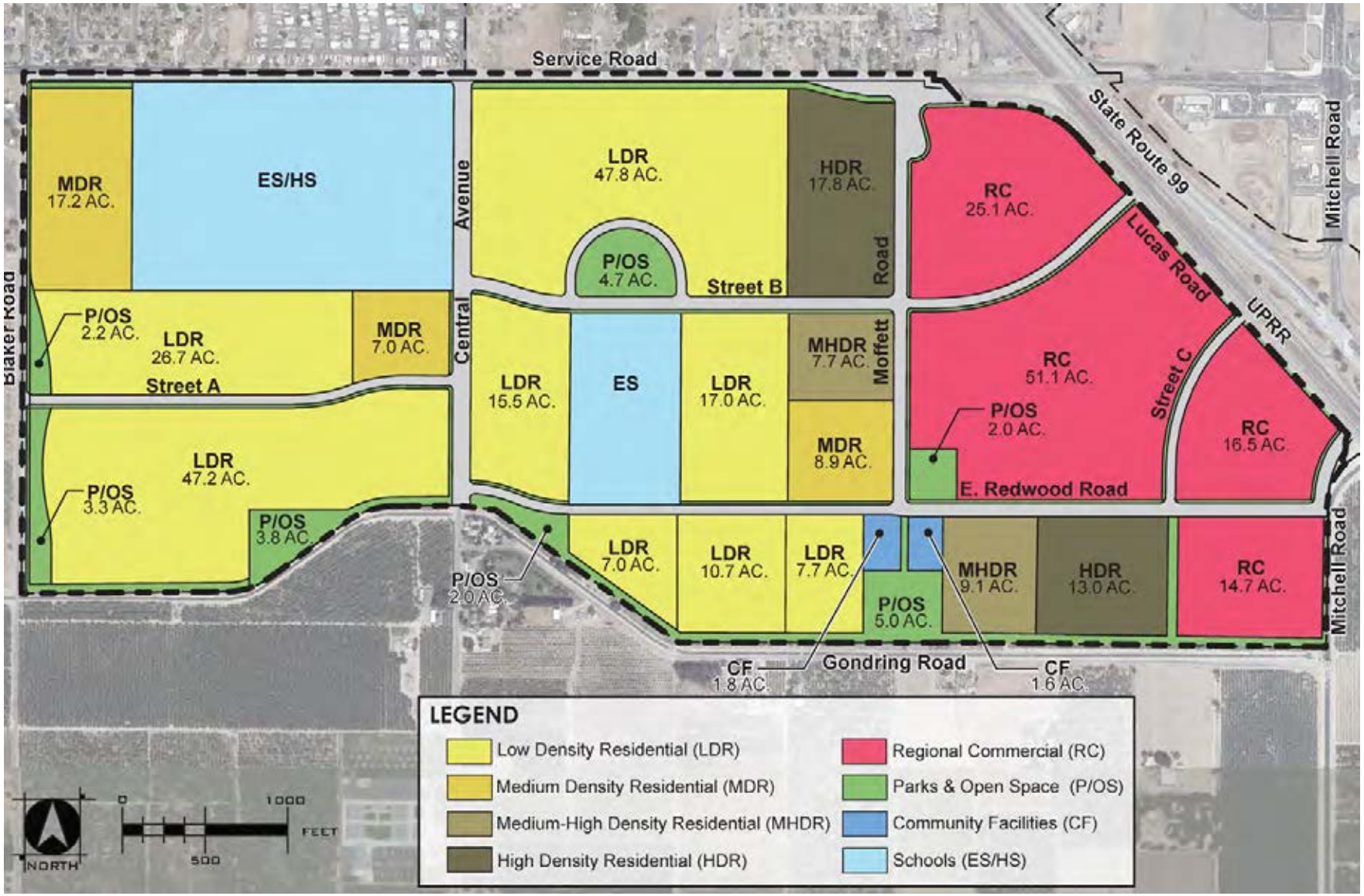
Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.

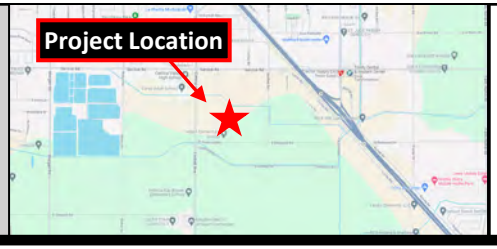


Copper Trails Master Plan EIR

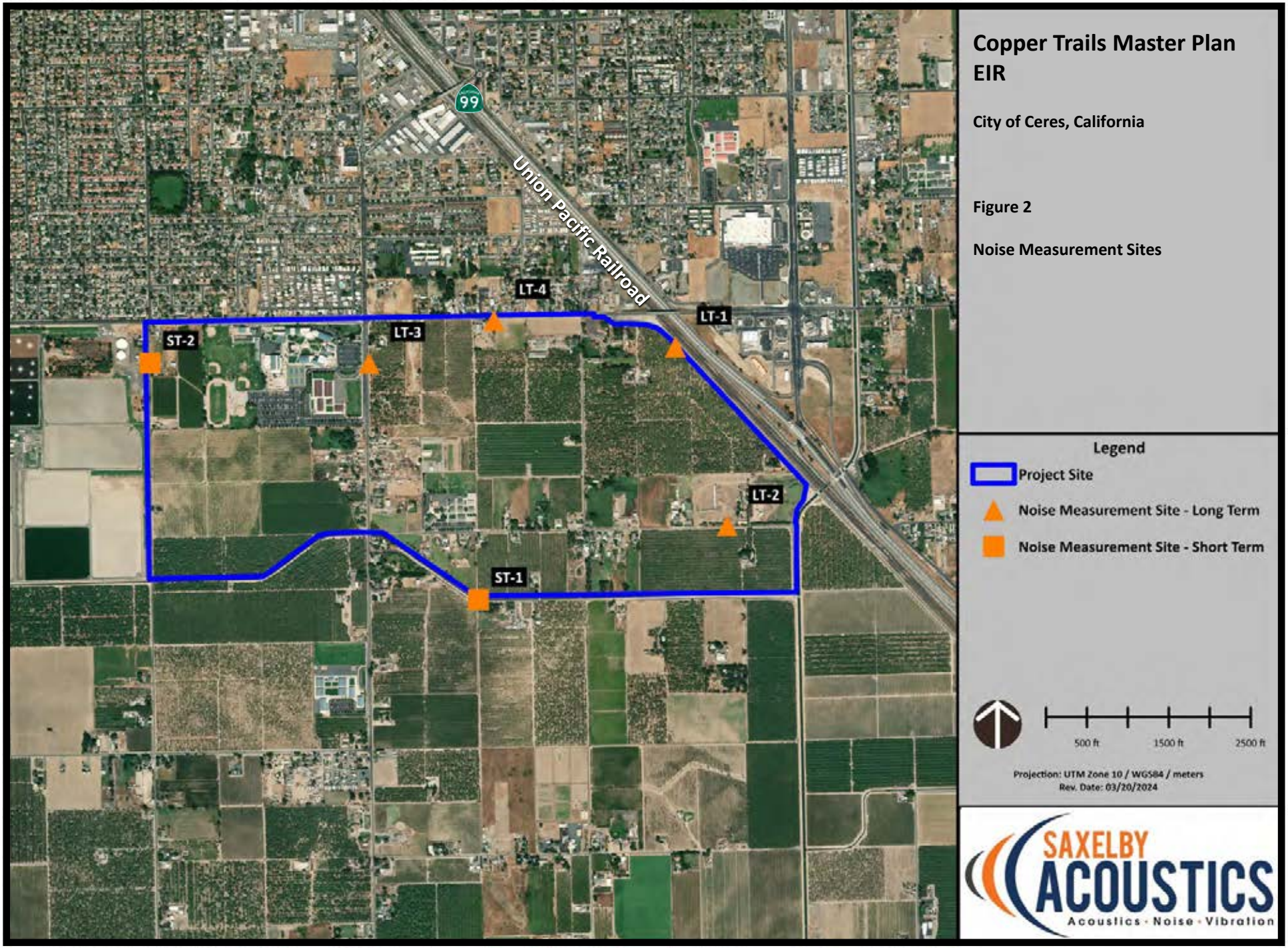
City of Ceres, California

Figure 1

Project Site Plan



SAXELBY ACOUSTICS
Acoustics · Noise · Vibration



Copper Trails Master Plan EIR

City of Ceres, California

Figure 2

Noise Measurement Sites

Legend

- Project Site
- Noise Measurement Site - Long Term
- Noise Measurement Site - Short Term

500 ft 1500 ft 2500 ft

Projection: UTM Zone 10 / WGS84 / meters
Rev. Date: 03/20/2024

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60-dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September, 2013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regards to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise-sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses to the north and south of the project site.

EXISTING GENERAL AMBIENT NOISE LEVELS

The existing noise environment in the project area is primarily defined by traffic on SR 99, UPRR, and E. Service Road. Secondary noise sources include traffic on the local roadway network. To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted continuous (24-hr.) noise level measurements at four locations on the project site and two short-term noise measurement at two locations on the project site. Noise measurement locations are shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) model 812, 820, and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Location	Date	L_{dn}	Daytime L_{eq}	Daytime L_{50}	Daytime L_{max}	Nighttime L_{eq}	Nighttime L_{50}	Nighttime L_{max}
LT-1: 230 ft. to CL of SR 99	3/7/2024	76	70	69	84	70	67	84
LT-2: 25 ft. to CL of Redwood Rd.	3/7/2024	66	62	57	82	59	57	74
LT-3: 40 ft. to CL of Central Ave.	3/7/2024	73	71	65	90	65	55	84
LT-4: 65 ft. to CL of Service Rd.	3/7/2024	74	71	70	82	67	59	81
ST-1: 20 ft. to CL of Gondring Rd.	3/6/2024	N/A	44	43	51	N/A	N/A	N/A
LT-2: 20 ft. to CL of Blaker Rd.	3/6/2024	N/A	52	53	55	N/A	N/A	N/A

Notes:

- *All values shown in dBA*
- *Daytime hours: 7:00 a.m. to 10:00 p.m.*
- *Nighttime Hours: 10:00 p.m. to 7:00 a.m.*
- *Source: Saxelby Acoustics, 2024.*

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

OFF-SITE TRAFFIC NOISE IMPACT ASSESSMENT METHODOLOGY

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at sensitive receptors for the Near-Term and Near-Term Plus Project conditions.

Near Term noise levels due to traffic are calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict traffic noise levels in terms of L_{dn}, it is necessary to adjust the input volume to account for the day/night distribution of traffic.

Project trip generation volumes were provided by the project traffic engineer (Wood Rogers 2024), truck usage and vehicle speeds on the local area roadways were estimated from field observations. The predicted increases in traffic noise levels on the local roadway network for Near-Term conditions which would result from the project are provided in terms of L_{dn}.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may not receive full shielding from noise barriers or may be located at distances which vary from the assumed calculation distance.

Table 3 summarizes the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area. **Appendix C** provides the complete inputs and results of the FHWA traffic modeling.

TABLE 3: PREDICTED TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Near-Term no Project (dBA)	Near-Term + Project (dBA)	Change
El Camino Ave	North of North Street	65.1	66.3	1.2
North Street	East of El Camino Ave	60.8	59.2	-1.6
El Camino Ave	South of 4th Street	63.4	62.2	-1.2
E. Service Road	West of SR 99	68.8	72.5	3.7

Based upon the **Table 3** data, the proposed project is predicted to result in an increase in a maximum traffic noise level increase of 3.7 dBA.

EVALUATION OF PROJECT OPERATIONAL NOISE ON EXISTING SENSITIVE RECEPTORS

The Project proposes over 100 acres of land zoned Regional Commercial. Saxelby Acoustics assumed that these uses could include, but are not limited to, general retail, grocery, restaurants, drive-thrus, and/or gas stations. Project site traffic circulation, rooftop mechanical equipment, and drive-thru HVAC noise are considered to be the primary noise sources for this project.

Detailed site plans were not available at the time of analysis; therefore, Saxelby Acoustics modeled noise emanating from the commercial component of the site based on typical layouts for new commercial uses adjacent to major state routes. The following is a list of assumptions used for the noise modeling. The data used is based upon a combination of manufacturer's provided data and Saxelby Acoustics data from similar operations.

ROOFTOP HVAC

Typical commercial parcels have a density of 5,000-6,000 square feet of building space per acre. Saxelby Acoustics assumed the commercial buildings would use an average of one ton of cooling per 250 square feet of building space. It was assumed that the average HVAC unit would be a 3-to-6-ton packaged HVAC unit with a sound level rating of approximately 82 dBA. All equipment is assumed to operate continuously during the daytime, and 50% of the time at night. Saxelby Acoustics assumed that the HVAC units would be installed on the rooftop of the proposed commercial buildings surrounded by 4-foot parapets.

PARKING LOT CIRCULATION

Based upon similar commercial projects, Saxelby Acoustics estimates that the project could generate 75-140 peak hour trips per acre of commercial area. Saxelby Acoustics assumed that 1% of these trips could be trucks. Parking lot movements are predicted to generate a sound exposure level (SEL) of 71 dBA SEL at 50 feet for cars and 85 dBA SEL at 50 feet for trucks. Nighttime traffic outside of the AM or PM peak hour is estimated to be approximately 50% of daytime trips during nighttime hours (10:00 p.m. to 7:00 a.m.). Saxelby Acoustics data.

EVALUATION OF DRIVE-THRU SPEAKER BOX NOISE

Based upon similar projects, commercial areas typically include one quick service restaurant for every 3-4 acres of commercial property. The proposed quick service restaurants will likely use speaker boxes to collect customer orders. Saxelby Acoustics assumed that speaker boxes would produce an average noise level of 68 dBA L_{eq} at a distance of 3 feet. It was assumed that each quick service restaurant would utilize up to 2 speakers.

NOISE LEVELS AT SENSITIVE RECEPTORS

To assess noise generated by the commercial portion of the project, individual commercial areas were assessed at the closest residential use as measured from the center of each commercial area. The project has four main commercial areas. Noise sources are assumed to be evenly distributed across the commercial area. **Table 4** below shows the predicted noise levels at the nearby sensitive receptors.

TABLE 4: PREDICTED OPERATIONAL NOISE LEVELS AT EXISTING SENSITIVE RECEPTORS

Area	Acres	Distance to Sensitive Receptors	Correction[1]	Noise Level L_{eq} Day	Noise Level L_{max} Day	Noise Level L_{eq} Night	Noise Level L_{max} Night
RC 14.7 AC.	14.7	1230	0	42.8	62.8	39.8	59.8
RC 16.5 AC.	16.5	2070	-10	28.2	48.2	25.2	45.2
RC 25.1 AC.	25.1	980	0	46.5	66.5	43.5	63.5
RC 51.1 AC.	51.1	2000	-10	33.4	53.4	30.4	50.4

[1]*Masonry sound walls typically provide -5 dB of shielding. Intervening buildings or built-up areas provide -10 dB of shielding.*

In addition to the sources detailed above, the project may utilize several noise-generating components which require large setbacks or sound walls to shield. **Table 5** below lists several sources and their noise levels.

PARK NOISE

Recreation at public park areas such as playgrounds, play fields, and picnic areas generally produces noise levels of up to 55 dBA L_{eq} at 50 feet from the center of activity. Park activities typically occur during daytime hours only and are generally compatible with residential uses. Certain park recreational features, such as pickleball courts, can produce higher levels of noise. **Table 5** lists several amenities which may require larger setback distances or additional screening.

TABLE 5: NOISE LEVELS FOR COMMON NOISE SOURCES

Source	Typical Noise Levels (dBA L_{eq})
Loading Dock	46 L_{eq} & 64 L_{max} at 350 feet
Car Wash	80 L_{eq} & 80 L_{max} at 50 feet
Pickleball Courts (Four Courts)	61 L_{eq} & 81 L_{max} at 45 feet
Soccer Fields	55 L_{eq} & 75 L_{max} at 200 feet
Dog Park	52 L_{eq} & 68 L_{max} at 170 feet

EVALUATION OF FUTURE TRANSPORTATION NOISE ON PROJECT SITE

Saxelby Acoustics used noise level measurement data from the ambient noise survey (see **Table 2**) as well as the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) to calculate traffic noise levels at the proposed residential uses due to traffic on E. Service Road. E. Service Road was estimated to increase by +3.7 dBA based upon project traffic increases provided by the project traffic engineer (Wood Rogers 2024). It was determined that E. Service Road would produce a noise level of approximately 77 dBA L_{dn} at 50 feet from the centerline of the roadway under the Near-Term plus Project conditions.

EVALUATION OF STATIONARY NOISE ON PROJECT SITE

The primary source of stationary noise on the project site is a pump station located at the City of Ceres waste water treatment plant (WWTP). Saxelby Acoustics conducted noise level measurements of the pump station at location ST-2 (see **Table 2**). Measurements of the pump station were influenced by traffic along Blaker Road and residential activities in the surrounding area. It was determined that the pump station produced noise levels of up to 48 dBA L_{eq} at a distance of approximately 150 feet. The proposed medium-density residential uses are located 175 feet away from the pump station. At this distance, noise levels are predicted to be 46.7 dBA L_{eq}. Noise from pump stations is continuous; maximum noise levels would be approximately equal to the continuous L_{eq} noise level.

CONSTRUCTION NOISE ENVIRONMENT

During the construction of the proposed project, noise from construction activities would temporarily add to the noise environment in the project vicinity. As shown in **Table 6**, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 6: CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dBA at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: Roadway Construction Noise Model User's Guide. Federal Highway Administration. FHWA-HEP-05-054. January 2006.

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. **Table 7** shows the typical vibration levels produced by construction equipment.

TABLE 7: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: Transit Noise and Vibration Impact Assessment Guidelines. Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal regulations which apply to the proposed project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed in more detail under the Thresholds of Significance section.

LOCAL

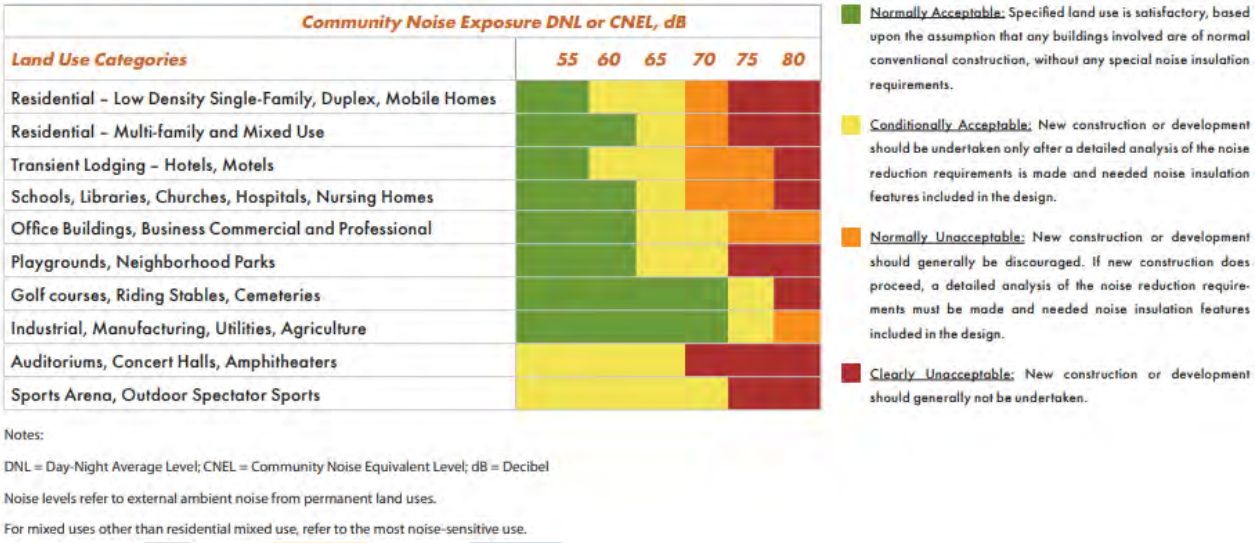
City of Ceres General Plan

Goal 5.L: Protect the community from the harmful and annoying effect of exposure to excessive noise and vibration.

5.L.1: **Community Noise Compatibility.** Use Table 5-3: Community Noise Compatibility Matrix and the Projected Noise Contours (2035) in Figure 5-13 as guidelines to evaluate land use compatibility of new development, including whether a proposed use is compatible with the existing or planned noise environment of a given location, as well as whether a proposed use would negatively affect the noise environment for existing or planned uses in the area.

TABLE 8: COMMUNITY NOISE COMPATIBILITY MATRIX

Table 5-3: Community Noise Compatibility Matrix



Notes:

DNL = Day-Night Average Level; CNEL = Community Noise Equivalent Level; dB = Decibel

Noise levels refer to external ambient noise from permanent land uses.

For mixed uses other than residential mixed use, refer to the most noise-sensitive use.

Source : Table 5-3 City of Ceres General Plan

5.L.2: **Maximum Allowable Noise Exposure**. Use the standards in Table 5-4: Maximum Allowable Noise Exposure for Transportation Noise Sources to regulate acceptable limits of noise for various land uses for both exterior and interior environments from transportation sources.

TABLE 9: MAXIMUM ALLOWABLE NOISE EXPOSURE FOR TRANSPORTATION NOISE SOURCES

Land Use	DNL Outdoor Activity Areas (DNL, CNEL, dB[2])
Residential	60
Transient Lodging	60
Hospitals, Nursing Homes	60
Theaters, Auditoriums, Music Halls	--
Churches, Meeting Halls	60
Office Buildings	65
Schools, Libraries, Museums	60
Playgrounds, Neighborhood Parks	65

Notes:

DNL = Day-Night Average Level; CNEL = Community Noise Equivalent Level; dB = Decibel; Leq = Equivalent Noise Level

1. An outdoor activity area is a location outside of the immediate structure where formal or informal activities are likely to happen (such as a yard on a residential property, a playground or sports field at a school, or exterior patio or exercise area of a hospital). For non-residential uses where an outdoor activity area is not proposed, the standard does not apply. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. For residential uses with front yards facing the identified noise source, an exterior noise level standard of DNL 65 dB shall be applied at the building façade, in addition to a DNL 60 dB standard at the outdoor activity area.

2. Where it is not possible to reduce noise in outdoor activity areas to the allowable maximum, levels up to 5 dB higher may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
3. CNEL is used for quantification of aircraft noise exposure.
4. As determined for a typical worst-case hour during periods of use.
Source : Table 5-4 City of Ceres General Plan

5.L.3: **Performance Standards**. Use performance standards established in Table 5-5: Performance Standards for Stationary Sources to regulate operational noise associated with new non-residential development or changes of non-residential use. Require, Prior to approval of a project, that noise generated by the project be mitigated so as not to exceed the performance standards of Table 5-5. Standards apply to the noise sources themselves, as measured at the edge of the property line of residential or other sensitive uses; noise caused by motor vehicles traveling to and from the site is exempt from these standards.

5.L.4: **Single Noise Sensitive Uses**. Prohibit the development of noise-sensitive uses where noise levels are "normally unacceptable" or higher as shown in Table 5-3: Community Noise Compatibility Matrix, unless effective noise mitigation measures have been incorporated into the development design to achieve the specified interior noise standards in Table 5-4: Maximum Allowable Noise Exposure for Transportation Noise Sourced. For public schools, require acoustic analyses for any schools proposed in areas where noise levels would be considered "normally unacceptable" per Table 5-3: Community Noise Compatibility Matrix.

5.L.5: **Compatibility with Noise Sensitive Uses**. Require that noise created by new proposed non-transportation sources be mitigated so as not exceed the noise level standards of Table 5-4: Maximum Allowable Noise Exposure for Transportation Noise Sources as measured at the property line of lands designated on the General Plan Land Use Map for noise-sensitive uses.

TABLE 10: PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level (L_{eq}), dBA	55	45
Maximum Sound Level dBA	60	45

Notes :
1. *Sound level measurements shall be made at a point on the receiving property nearest where the sound source at issue generates the highest sound level.*
2. *Each of the noise levels specified shall be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.*
3. *These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwellings).*

Source : Table 5-5 City of Ceres General Plan

5.L.10: **Noise Compatibility**. Prevent incompatible land uses from encroaching upon existing or planned noise-generating uses (such as agricultural, industrial, or commercial uses) by avoiding the placement of incompatible uses in environments where existing noise levels conflict with guidelines and standards provided in Table 5-3, Table 5-4, and Table 5-5, or where land use designation provide for future uses whose noise levels would be likely to conflict, in order to protect the city's economic base.

5.L.11: **Noise Mitigation**. Require, where noise mitigation measures are required to achieve the standards of Table 5-4 and Table 5-5, that the emphasis of such measures be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

City of Ceres Municipal Code

9.04.010 - Noise prohibited.

It is unlawful for any person to make, continue or cause to be made or continued any loud, unnecessary or unusual noise or any noise which either annoys, disturbs, injures or endangers the comfort, repose, health, peace or safety of others.

9.04.020 Unnecessary noises.

The following acts, among others, are declared to be loud, disturbing and unnecessary noises in violation of the provisions of this chapter, but the enumeration shall not be deemed to be exclusive, namely:

A. *Horns, signaling devices.* Sounding of any horn or signaling device on any automobile, motorcycle or other vehicle on any street or public place of the City, except as a danger warning; the creation by means of any such signaling device of any unreasonably loud or harsh sound; and sounding of any such device for an unnecessary and unreasonable period of time. The use of any signaling device except one operated by hand or electricity; the use of any horn, whistle or other device operated by engine exhaust; and the use of any such signaling device when traffic is for any reason held up;

B. *Radios, stereos, or other sound amplification devices.* The using, operating, or permitting to be placed, used or operated by radio receiving set, musical instrument, stereo, or other machine or device for the producing, reproducing, or amplifying sound in such manner as to disturb the peace, quiet and comfort of the neighboring inhabitants at any time with louder volume than is necessary for convenient hearing for the person or persons who are in the room, vehicle or chamber in which such machine or device is operated and who are voluntary listeners thereto. The operation of any such set, instrument, stereo, machine or device between the hours of 11:00 p.m. and 7:00 a.m. in such a manner as to be plainly audible at a distance of 50 feet from the building, structure or vehicle in which it is located shall be prima facie evidence of a violation of this section. This section can be enforced at any time of the day. Nothing in this section that establishes prima facie evidence of a violation of this section shall be interpreted to limit the City's ability to enforce this section;

C. *Animals, birds.* The keeping of any animal or bird which by causing frequent or long continued noise shall disturb the comfort or repose of any persons in the vicinity;

D. *Exhausts.* The discharge into the open air of the exhaust of any motorboat or motor vehicle except through a muffler or other device which will effectively prevent loud or explosive noises therefrom;

E. *Construction or repairing of buildings.* The erection (including excavating), demolition, alteration or repair of any building other than between the hours of 7:00 a.m. and 8:00 p.m., except that, by special permit issued by the Building Inspector or City Engineer, as the case may be, upon a determination that the public health and safety will not be impaired thereby, the erection, demolition, alteration or repair of any building or the excavation of streets and highways may be permitted within the hours of 8:00 p.m. and 7:00 a.m.;

F. *Hawkers, peddlers.* The shouting and crying of peddlers, hawkers and vendors which disturbs the peace and quiet of the neighborhood;

G. *Machinery.* Operation between the hours of 8:00 p.m. and 7:00 a.m. of any machinery or appliance, use of which is attended by loud or unusual noise;

H. *Motor vehicles.* The using or operating of any motor vehicle in a manner which creates shrill, piercing or loud noises which may be heard beyond the property lines of the property from which the subject noise is produced or caused;

I. *Snow-cone, ice cream trucks.* Soft music allowed over p.a. system or bells - no loud music. Loud is defined as a noise that either annoys, disturbs, injures or endangers the comfort, repose, health, peace or safety of others.

(Ord. No. 2020-1056 , § 1, 2-24-2020)

9.04.030 - Exception to sections 9.04.010 and 9.04.020.

The provision of sections 9.04.010 and 9.04.020 shall not apply to any noise or situation within the scope of section 23109 of the vehicle code of the state.

The collection of garbage is hereby exempted from the time limits contained in sections 9.04.010 and 9.04.020 to the extent that it does not create a public nuisance. Garbage collection shall not start prior to 5:00 a.m.

CRITERIA FOR ACCEPTABLE VIBRATION

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events.

Table 11, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 11 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 11: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Transportation Related Earthborne Vibrations. Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-c]).

Would the project:

a. Generate 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?

b. Generate excessive groundborne vibration or groundborne noise levels?

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The proposed project is not located within two miles of a public or private airport, therefore item "c" is not discussed any further in this study.

Noise Level Increase Criteria for Long-Term Project-Related Noise Level Increases

The California Environmental Quality Act (CEQA) guidelines define a significant impact of a project if it "increases substantially the ambient noise levels for adjoining areas." Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project noise conditions. **Table 12** is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 12: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

Ambient Noise Level Without Project, L_{dn}	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON).

Based on the **Table 12** data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB L_{dn}, or 3 dB or more where existing noise levels are between 60 to 65 dB L_{dn}. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB L_{dn}. The rationale for the **Table 12** criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

Temporary Construction Noise Impacts

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Ceres Municipal Code, construction activities are prohibited outside of the hours of 7:00 a.m. to 8:00 p.m.

The City has not adopted any formal standard for evaluating temporary construction noise which occurs within allowable hours. For short-term noise associated with Project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020), applied to existing residential receptors in the project vicinity. This level of increase is approximately equivalent to a doubling of sound energy and has been the standard of significance for Caltrans projects at the state level for many years. Application of this standard to construction activities is considered reasonable considering the temporary nature of construction activities.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

Impact 1: ***Would the project generate 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?***

Traffic Noise Increases at Off-Site Receptors

Based upon the **Table 12** FICON criteria, where existing traffic noise levels are greater than 65 dBA L_{dn}, at the outdoor activity areas of noise-sensitive uses, a +1.5 dBA L_{dn} increase in roadway noise levels will be considered significant. Where traffic noise levels are between 60 dBA L_{dn} and 65 dBA L_{dn}, a +3.0 dB L_{dn} increase in roadway noise levels will be considered significant. Where traffic noise levels are less than 60 dBA L_{dn}, a +5.0 dB L_{dn} increase in roadway noise levels will be considered significant. According to **Table 3**, the maximum increase is traffic noise at the nearest sensitive receptor is predicted to be 3.7 dBA. Therefore, this is a ***potentially significant*** impact and requires mitigation.

As shown in **Table 3**, noise-sensitive receptors located along El Camino Avenue, North Street, and E. Service Road in the project vicinity are currently exposed to exterior traffic noise levels exceeding the City of Ceres 60 dB L_{dn} exterior noise level standard for residential uses. These receptors would continue to experience elevated exterior noise levels with implementation of the proposed project. Sensitive receptors under Near-Term conditions experience an exterior noise level of up to 68.8 dB L_{dn} along E. Service Road. Under Near-Term + Project conditions, exterior traffic noise levels are predicted to be approximately 72.5 dB L_{dn}. Exterior noise levels in both scenarios exceed the City's exterior noise level standard of 60 dB L_{dn}.

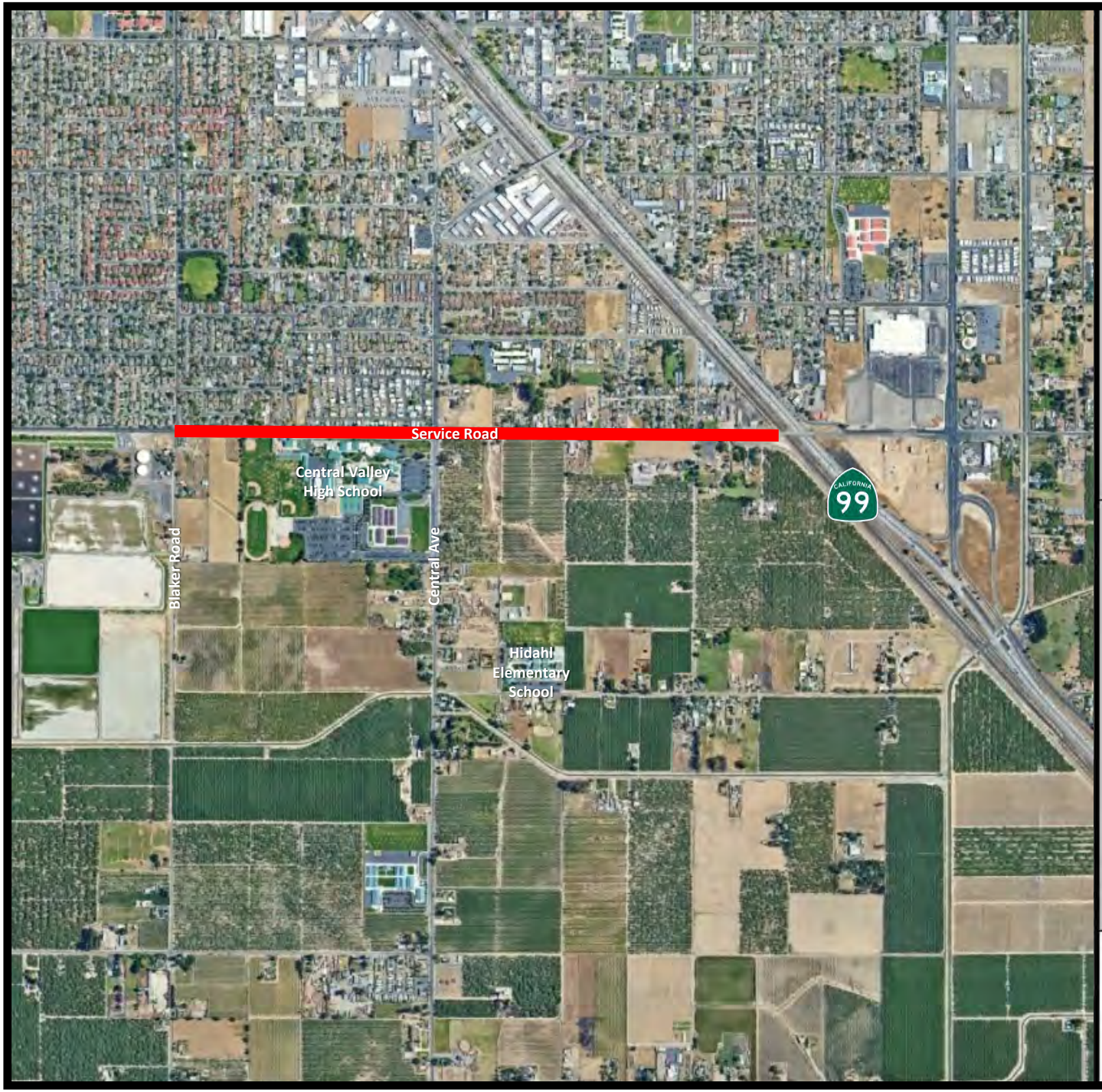
TABLE 13: PREDICTED TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Near-Term No Project	Increase Criterion	Near-Term + Project	Change	Exceeds Threshold?
El Camino Ave	North of North Street	65.1	+1.5 dB	66.3	1.2	No
North Street	East of El Camino Ave	60.8	+3.0 dB	59.2	-1.6	No
El Camino Ave	South of 4th Street	63.4	+3.0 dB	62.2	-1.2	No
E. Service Road	West of SR 99	68.8	+1.5 dB	72.5	3.7	**Yes**

Under Plus Project conditions, the proposed Project's contribution to increased traffic ranges between -1.6 dB and 3.7 dBA. A negative number indicates a reduction of trips along this segment and thus a reduction of traffic-generated noise levels. The increase of 3.7 dB along E. Service Road exceeds the significance threshold of 1.5 dB. In order to reduce this impact, the use of sound walls or quiet pavement would be required. Construction of new six-foot-tall sound walls could be a potential mitigation measure. However, many of the impacted residential uses along the roadway segments listed above are accessed directly via driveways off the main roadway. As such, a sound wall would require many driveway openings, resulting in partial noise barriers. These openings in the sound wall would substantially reduce the noise barrier performance. Additionally, construction of noise barriers at off-site locations would result in encroachment into private property. Such encroachment would require private property owners to allow permission to enter their property. Therefore, noise barriers are not considered to be a practical option.

Quiet pavements are typically assumed to provide a 3 to 5 dBA reduction. Assuming an average reduction of 4 dBA, quiet pavement placed along sensitive receptor areas could reduce Project noise level increases from up to 3.7 dBA to 0.0 dBA along E. Service Road. Approximately 6,000 feet (approximately 1.1 miles) of quiet pavement would be required. See **Figure 3** for approximate required pavement locations.

Therefore, with implementation of Mitigation Measure 1(a), traffic noise impacts would be ***less-than-significant***.



Copper Trails Master Plan

City of Ceres, California

Figure 3

Recommended Quiet Pavement Location

Legend

Reccommended Quiet Pavement

0 ft 1500 ft 3000 ft 4500 ft

Projection: State Plane (California Zone 3) / NAD83 / meters
Rev. Date: 01/22/2021

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Operational Noise at Existing Sensitive Receptors

As shown in **Table 4**, the project is predicted to expose nearby residences to noise levels up to 46.5 dBA L_{eq} and during daytime (7:00 a.m. to 10:00 p.m.) hours and 43.5 dBA L_{eq} during nighttime (10:00 p.m. to 7:00 a.m.) hours. These receptors will be annexed into the City as a part of the project. The predicted project noise levels would meet the City of Ceres noise standard for non-transportation noise sources of 45 dBA, $L_{eq.}$

As shown in **Table 2**, the average ambient noise level at the sensitive receptors near the proposed commercial uses ranges from 62-70 dBA L_{eq} during the day and 59-70 dBA L_{eq} at night. These levels are well above the 55 dBA L_{eq} and 45 dBA L_{eq} daytime and nighttime noise level standards. This is primarily due to transportation noise from SR 99 and the UPRR. The commercial area contributions of 46.5 dBA L_{eq} and 43.5 dBA L_{eq} to these existing receptors would result in a less than 0.1 dBA increase in noise levels. This is less than the **Table 12** minimum threshold of +1.5 dBA for long-term project-related noise increases and would therefore not constitute a significant increase.

Maximum noise levels have the potential to exceed City standards. However, maximum noise levels at the closest sensitive receptors currently exceed the City maximum noise level standards. Sensitive receptors to the north of the proposed commercial sources (represented by LT-4 in **Table 2**) are exposed to daytime noise levels of 82 dBA L_{max} and nighttime noise levels of 81 dBA L_{max}. Sensitive receptors to the south of the proposed commercial sources (represented by LT-2 in **Table 2**) are exposed to daytime noise levels of 82 dBA L_{max} and nighttime noise levels of 74 dBA L_{max}. As shown in **Table 4**, maximum noise levels due the commercial noise sources are not expected to exceed 66.5 dBA L_{max} during daytime hours and 63.5 dBA L_{max} during nighttime hours. Therefore, the proposed commercial component of the project would not cause the maximum noise levels at nearby sensitive receptors to increase.

Additionally, the proposed project also includes several park spaces. Public parks with recreational amenities such as playgrounds and picnic areas generally produce noise levels of 55 dBA L_{eq} at a distance of 50 feet from center. However, some amenities such as pickleball courts, soccer fields, and baseball fields produce higher levels of noise.

If the proposed commercial portion of the project includes sources such as loading docks or car washes, additional screening or large setback distances may be required. The table below provides screening distances required to comply with the City's noise level standards with and without sound walls. Construction of these noise-generating sources may occur closer than the listed screening distances if approved through a site-specific acoustical analysis performed by a qualified acoustical consultant.

TABLE 14: SCREENING DISTANCES FOR STATIONARY NOISE SOURCES

Source	Typical Noise Levels (dBA)	Unshielded Screening Distance (feet)	Screening Distance with 8-ft Wall[1] (feet)	Screening Distance with Intervening Building[2] - (feet)
Loading Dock[3]	46 L_{eq} & 64 L_{max} at 350 feet	3120	1755	990
Car Wash[4]	80 L_{eq} & 80 L_{max} at 50 feet	500	285	160
Pickleball Courts (Four Couts)[4]	61 L_{eq} & 81 L_{max} at 45 feet	900	505	N/A[5]
Soccer Fields[4]	55 L_{eq} & 75 L_{max} at 200 feet	1125	635	N/A[5]
Dog Park[4]	52 L_{eq} & 68 L_{max} at 170 feet	760	430	N/A[5]

[1]Assumes a -5 dB reduction.
[2]Assumes a -10 dB reduction.
[3]Assumes operation during both daytime and nighttime hours.
[4]Assumes operation during daytime hours only.
[5]Park buildings typically large enough to shield sources.

If the above uses were constructed closer than the screening distances listed in the table, the City's noise level standards could be exceeded at nearby sensitive receptors. Therefore, this is a ***potentially significant*** impact, and mitigation is required. Mitigation measure 1(b) would reduce stationary noise impacts to ***less-than-significant***.

Construction Noise

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. As indicated in **Table 6,** activities involved in construction would generate maximum noise levels ranging from 76 to 90 dBA L_{max} at a distance of 50 feet. Construction activities would also be temporary in nature and are anticipated to occur during normal daytime working hours. The City of Ceres prohibits construction activities generating substantial noise levels outside of the hours of 7:00 a.m. to 8:00 p.m.

Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels; Saxelby Acoustics used this criterion to evaluate increases due to construction noise associated with the project. As shown in **Table 6**, construction equipment is predicted to generate noise levels of up to 90 dBA L_{max} at 50 feet. Construction noise is evaluated as occurring at the center of the site to represent average noise levels generated over the duration of construction across the project site. **Table 15** provides the predicted noise levels at the nearest sensitive receptor to each project area.

TABLE 15: CONSTRUCTION NOISE LEVELS AT SENSITIVE RECEPTORS

Area	Distance to Sensitive receptors[1]	Existing Max[2] (dBA)	Construction Max (dBA)	Increase Over Ambient	Exceeds 12 dB?
LDR 7.0 AC.	465	79	71	0	No
LDR 10.7 AC.	525	66	70	4	No
LDR 7.7 AC.	650	66	68	2	No
LDR 15.5 AC.	795	90	66	0	No
LDR 17.0 AC.	1470	79	61	0	No
LDR 47.2 AC.	1440	90	61	0	No
LDR 26.7 AC.	1815	55	59	4	No
LDR 47.8 AC.	690	82	67	0	No
MDR 17.2 AC.	550	90	69	0	No
MDR 7.0 AC.	1600	82	60	0	No
MDR 8.9 AC.	1350	66	61	0	No
MHDR 7.7 AC.	1720	82	59	0	No
MHDR 9.1 AC.	600	72	68	0	No
HDR 13.0 AC.	1000	57	64	7	No
HDR 17.8 AC.	810	82	66	0	No
RC 14.7 AC.	1230	55	62	7	No
RC 16.5 AC.	2070	82	58	0	No
RC 25.1 AC.	980	82	64	0	No
RC 51.1 AC.	2060	82	58	0	No
P/OS 3.8 AC.	945	90	64	0	No
P/OS 5.0 AC	560	72	69	0	No
P/OS 2.0 AC	1215	72	62	0	No
P/OS 4.7 AC.	1265	82	62	0	No
CF 1.8 AC.	860	72	65	0	No
CF 1.6 AC.	800	72	66	0	No

Notes:
[1]As measured from the center of construction area.
[2]Based upon average daytime maximum noise level measured or calculated based on long-term measurement data.

As shown in the table, construction of the proposed project areas is predicted to generate an increase of up to 7 dB above the ambient noise environment, which is less than the 12 dB significance threshold.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and

equipment to and from the construction site. This noise increase would be of short duration and would occur during daytime hours.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered ***potentially significant***. Mitigation measure 1(c) would reduce construction noise impacts to ***less-than-significant***.

Transportation Noise on Project Site (Non-CEQA Issue)

Exterior Transportation Noise

Compliance with City's standards on new noise-sensitive receptors is not a CEQA consideration. However, this information is provided here so that a determination can be made regarding the ability of the proposed project to meet the requirements of the City of Ceres for exterior and interior noise levels at new sensitive uses proposed under the project.

As shown in **Table 2**, measured noise levels along E. Service Road were 74 dBA L_{dn} at a distance of 50 feet from the roadway centerline. Based upon the projected increases in traffic along E. Service Road, an increase in noise levels due to traffic of approximately +3 dB is expected. The proposed residential uses will be located approximately 100 feet from the centerline of E. Service Road. At this distance, noise levels of up to 72 dBA L_{dn} are predicted at the center of the proposed residential outdoor activity areas. This would exceed the City's noise level standard of 60 dBA L_{dn}. Therefore, Saxelby Acoustics recommends the construction of a sound wall along E. Service Road. **Table 16** below shows noise levels at the sensitive receptors with various barrier heights. **Appendix D** contains the complete results of the FHWA barrier calculations.

TABLE 16: BARRIER HEIGHTS ALONG E. SERVICE ROAD

Top of Barrier Elevation (ft)	Barrier Height[2] (ft)	---------- L_{dn}, dB ----------				Barrier Breaks Line of Sight to…		
		Autos	Medium Trucks	Heavy Trucks	Total	Autos?	Medium Trucks?	Heavy Trucks?
6	6	70	57	61	71	Yes	Yes	Yes
7	7	69	55	59	69	Yes	Yes	Yes
8	8	67	54	58	68	Yes	Yes	Yes
9	9	66	52	57	66	Yes	Yes	Yes
10	10	65	51	55	65	Yes	Yes	Yes
11	11	64	50	54	64	Yes	Yes	Yes
12	12	63	49	53	63	Yes	Yes	Yes
13	13	62	49	52	63	Yes	Yes	Yes
14	14	62	48	52	62	Yes	Yes	Yes

As shown in the table, a barrier height greater than 14 feet would be required to achieve the City's noise level standard of 60 dBA L_{dn}. However, the City's General Plan allows for transportation noise levels of up to 65 dBA L_{dn} provided that exterior noise control measures have been implemented and interior noise levels are in compliance with the City standards. Therefore, 10-foot-tall sound walls should be constructed between E. Service Road and the outdoor activity areas of the proposed residential uses. For multifamily residential developments, an intervening building may be used as shielding for outdoor areas in lieu of the 10-foot-tall sound walls.

Interior Transportation Noise

Based upon the predicted noise levels along E. Service Road of 77 dBA L_{dn} at 50 feet to the centerline, the proposed project would be exposed to unshielded exterior noise levels of up to 71 dBA L_{dn} at the ground floor building facades closest to E. Service Road. Second floor receivers are typically exposed to noise levels 2-3 dB higher than ground floor receivers, resulting in noise levels of up to 74 dBA L_{dn} at the second-floor facades. Where sound walls are utilized, exterior noise levels at ground floor receivers are predicted to be 65 dBA L_{dn}. Conventional construction typically achieves a 25 dBA noise level reduction (assuming a minimum of STC 29 rated glazing). This would result in first-floor interior noise levels of up to 40 dBA L_{dn}, which complies with the City's interior noise level standard of 45 dBA L_{dn}. However, unshielded first-floor receivers and second-floor receivers would not benefit from the shielding of the wall. Based upon these exterior transportation noise levels of 71-74 dBA L_{dn}, an exterior-to-interior noise level reduction of 26-29 dBA would be required to meet the City's interior noise level standard of 45 dBA L_{dn} at the second-floor facades of the proposed residential uses.

As floor plans for the proposed residences were not available at the time of this study, an estimate of the required noise control measures is provided in **Appendix E**. The assumptions of these calculations should be verified upon completion of the floor plans. To achieve compliance with the 45 dBA L_{dn} standard, glazing with an STC rating of at least 32 at first floors and 38 at second floors should be used at all first-row receivers with a view of E. Service Road. Ground-level receivers shielded by a sound wall would require STC 29 glazing. **Appendix E** shows the complete exterior-to-interior noise calculations.

Stationary Noise on the Project Site (Non-CEQA Issue).

The proposed project is predicted to be exposed to stationary noise levels emanating from the WWTP of up to 46.7 dBA Leq at the property line during both daytime and nighttime hours. Based upon the proposed street sections, the medium density residential development will be shielded along the western boundary by a masonry wall. Saxelby Acoustics assumes this wall would be at least 6 feet in height relative to the centerline of Blaker Road. This would be sufficient to reduce noise levels to below the City's stationary noise level standard of 45 dBA L_{eq}. Therefore, no additional noise control measures would be required.

Mitigation Measures

1(a) To reduce traffic noise increases under Near-Term Plus Project conditions to less than +1.5 dB, the segment of E. Service Road north of the project boundary shall be paved with quiet pavement. The pavement would be required for any portion of the roadway passing a noise-sensitive use, and for a distance of 100 feet on either side of the sensitive-use. **Figure 3** provides the required location of quiet pavement.

1(b) To ensure compliance with the City's noise level standards for stationary noise sources, the setback distances listed in **Table 14** shall be maintained. In lieu of this measure, an acoustical analysis may be performed by a qualified acoustical consultant demonstrating compliance with the City's noise level standards.

1(c) The City shall establish the following as conditions of approval for any permit that results in the use of construction equipment:

- Construction shall be limited to 7:00 a.m. to 8:00 p.m. unless allowed by special permit issued by the Building Inspector or City Engineer.
- All construction equipment powered by internal combustion engines shall be properly muffled and maintained.
- Quiet construction equipment, particularly air compressors, are to be selected whenever possible.
- All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors closest to the project site.
- Unnecessary idling of internal combustion engines is prohibited.
- The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Timing/Implementation: Implemented prior to approval of grading and/or building permits
Enforcement/Monitoring: City of Ceres Community Development Services Department

The above mitigation measures would help to reduce noise levels resulting from implementation of the project. With mitigation, this impact would be considered ***less-than-significant***.

Recommended Condition of Approval

Prior to approval of project improvement plans, the plans for the proposed project shall show that the outdoor activity areas of residential uses along E. Service Road shall be shielded from E. Service Road through the use of minimum ten-foot-tall sound walls per the approval of the City Engineer. Sound wall may include a combination of earthen berm and masonry wall to achieve the required wall height. Wall heights shall be measured relative to either pad or roadway centerline elevations, whichever is higher. This shall apply to all first-row receiver rooms with a view of E. Service Road. Other types of barrier may be employed but shall be reviewed by an acoustical engineer prior to being constructed. Alternatively, an intervening building may provide adequate shielding for outdoor common uses of multifamily residential developments.

Additionally, the proposed residential buildings located along the E. Service Road frontage shall be designed to achieve a 26-29 dBA exterior to interior noise level reduction to achieve the 45 dBA L_{dn} standard. This shall apply to all unshielded facades of residences with a view of E. Service Road. ***Appendix E*** *provides an estimate of interior noise control measures required to meet the applicable standards. It should be noted that interior noise control measures are based upon an estimate of the future residence layouts. These assumptions should be verified once floor plans become available for an accurate assessment of interior noise control measures.*

Impact 2: Would the project generate excessive groundborne vibration or groundborne noise levels?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The **Table 7** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located further than 26 feet from typical construction activities. At distances greater than 26 feet construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

This is a **less-than-significant** impact and no mitigation is required.

Impact 3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

There are no airports within two miles of the project vicinity. Therefore, this impact is not applicable to the proposed project.

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

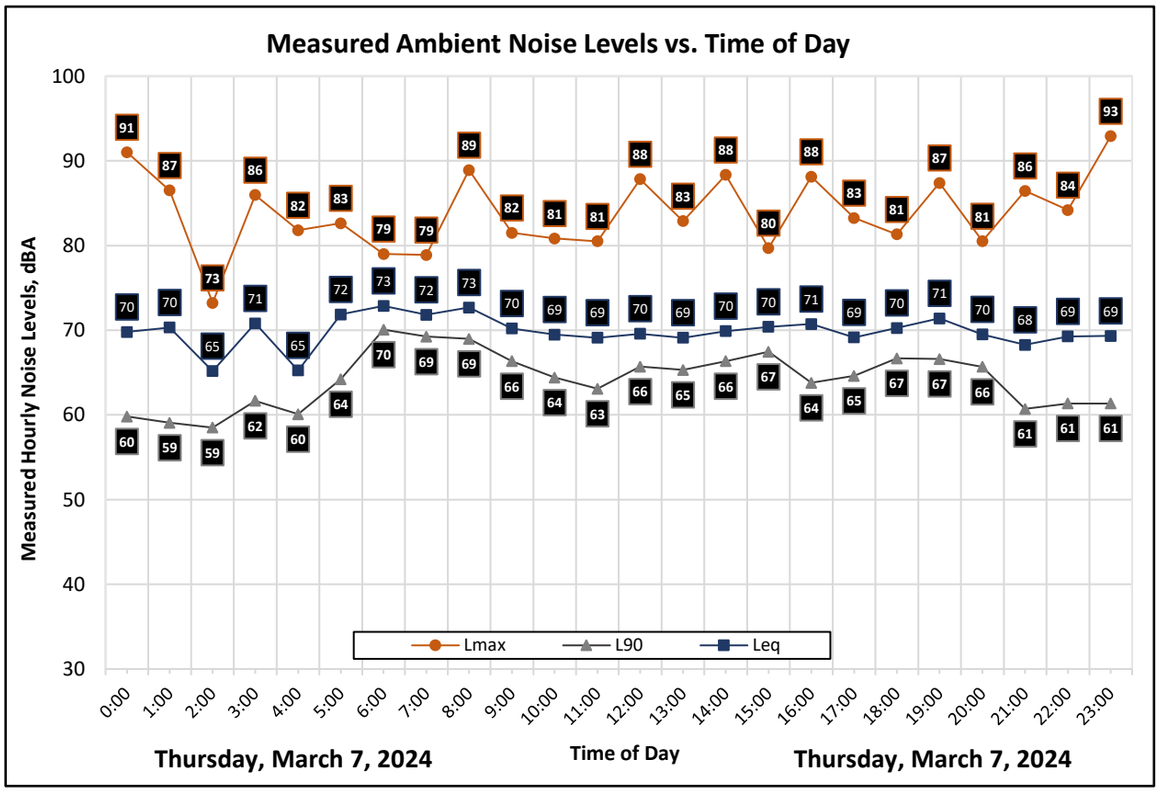
Appendix B: Continuous and Short-Term Ambient Noise Measurement Results

Appendix B1: Continuous Noise Monitoring Results

Site: LT-1
Project: Copper Trails Master Plan EIR
Meter: LDL 820-7
Location: North Eastern Project Boundary
Calibrator: CAL200
Coordinates: (37.579082, -120.943865)

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, March 7, 2024	0:00	70	91	65	60
Thursday, March 7, 2024	1:00	70	87	65	59
Thursday, March 7, 2024	2:00	65	73	64	59
Thursday, March 7, 2024	3:00	71	86	68	62
Thursday, March 7, 2024	4:00	65	82	63	60
Thursday, March 7, 2024	5:00	72	83	71	64
Thursday, March 7, 2024	6:00	73	79	73	70
Thursday, March 7, 2024	7:00	72	79	71	69
Thursday, March 7, 2024	8:00	73	89	71	69
Thursday, March 7, 2024	9:00	70	82	70	66
Thursday, March 7, 2024	10:00	69	81	68	64
Thursday, March 7, 2024	11:00	69	81	68	63
Thursday, March 7, 2024	12:00	70	88	69	66
Thursday, March 7, 2024	13:00	69	83	68	65
Thursday, March 7, 2024	14:00	70	88	69	66
Thursday, March 7, 2024	15:00	70	80	70	67
Thursday, March 7, 2024	16:00	71	88	69	64
Thursday, March 7, 2024	17:00	69	83	67	65
Thursday, March 7, 2024	18:00	70	81	70	67
Thursday, March 7, 2024	19:00	71	87	70	67
Thursday, March 7, 2024	20:00	70	81	69	66
Thursday, March 7, 2024	21:00	68	86	66	61
Thursday, March 7, 2024	22:00	69	84	67	61
Thursday, March 7, 2024	23:00	69	93	66	61

Statistics	Leq	Lmax	L50	L90
Day Average	70	84	69	66
Night Average	70	84	67	62
Day Low	68	79	66	61
Day High	73	89	71	69
Night Low	65	73	63	59
Night High	73	93	73	70
Ldn	76	Day %		66
CNEL	76	Night %		34

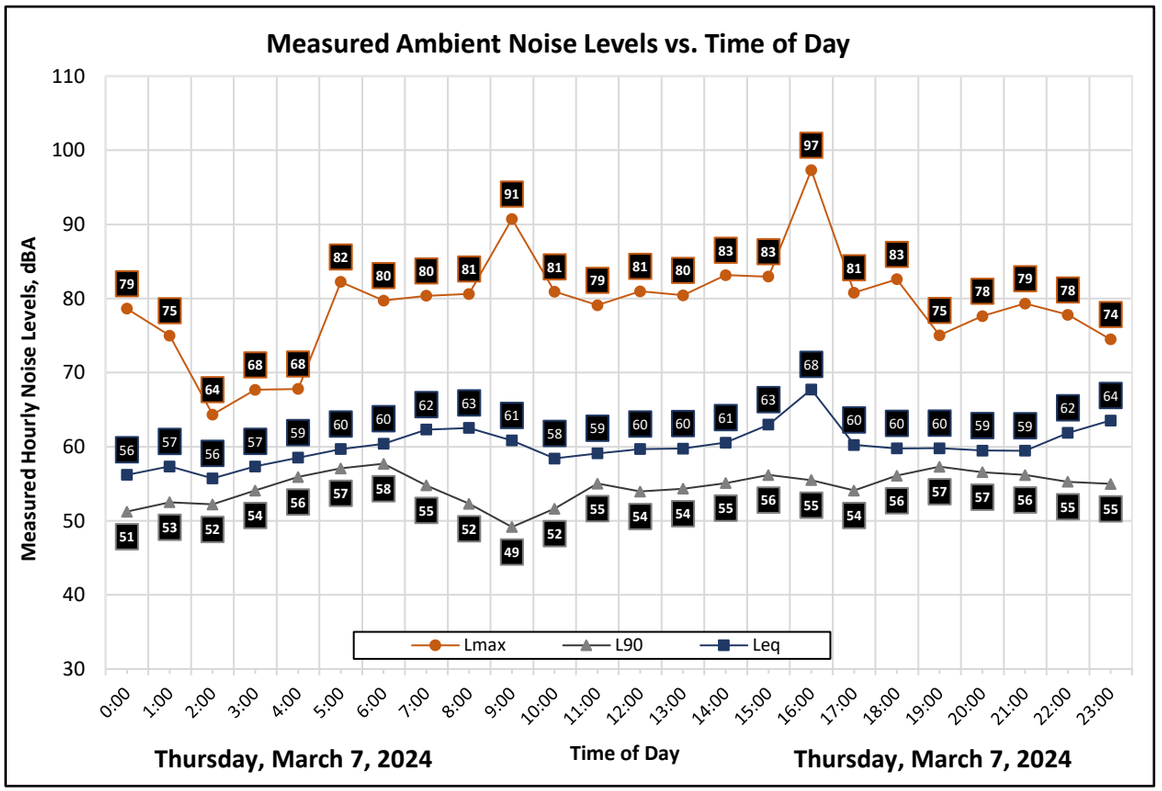


Appendix B2: Continuous Noise Monitoring Results

Site: LT-2
Project: Copper Trails Master Plan EIR
Meter: LDL 812-3
Location: South Eastern Project Boundary
Calibrator: CAL200
Coordinates: (37.5730312, -120.9418469)

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, March 7, 2024	0:00	56	79	54	51
Thursday, March 7, 2024	1:00	57	75	55	53
Thursday, March 7, 2024	2:00	56	64	55	52
Thursday, March 7, 2024	3:00	57	68	56	54
Thursday, March 7, 2024	4:00	59	68	58	56
Thursday, March 7, 2024	5:00	60	82	58	57
Thursday, March 7, 2024	6:00	60	80	60	58
Thursday, March 7, 2024	7:00	62	80	59	55
Thursday, March 7, 2024	8:00	63	81	54	52
Thursday, March 7, 2024	9:00	61	91	52	49
Thursday, March 7, 2024	10:00	58	81	55	52
Thursday, March 7, 2024	11:00	59	79	57	55
Thursday, March 7, 2024	12:00	60	81	56	54
Thursday, March 7, 2024	13:00	60	80	57	54
Thursday, March 7, 2024	14:00	61	83	57	55
Thursday, March 7, 2024	15:00	63	83	58	56
Thursday, March 7, 2024	16:00	68	97	58	55
Thursday, March 7, 2024	17:00	60	81	56	54
Thursday, March 7, 2024	18:00	60	83	58	56
Thursday, March 7, 2024	19:00	60	75	59	57
Thursday, March 7, 2024	20:00	59	78	58	57
Thursday, March 7, 2024	21:00	59	79	58	56
Thursday, March 7, 2024	22:00	62	78	59	55
Thursday, March 7, 2024	23:00	64	74	60	55

Statistics	Leq	Lmax	L50	L90
Day Average	62	82	57	55
Night Average	59	74	57	55
Day Low	58	75	52	49
Day High	68	97	59	57
Night Low	56	64	54	51
Night High	64	82	60	58
Ldn	66	Day %		76
CNEL	66	Night %		24

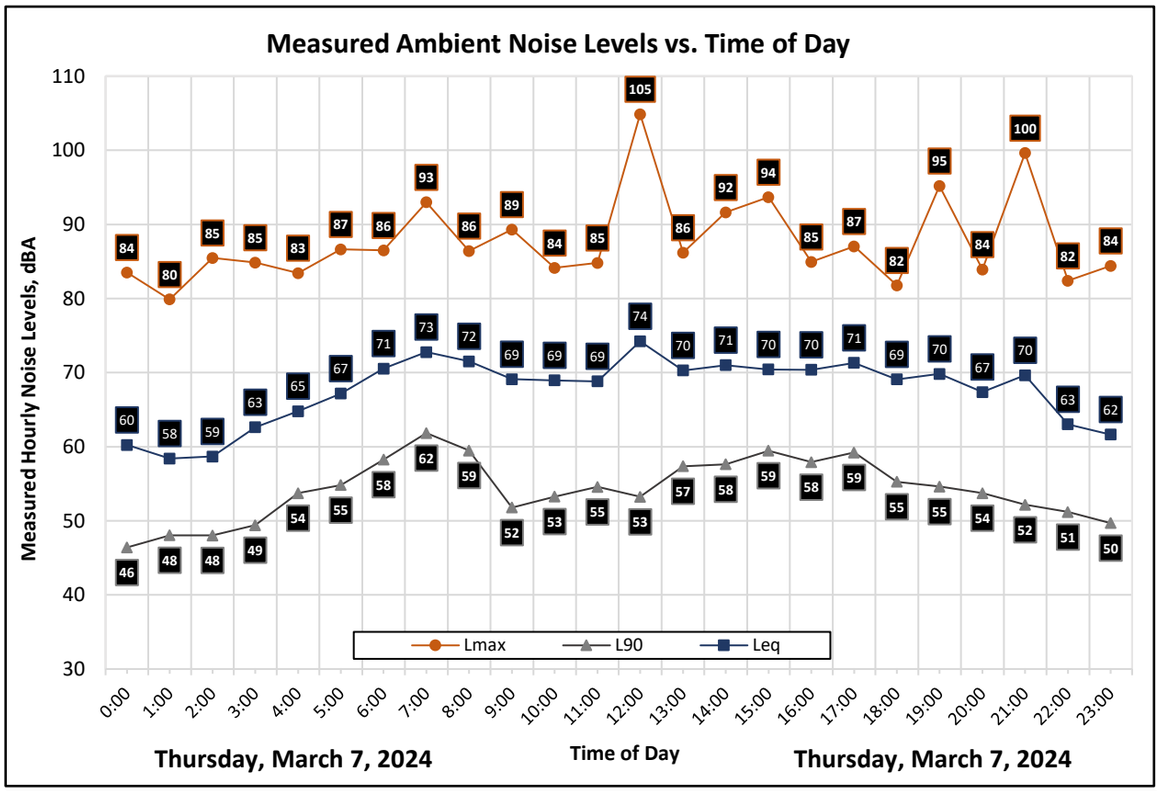


Appendix B3: Continuous Noise Monitoring Results

Site: LT-3
Project: Copper Trails Master Plan EIR
Meter: LDL 820-6
Location: Northern Project Boundary
Calibrator: CAL200
Coordinates: (37.5787583, -120.9568210)

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, March 7, 2024	0:00	60	84	49	46
Thursday, March 7, 2024	1:00	58	80	51	48
Thursday, March 7, 2024	2:00	59	85	51	48
Thursday, March 7, 2024	3:00	63	85	53	49
Thursday, March 7, 2024	4:00	65	83	56	54
Thursday, March 7, 2024	5:00	67	87	59	55
Thursday, March 7, 2024	6:00	71	86	66	58
Thursday, March 7, 2024	7:00	73	93	70	62
Thursday, March 7, 2024	8:00	72	86	69	59
Thursday, March 7, 2024	9:00	69	89	62	52
Thursday, March 7, 2024	10:00	69	84	63	53
Thursday, March 7, 2024	11:00	69	85	64	55
Thursday, March 7, 2024	12:00	74	105	64	53
Thursday, March 7, 2024	13:00	70	86	67	57
Thursday, March 7, 2024	14:00	71	92	68	58
Thursday, March 7, 2024	15:00	70	94	67	59
Thursday, March 7, 2024	16:00	70	85	68	58
Thursday, March 7, 2024	17:00	71	87	69	59
Thursday, March 7, 2024	18:00	69	82	65	55
Thursday, March 7, 2024	19:00	70	95	61	55
Thursday, March 7, 2024	20:00	67	84	62	54
Thursday, March 7, 2024	21:00	70	100	56	52
Thursday, March 7, 2024	22:00	63	82	54	51
Thursday, March 7, 2024	23:00	62	84	53	50

Statistics	Leq	Lmax	L50	L90
Day Average	71	90	65	56
Night Average	65	84	55	51
Day Low	67	82	56	52
Day High	74	105	70	62
Night Low	58	80	49	46
Night High	71	87	66	58
Ldn	73	Day %		87
CNEL	73	Night %		13

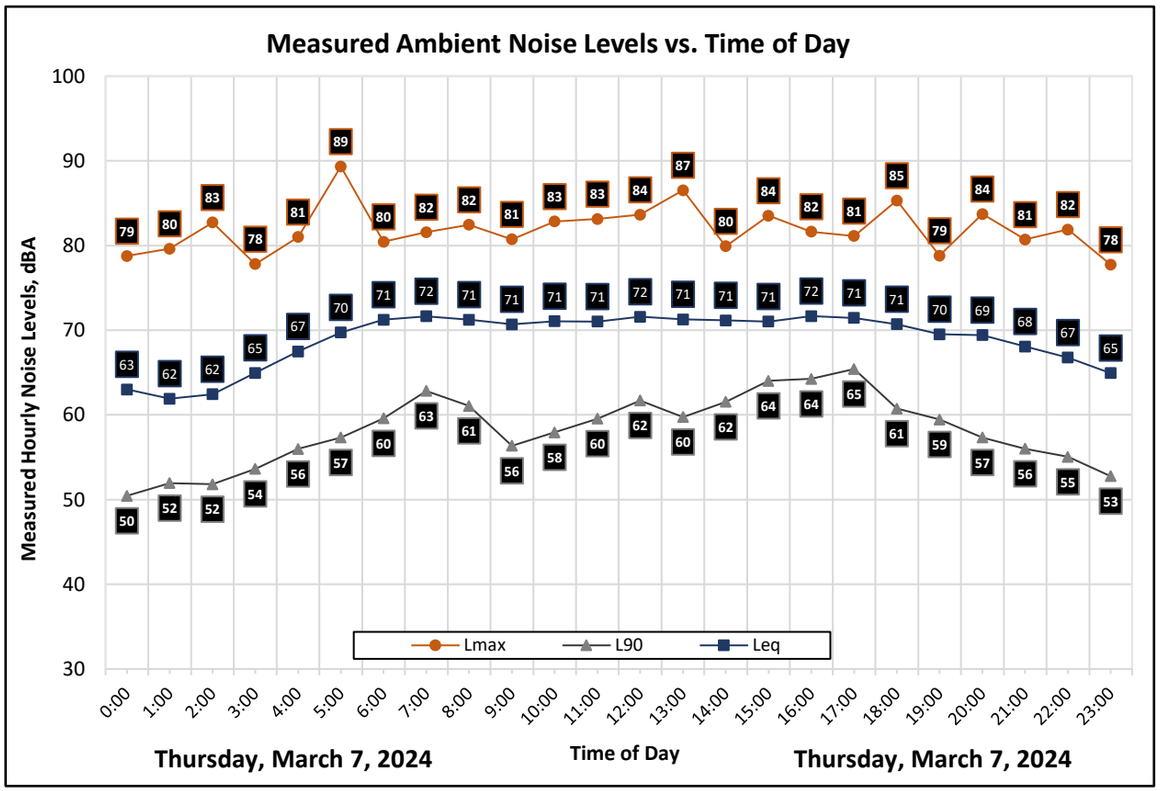


Appendix B4: Continuous Noise Monitoring Results

Site: LT-4
Project: Copper Trails Master Plan EIR
Meter: LDL 820-5
Location: Northern Project Boundary
Calibrator: CAL200
Coordinates: (37.5801023, -120.9515062)

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, March 7, 2024	0:00	63	79	54	50
Thursday, March 7, 2024	1:00	62	80	55	52
Thursday, March 7, 2024	2:00	62	83	55	52
Thursday, March 7, 2024	3:00	65	78	57	54
Thursday, March 7, 2024	4:00	67	81	60	56
Thursday, March 7, 2024	5:00	70	89	65	57
Thursday, March 7, 2024	6:00	71	80	70	60
Thursday, March 7, 2024	7:00	72	82	71	63
Thursday, March 7, 2024	8:00	71	82	70	61
Thursday, March 7, 2024	9:00	71	81	69	56
Thursday, March 7, 2024	10:00	71	83	70	58
Thursday, March 7, 2024	11:00	71	83	70	60
Thursday, March 7, 2024	12:00	72	84	71	62
Thursday, March 7, 2024	13:00	71	87	70	60
Thursday, March 7, 2024	14:00	71	80	71	62
Thursday, March 7, 2024	15:00	71	84	70	64
Thursday, March 7, 2024	16:00	72	82	71	64
Thursday, March 7, 2024	17:00	71	81	71	65
Thursday, March 7, 2024	18:00	71	85	70	61
Thursday, March 7, 2024	19:00	70	79	68	59
Thursday, March 7, 2024	20:00	69	84	68	57
Thursday, March 7, 2024	21:00	68	81	65	56
Thursday, March 7, 2024	22:00	67	82	62	55
Thursday, March 7, 2024	23:00	65	78	57	53

Statistics	Leq	Lmax	L50	L90
Day Average	71	82	70	61
Night Average	67	81	59	54
Day Low	68	79	65	56
Day High	72	87	71	65
Night Low	62	78	54	50
Night High	71	89	70	60
Ldn	74	Day %		82
CNEL	74	Night %		18



Appendix B2 : Short Term Noise Monitoring Results

Site: ST-1
Project: Copper Trails Master Plan EIR
Location: Southern Project Boundary
Coordinates: (37.5707222, -120.9524181)

Meter: LDL 831-6
Calibrator: CAL200

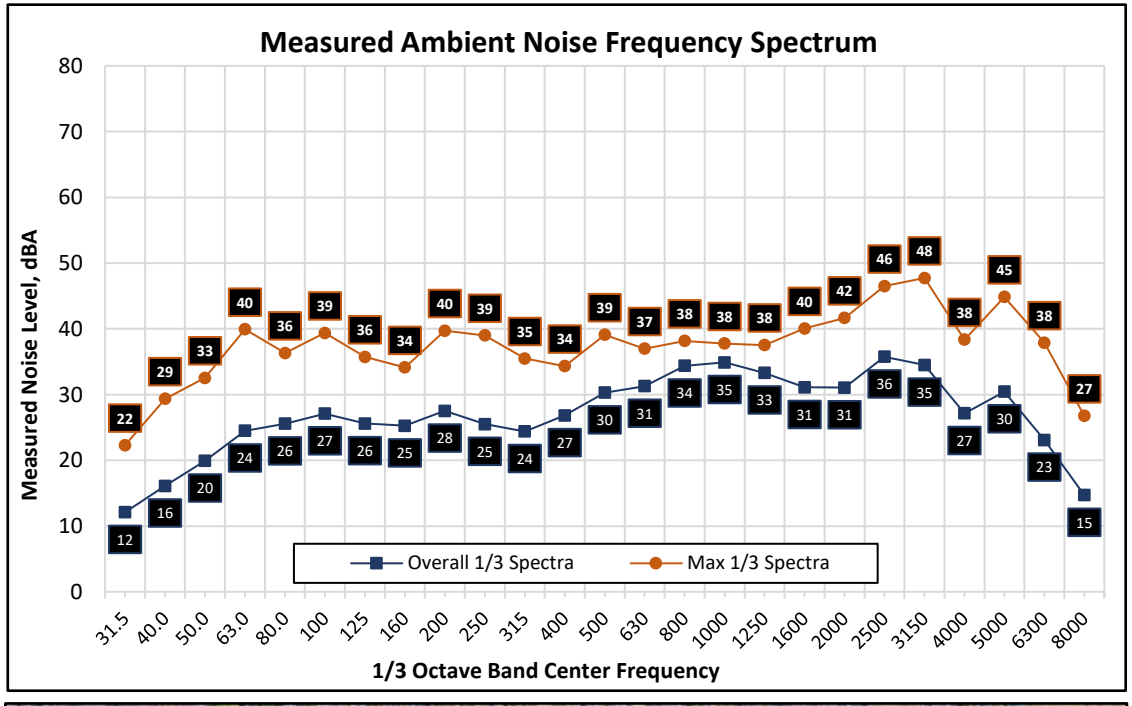
Start: 2024-03-06 11:10:21
Stop: 2024-03-06 11:20:21
SLM: SoundAdvisor™ Model 831C
Serial: 10702

Measurement Results, dBA

Duration:	0:10
L_{eq}:	44
L_{max}:	51
L_{min}:	41
L_{50}:	43
L_{90}:	42

Notes

Primary noise source was traffic noise from State Route 99 and natural sounds such as birds.



Appendix B2 : Short Term Noise Monitoring Results

Site: ST-2
Project: Copper Trails Master Plan EIR
Location: North Eastern Project Boundary
Coordinates: (37.5789215, -120.9660685)
Meter: LDL 831-6
Calibrator: CAL200

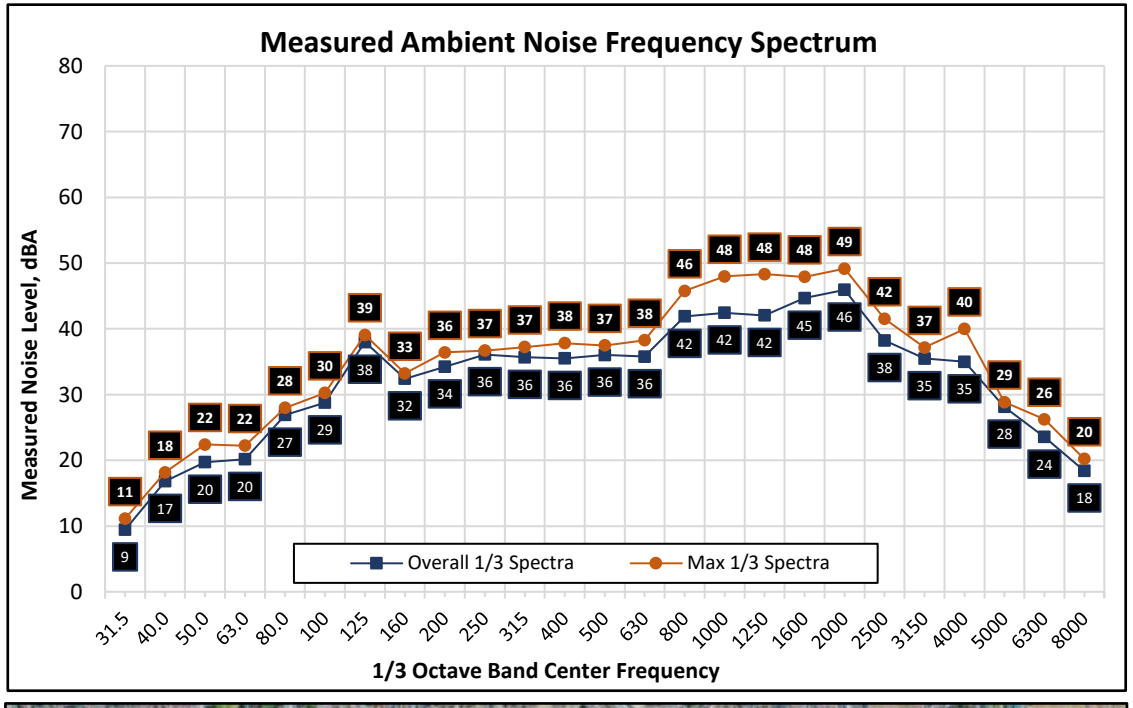
Start: 2024-03-06 11:50:01
Stop: 2024-03-06 11:55:26
SLM: SoundAdvisor™ Model 831C
Serial: 10702

Measurement Results, dBA

Duration:	0:05
L_{eq}:	52
L_{max}:	55
L_{min}:	50
L_{50}:	53
L_{90}:	51

Notes

Primary noise source was machinery noise coming from the factory north of the noise measurement site. This was heavily influence by traffic noise from State Route 99.



Appendix C: Traffic Noise Calculation Inputs and Results

Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 240101 Copper Trails Master Plan
Description: EPAP Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	El Camino Ave	North of North Street	5,960	87	0	13	1.0%	1.0%	35	30	0	66	31	14	65.1
2	North Street	East of El Camino Ave	4,760	87	0	13	1.0%	1.0%	35	50	0	57	26	12	60.8
3	El Camino Ave	South of 4th Street	9,530	87	0	13	1.0%	1.0%	45	80	0	135	63	29	63.4
4	Service Road	West of SR 99	16,200	87	0	13	1.0%	1.0%	45	50	0	193	90	42	68.8

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Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 240101 Copper Trails Master Plan
Description: EPAP Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	El Camino Ave	North of North Street	7,790	87	0	13	1.0%	1.0%	35	30	0	79	37	17	66.3
2	North Street	East of El Camino Ave	3,300	87	0	13	1.0%	1.0%	35	50	0	44	21	10	59.2
3	El Camino Ave	South of 4th Street	7,260	87	0	13	1.0%	1.0%	45	80	0	113	52	24	62.2
4	Service Road	West of SR 99	38,390	87	0	13	1.0%	1.0%	45	50	0	343	159	74	72.5

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Appendix D: FHWA Barrier Noise Reduction Calculations

Appendix D-1
FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information:

Job Number: 240101
Description Copper Trails Master Plan
Roadway Name: Service Road
Location(s): 1

Noise Level Data:

Year: 2044
Auto L_{dn}, dB: 76
Medium Truck L_{dn}, dB: 62
Heavy Truck L_{dn}, dB: 66

Site Geometry:

Receiver Description: West of SR 99
Centerline to Barrier Distance (C_1): 100
Barrier to Receiver Distance (C_2): 10
Automobile Elevation: 0
Medium Truck Elevation: 2
Heavy Truck Elevation: 8
Pad/Ground Elevation at Receiver: 0
Receiver Elevation[1]: 5
Base of Barrier Elevation: 0
Starting Barrier Height 6

Barrier Effectiveness:

		---------- L_{dn}, dB ----------				Barrier Breaks Line of Sight to…		
Top of Barrier Elevation (ft)	Barrier Height[2] (ft)	Autos	Medium Trucks	Heavy Trucks	Total	Autos?	Medium Trucks?	Heavy Trucks?
6	6	70	57	61	71	Yes	Yes	Yes
7	7	69	55	59	69	Yes	Yes	Yes
8	8	67	54	58	68	Yes	Yes	Yes
9	9	66	52	57	66	Yes	Yes	Yes
10	10	65	51	55	65	Yes	Yes	Yes
11	11	64	50	54	64	Yes	Yes	Yes
12	12	63	49	53	63	Yes	Yes	Yes
13	13	62	49	52	63	Yes	Yes	Yes
14	14	62	48	52	62	Yes	Yes	Yes

Notes: [1] Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s).

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Appendix E: Exterior to Interior Noise Reduction Calculations

Appendix E1: Interior Noise Calculation Sheet

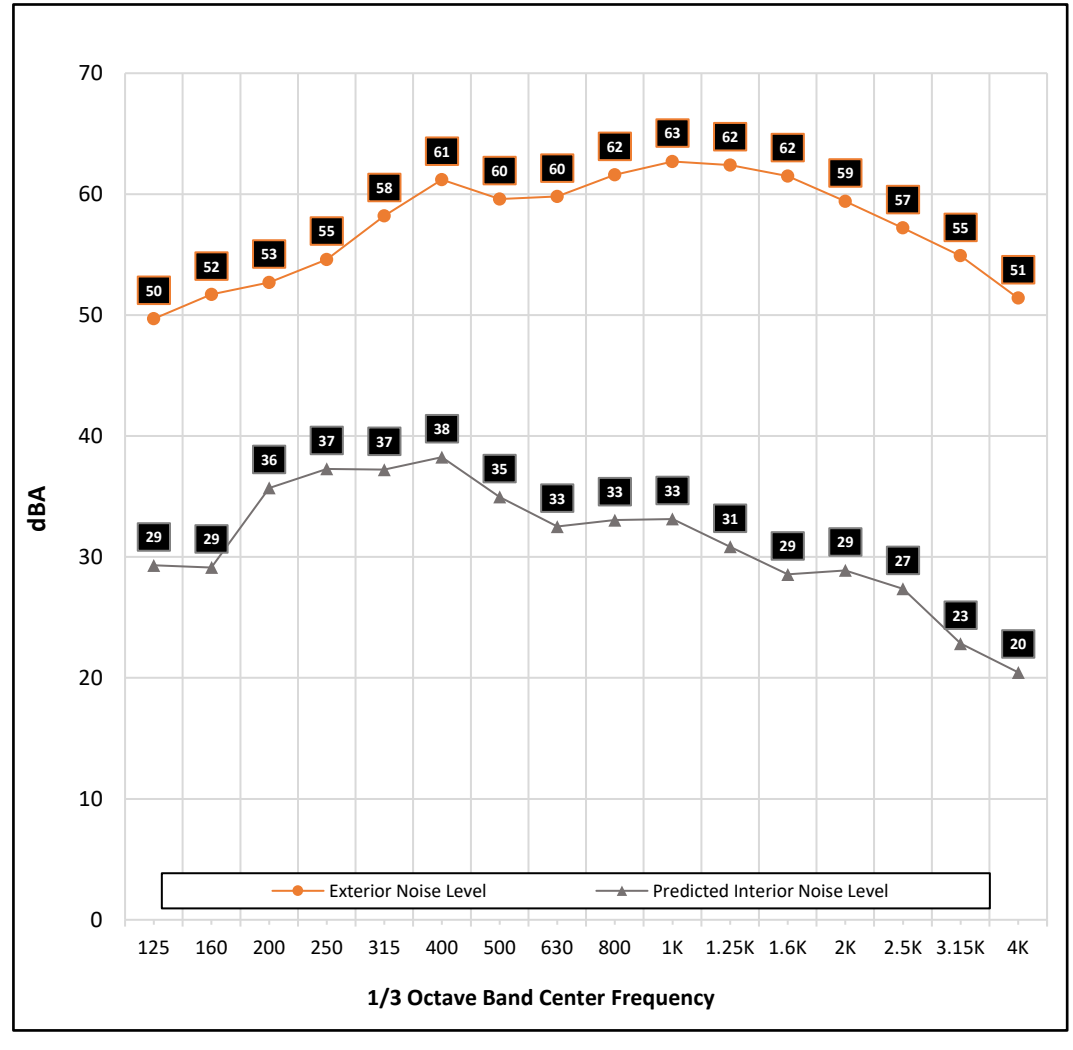
Project: Copper Trails Master Plan

Room Description: First Floor Bedroom

Inputs		
Parallel Exterior level, dBA:	71.0	Ldn
Correction Factor, dBA:	5.0	
Noise Source:	Arterial Traffic	
Room Length, ft:	10.0	
Room Width, ft:	10.0	
Room Height, ft:	9.0	
Transmitting Panel Length, ft:	20.0	
Glazing Area, ft:	25.0	
Ceiling Finish:	Gyp Board	
Ceiling, sf:	100	
Wall Finish 1:	Gyp Board	
Wall Finish 1, sf:	335	
Wall Finish 2:	Glass	
Wall Finish 2, sf:	25	
Floor:	Vinyl Plank	
Floor, sf:	100	
Misc. Finish:	Soft Furnishings	
Misc. Finish, sf:	25	
Transmitting Element 1:	Wall - 1-Coat Stucco, 5/8" gyp INSUL	
Element 1, sf:	155	
Transmitting Element 2:	Glazing - STC 32	
Element 2, sf:	25	
Transmitting Element 3:		
Element 3, sf:		
Transmitting Element 4:		
Element 4, sf:		

Predicted Interior Noise Level, dBA: 45

Noise Reduction, dBA: -26



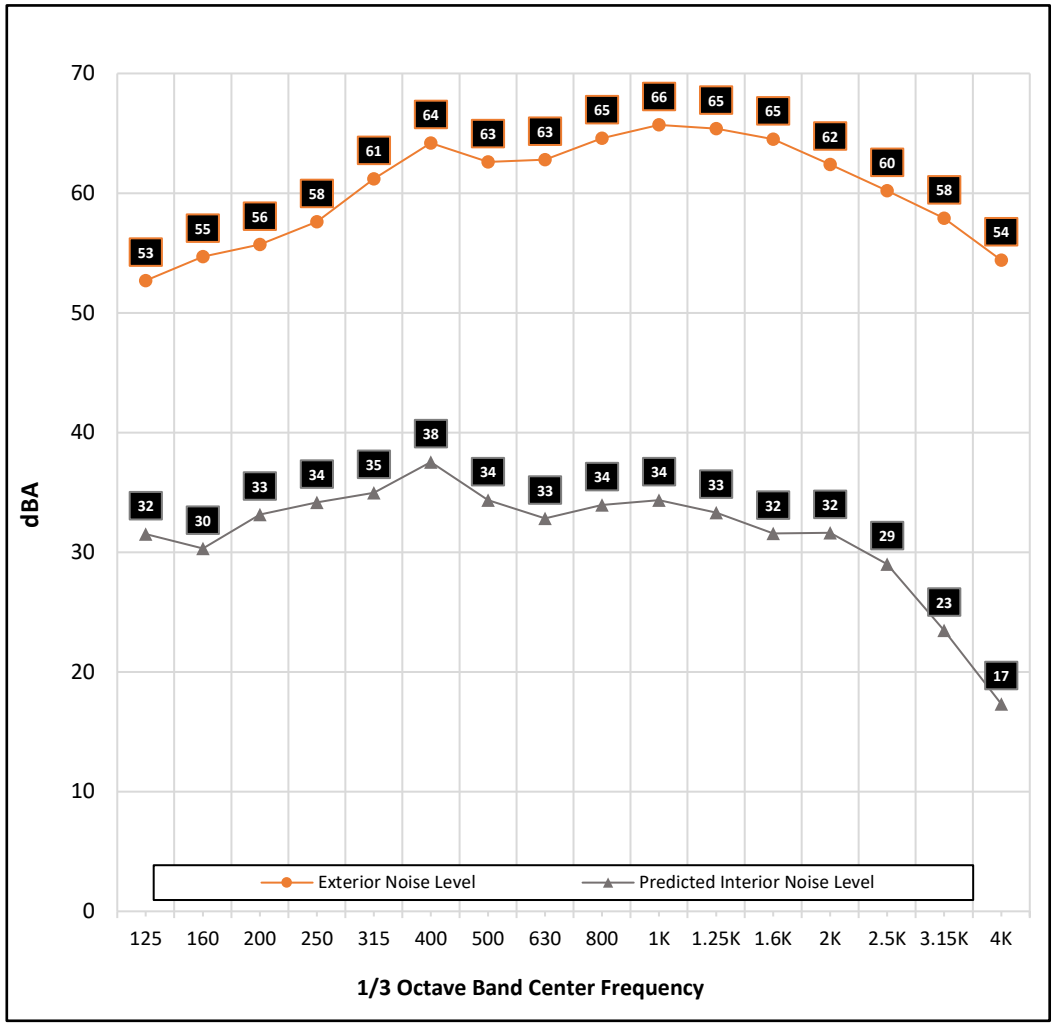
Appendix E2: Interior Noise Calculation Sheet

Project: Copper Trails Master Plan
Room Description: Second Floor Bedroom

Inputs

Parallel Exterior level, dBA:	74.0	**Ldn**
Correction Factor, dBA:	5.0	
Noise Source:	Arterial Traffic	
Room Length, ft:	10.0	
Room Width, ft:	10.0	
Room Height, ft:	9.0	
Transmitting Panel Length, ft:	20.0	
Glazing Area, ft:	25.0	
Ceiling Finish:	**Gyp Board**	
Ceiling, sf:	100	
Wall Finish 1:	**Gyp Board**	
Wall Finish 1, sf:	335	
Wall Finish 2:	**Glass**	
Wall Finish 2, sf:	25	
Floor:	**Vinyl Plank**	
Floor, sf:	100	
Misc. Finish:	**Soft Furnishings**	
Misc. Finish, sf:	25	
Transmitting Element 1:	**Wall - 1-Coat Stucco, 5/8" gyp INSUL**	
Element 1, sf:	155	
Transmitting Element 2:	**Glazing - STC 38**	
Element 2, sf:	25	
Transmitting Element 3:		
Element 3, sf:		
Transmitting Element 4:		
Element 4, sf:		

Predicted Interior Noise Level, dBA: 45
Noise Reduction, dBA: -29



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APPENDIX G
TRANSPORTATION IMPACT ANALYSIS

Ceres, CA

Copper Trails Master Plan Transportation Impact Analysis

DRAFT REPORT

Prepared For:

City of Ceres

Prepared By

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Sacramento, CA 95819
(916) 341-7760

March 2024

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EXECUTIVE SUMMARY

PROJECT DESCRIPTION

The proposed Copper Trails Master Plan (Project) is located west of State Route 99 and south of Service Road, on an approximately 535-acre site that currently includes a mix of undeveloped parcels, rural residential, and agriculture uses. The site also contains the existing Hidahl Elementary School, Central Valley High School, and Hanline Elementary School. Development of the Project would entail a General Plan Amendment, Rezone/Pre-Zone, and Annexation.

The Project would develop a mix of residential, commercial, park, and public/quasi-public land uses. The Project would contain the following land use designations:

- Low Density Residential – 179.6 acres
- Medium Density Residential – 33.1 acres
- Medim High Density Residential – 16.8 acres
- High Density Residential – 30.8 acres
- Regional Commercial – 107.4 acres
- Park/Open Space – 42.3 acres
- Public Usage – 3.4 acres
- Existing Public Uses (existing schools) – 74.1 acres
- Backbone Roads – 47.1 Acres

ANALYSIS SCENARIOS

The analysis scenarios utilized in this study are as follows:

- Existing (2023) Conditions
- Existing Plus Project Conditions
- Near-Term (2028) Conditions
- Near-Term Plus Project Conditions
- Cumulative (2048) Conditions
- Cumulative Plus Project Conditions

TRAVEL DEMAND MODELING

The latest version of the StanCOG TDM was used in this Transportation Impact Analysis (TIA). The StanCOG TDM was edited to include the same changes as those made for the *State Route 99/Mitchell Road/Service Road Diverging Diamond Interchange (DDI) Project Addendum to the Approved (Jan 23, 2015) Traffic Operations Analysis Report (TOAR)* (Service Road Interchange TOAR Addendum) (Fehr & Peers, October 24, 2023). A review of the StanCOG TDM was performed in the Project study area. Additional detail and calibration changes were made to the StanCOG TDM in the Project study area in order to create an accurate estimate of travel characteristics near the Project.

PROJECT TRIP GENERATION AND ASSIGNMENT

Project land uses were broken down into more detailed land use quantities for use in trip generation. **Table 2.1** in this TIA provides a detailed breakdown of assumed Project land use quantities.

The trip generation data and methodologies contained in the *Institute of Transportation Engineers Trip Generation Manual, 11th Edition,* was used to approximate the number of trips generated by the Project. The proposed Project is anticipated to generate a total of 51,186 external daily primary trips, 2,840 external AM peak hour primary trips (1,440 inbound, 1,400 outbound), and 4,414 external PM peak hour primary trips (2,296 inbound, 2,118 outbound). The ITE National Cooperative Highway Research Program (NCHRP) Report 684 estimator tool, which is an industry standard tool, was utilized to estimate the number of trips

that would occur between Project land uses, also known as "internal" trips. It was estimated that the Project would have 22.9 percent of daily trips, 37.2 percent of AM peak hour tips, and 25.5 percent of PM peak hour trips staying internal to the Project site.

The Project land uses were also plugged into the "Plus Project" scenarios in the StanCOG TDM. The StanCOG TDM Project generated trips were compared against the ITE Project trip generation. Since the StanCOG TDM generally was found to generate a lower number of trips for the Project than was estimated in the ITE Trip Generation, the StanCOG TDM Project volumes were conservatively factored as necessary to match the ITE Trip Generation.

The Project trip assignment was determined using the StanCOG TDM. The planned Service Road Interchange project was assumed to be completed under all "Plus Project" StanCOG TDM scenarios.

ROADWAY SEGMENT ADT FOR ENVIRONMENTAL

This study developed average daily traffic (ADT) volumes at 26 existing and proposed study roadway segments under all six (6) study scenarios. Existing roadway segment ADTs were collected on November 30, 2023. The StanCOG TDM was used to develop future volumes. **Table 3.1** in this TIA provides a summary of all roadway segment ADT volumes.

CALTRANS SAFETY TASAS EVALUATION

Five years of collision data were obtained from the Caltrans Traffic Accident Surveillance and Analysis Systems (TASAS) for eight (8) study facilities to identify high collision locations and common collision characteristics. The SR 99 Northbound Off-Ramp to Pine Street/El Camino Avenue/4th Street, the SR 99 Southbound On-Ramp from 2nd Street/North Street, and the SR 99 Southbound Off-Ramp to Mitchell Road have experienced higher Total Collision rates and Fatal + Injury collision rates than the state average for similar facilities. Additionally, the SR 99 Southbound Off-Ramp to Mitchell Road experienced a higher-than-average Fatal collision rate. All other study facilities experienced lower than average Total collision rates. The most common collision types were Hit Object collisions, followed by Rear End type collisions. The most common primary collision factors were speeding and improper turning. It is projected that the Project would not add a significant number of trips to the existing ramps that have higher than typical collision rates. The proposed new Service Road Interchange is projected to redirect a significant amount of traffic away from the remaining nearby existing ramps to the new diverging diamond interchange ramps at Service Road.

CALTRANS OFF-RAMP QUEUEING ANALYSIS

95th percentile AM and PM peak hour off-ramp queueing was analyzed at five (5) off-ramp intersections to determine if the addition of Project trips would add two or more car lengths to an off-ramp queue that will extend into the freeway mainline. Off-Ramp queueing was performed for Near-Term (2028) and Near-Term Plus Project conditions. Near-Term scenarios were used in lieu of Existing conditions scenarios for the ramp queueing analysis as the new Service Road Interchange is planned to be constructed well before the Project is complete. Near-Term volumes were developed using a combination of existing counts, volumes from the Service Road Interchange TOAR Addendum, Project trip generation, and the StanCOG TDM. The five (5) study intersections are:

1. El Camino Avenue & 99 Southbound Off-Ramp/North Street
2. El Camino Avenue & SR 99 Northbound Ramps/4th Street
3. SR 99 Southbound Ramps & Service Road (proposed)
4. SR 99 Northbound Ramps & Service Road (proposed)
5. SR 99 Ramps/Mitchell Road & Rhode Road/Ceres Gateway Access (proposed)

Synchro 11 software was used to model the study intersections and SimTraffic 11 software was used to analyze 95th percentile queues. Additional adjacent intersection facilities (primarily Service Road intersections with Moffett Road and Mitchell Road) were included in the SimTraffic model runs in order to

more accurately simulate the interaction between the closely spaced intersections at the new Service Road Interchange. The SimTraffic models were run with a 10-minute warm-up period and results were the average of 10 runs. The SimTraffic models were set up to be consistent with the consistent with the Service Road Interchange TOAR Addendum analysis.

The study intersections near the Service Road Interchange and Mitchell Road Interchange were assumed to have the geometries specified in the Service Road Interchange GAD (**Appendix B** of this TIA). The study intersections near the El Camino Avenue Interchange were assumed to have existing conditions geometries. However, under Near-Term Plus Project conditions the following lane configuration and controls were implemented at the Moffett Road & Service Road intersection in order to accommodate the addition of Project traffic:

- Signalization with protected left-turn phasing on all approaches and northbound right-turn overlap phasing.
- Eastbound Approach: one left-turn lane, three through lanes, and one right-turn lane.
- Westbound Approach: three left-turn lanes (including one left-turn trap lane), two through lanes, and one right-turn lane.
- Northbound Approach: one left-turn lane, one through lane, and two right-turn lanes.
- Southbound Approach: one left-turn lane and one shared through-right-turn lane.

It was assumed that the Moffett Road & Service Road signal would be coordinated with the Service Road Interchange signals.

Queuing Impacts

The Project would have a **queueing impact** at the SR 99 Southbound Off-Ramp to Service Road under Near-Term Plus Project PM peak hour conditions as the queue is projected to exceed the available storage. The queueing impact at the SR 99 Southbound Off-Ramp is largely due to the significant increase in southbound right turn volumes due to vehicles traveling to the Project. The excessive queueing at the SR 99 Southbound Off-Ramp is shown in a screenshot of the microsimulation model run in **Figure 4.6** in this TIA.

Other Queueing Issues

Excessive eastbound queueing is projected to occur on Service Road between Moffet Road and the SR 99 Northbound On-Ramps under Near-Term Plus Project PM peak hour conditions. Eastbound queueing on Service Road is due to the significantly increased volume of eastbound left-turn traffic entering the Northbound On-Ramp from the Project via Service Road. With the Project, there is a high number of vehicles that make a northbound right turn at the Moffett Road & Service Road intersection, and then want to merge all the way to the inside eastbound lane on Service Road to get to the Northbound On-Ramp, causing a lane utilization problem. The excessive eastbound queueing on Service Road is shown in a screenshot of the microsimulation model run in **Figure 4.7** in this TIA.

Queueing Mitigations and Improvements

<u>SR 99 Southbound Off-Ramp to Service Road</u>

To mitigate the queuing impact, it is recommended that the proposed Southbound Off-Ramp be reconfigured to include two southbound right-turn lanes and one southbound left-turn lane.

<u>Eastbound Queueing at the Service Road Interchange</u>

In order to improve eastbound queueing on Service road and address the lane utilization issue, it is recommended to widen the eastbound entrance to the Northbound On-Ramp to two lanes and convert the eastbound approach of Service Road at the Northbound On-Ramp to consist of one dedicated left-turn trap lane onto the ramp, one shared left-through-lane, and one through lane.

With the recommended mitigation and improvements in place, off-ramp queueing would fit within available storage. The Project queueing impact at the SR 99 Southbound Off Ramp to Service Road would be **less than significant after mitigation**.

PROJECT IMPACTS ON PEDESTRIAN BICYCLE AND TRANSIT FACILITIES

The Project proposes the following internal pedestrian and bicycle features:

- 12-foot sidewalks and 8-foot bike lanes on eastbound Service road along Project frontage
- 5-foot sidewalks in both directions along typical interior Project streets
- 5-foot sidewalks and 4-foot bike lanes in both directions along Central Avenue
- 10-foot multiuse path along northbound Blaker Road along Project frontage
- 5-foot sidewalks and 4-foot bike lanes in both directions along interior collector streets
- 8-foot path/trail along Project frontage adjacent to the TID Lateral canal

The Project area is served by the Stanislaus Regional Transit Authority (StanRTA). StanRTA offers fixed route bus services, as well as ADA Paratransit and Medivan services. The closest transit stops to the Project site are located on Service Road in front of Central Valley High School and on Blaker Road and Central Avenue north of Service Road. These stops are served by Route 42, which provides connectivity between the Modesto Transit Center and the Ceres Walmart Transit Hub via residential and commercial roads. The Project is considering a potential extension of StanRTA's fixed-route bus service which would run along Central Avenue, E. Redwood Road, proposed Street C, Lucas Road, proposed Street B, and Moffett Road within the Project site.

The Project would not impact existing or proposed pedestrian or bicycle facilities in a way that would discourage their use, nor is the Project anticipated to cause a significant increase in pedestrian or bicycle demand in the study area that would put existing facilities over capacity.

The Project would likely cause a significant increase in local transit demand. It is recommended that the Project accommodate new transit demand by including an extended transit route and transit stops within the Project site, including the regional commercial and office portions of the site. Expanded service areas for Route 42 or other local bus routes should be explored in coordination with the City and StanRTA.

VEHICLE MILES TRAVELED ANALYSIS

VMT Methodology

The VMT analysis was prepared consistent with the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR Technical Advisory) (December 2018). The StanCOG TDM was used to estimate all City and Project VMT within Stanislaus County. In order to estimate City and Project VMT outside of Stanislaus County, consistent with OPR Guidelines, this analysis utilizes trip length and origin-destination information from the location-based services data vendor Replica. VMT was analyzed under Existing (2023) and Cumulative (2048) conditions, as necessary, both without and with the Project.

VMT Thresholds, Project VMT, and Impacts

VMT thresholds were developed based on OPR Technical Advisory guidance. Initial Project VMT was developed using data from the StanCOG TDM scenarios, supplemented by Replica-based out-of-County trip lengths. Additional analysis was performed to quantify the VMT reductions due to Project features (diversity of land uses and new multimodal facilities) which cannot be fully captured by the StanCOG TDM and Replica platform, and Final Project VMT was calculated. **Table ES.1** summarizes VMT thresholds, Project VMT, and VMT impacts for residential and office land uses. **Table ES.2** summarizes VMT thresholds, Project net change to VMT, and VMT impacts for retail land uses.

Table ES.1. Project Residential and Office VMT Summary

Metric	Home-Based VMT per Capita (Residential)	Commute VMT per Employee (Office)
Existing City Average VMT	14.7	23.1
Threshold (85% of City Average)	12.5	19.7
Final Project VMT	12.9	25.1
Percent Difference	+3.2%	+27.4%
Impact	Significant before mitigation	Significant before mitigation

Table ES.2. Effect of Project Retail on County VMT Summary

Metric	Value
Net Change to County VMT Threshold	+0
Project Retail Net Change to County VMT (Existing Plus Project)	-15,296
Existing Plus Project Impact	Less than significant
Project Retail Net Change to County VMT (Cumulative Plus Project)	-13,149
Cumulative Plus Project Impact	Less than significant

Potential VMT Mitigation Measures

Table 6.15 in this TIA identifies a list of 23 potential VMT mitigation measures that could be utilized to reduce Project VMT. **Table 6.15** in this TIA also identifies the potential range of effectiveness of each measure, and the type of VMT/impact that the measure would address. It is recommended that the City and the Project team coordinate to identify and implement a number of VMT mitigation measure that would be feasible to implement for the Project and which would reduce the VMT impacts.

1 INTRODUCTION

This report has been prepared to present the results of a Transportation Impact Analysis (TIA) in support of the proposed Copper Trails Master Plan (Project) located in the City of Ceres (City). The proposed Project is located west of State Route 99 and south of Service Road, on an approximately 535-acre site that currently includes a mix of undeveloped parcels, rural residential, and agriculture uses. The site also contains the existing Hidahl Elementary School, Central Valley High School, and Hanline Elementary School. Development of the Project would entail a General Plan Amendment, Rezone/Pre-Zone, and Annexation. The Project location is shown in **Figure 1.1**.

The purpose of this TIA is to address the Project's impacts under California Environmental Quality Act (CEQA) requirements. The CEQA analysis will consider the Project's effects on regional vehicle miles traveled (VMT), safety, and multimodal facilities. The CEQA analysis will also fulfill Caltrans requirements regarding queueing analysis and safety/collision analysis based on procedures outlined in the Traffic Safety Bulletin 20-02-R1: *Interim Local Development Intergovernmental Review Safety Practitioners Guidance* (LDIGR).

1.1 PROJECT DESCRIPTION

The Project would develop a mix of residential, commercial, park, and public/quasi-public land uses. The Project would contain the following land use designations:

- Low Density Residential – 179.6 acres
- Medium Density Residential – 33.1 acres
- Medim High Density Residential – 16.8 acres
- High Density Residential – 30.8 acres
- Regional Commercial – 107.4 acres
- Park/Open Space – 42.3 acres
- Public Usage – 3.4 acres
- Existing Public Uses (existing schools) – 74.1 acres
- Backbone Roads – 47.1 Acres

The current Project land use map is contained in **Appendix A**.

The Project is bordered by Lucas Road and Mitchell Road to the east, Service road to the north, Blaker Road to the west and the Turlock Irrigation District (TID) Lateral Canal to the south. The Project would access the surrounding roadway network via existing and new connections to Service Road, Blaker Road, Central Avenue, Moffett Road, Lucas Road, and East Redwood Avenue. The majority of Project traffic would access State Route 99 (SR 99) via the planned new SR 99 Mitchell/Service Road Diverging Diamond Interchange (Service Road Interchange) which has a target opening year of 2028. The Service Road Interchange Geometric Approval Drawing (GAD) (NV5, dated October 16, 2023) is included in **Appendix B**. Some Project traffic is also anticipated to utilize the existing SR 99 Ramps located on El Camino Avenue between Magnolia Street and Pine Street.

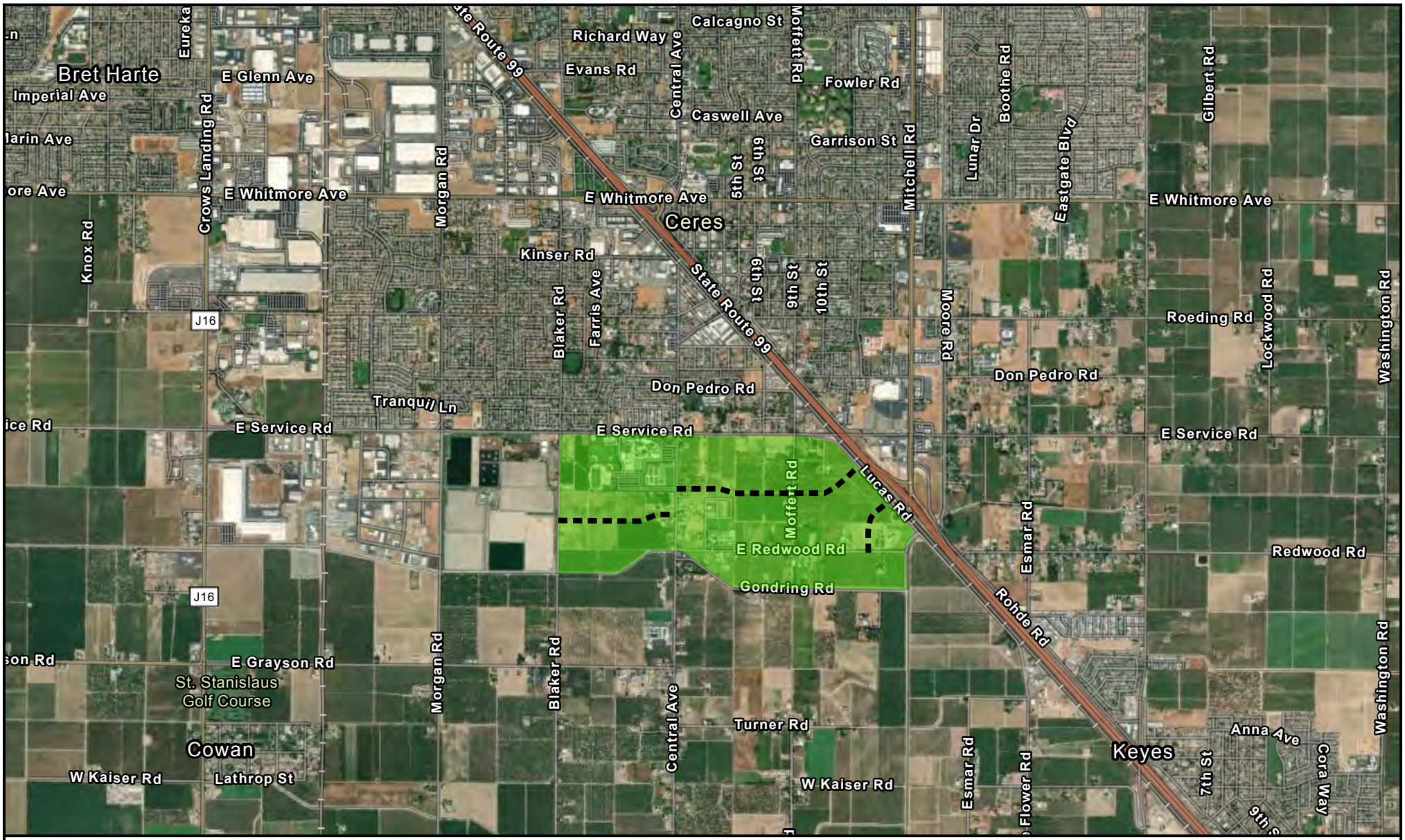


Figure 1.1

PROJECT LOCATION AND VICINITY

COPPER TRAILS MASTER PLAN TIA

CERES, CA

MARCH 2024

Legend

- New Roadways
- Project Site

0 1,500 3,000

Feet

NORTH

WOOD RODGERS

1.2 ANALYSIS SCENARIOS

The analysis scenarios utilized in this study are as follows:

- **Existing Conditions**: represents existing (2023) traffic conditions. This scenario is used to establish the baseline thresholds for the VMT analysis.
- **Existing Plus Project Conditions**: represents existing (2023) conditions where the Service Road Interchange is complete, and all Project land uses and internal roadways are constructed. It was assumed that the Service Road Interchange would have to be completed alongside the Project because the Service Road Interchange is planned to be constructed well before the Project is complete, the interchange is needed to support the traffic generated by the Project, and the interchange would drastically alter the Project trip distribution. This scenario is used to evaluate Project VMT against thresholds.
- **Near-Term Conditions**: represents a near-term (2028) condition where the Service Road Interchange is complete, and the Project is not yet constructed. This scenario is used as the baseline upon which to evaluate queuing at the interchange. While the Caltrans TOAR requires ramp queuing analysis under Existing conditions, Near-Term conditions were considered to be more appropriate for this study as that is when the new Service Road Interchange is planned to open.
- **Near-Term Plus Project Conditions**: represents a near-term (2028) condition where the Service Road Interchange is complete, and all Project land uses and internal roadways are constructed. This scenario is used in lieu of true "Existing Plus Project" (i.e. "2023 Plus Project") conditions for the ramp queueing analysis, as the new Service Road Interchange is planned to be constructed well before the Project is complete.
- **Cumulative Conditions**: represents a long-term future (2048) condition that includes forecasted growth and future roadway network conditions contained in the Stanislaus Council of Governments (StanCOG) Travel Demand Model (TDM). This scenario is used to evaluate Stanislaus County (County) VMT under cumulative future conditions.
- **Cumulative Plus Project Conditions**: represents long-term future (2048) condition traffic volumes plus full Project buildout traffic. This scenario is used to evaluate Project net change in County VMT under cumulative future conditions.

1.3 TRAVEL DEMAND MODELING

The latest version of the StanCOG TDM was used in this TIA. The StanCOG TDM was edited to include the same changes as those made for the *State Route 99/Mitchell Road/Service Road Diverging Diamond Interchange (DDI) Project Addendum to the Approved (Jan 23, 2015) Traffic Operations Analysis Report (TOAR)* (Service Road Interchange TOAR Addendum) (Fehr & Peers, October 24, 2023). A review of the StanCOG TDM was performed in the Project study area. Additional detail and calibration changes were made to the StanCOG TDM in the Project study area in order to create an accurate estimate of travel characteristics near the Project. Additional detail and calibration changes included editing roadway network and land use assumptions in the study area to better match existing conditions and adding detail where lacking in the off the shelf model. The base year 2019 scenario in the StanCOG TDM was updated to reflect Existing year 2023 conditions. The cumulative year 20246 scenario in the StanCOG TDM was updated to reflect Cumulative year 2048 conditions, consistent with the Cumulative scenario used in the Service Road Interchange TOAR Addendum. The Cumulative scenario in the TDM includes the new Service Road diverging diamond interchange, reconfigured Mitchell Road Interchange, and new and planned land uses near the Mitchell Road & Service Road intersection. This TDM base was updated to include Project land uses and major new Project internal roadways and connections. The calibrated StanCOG TDM was used to develop Project trip distribution and assignment/effects, as well as background traffic growth and future network Average Daily Traffic (ADT).

1.4 REPORT ORGANIZATION

The remainder of this report is divided into the following chapters:

- **Chapter 2: Project Trip Generation** – Describes the Project trip generation estimate and Project trip distribution.
- **Chapter 3: Roadway Segment ADT for Environmental Studies** – Provides Existing, Near-Term, Near-Term Plus Project, Cumulative, and Cumulative Plus Project scenario ADT for the study roadway segments.
- **Chapter 4: Caltrans Facility Analyses** – Describes projected off-ramp queueing conditions under Near-Term and Near-Term Plus Project conditions at SR 99 ramp intersections that would be affected by Project traffic. Also provides a safety evaluation and summary of collision history at study area interchanges.
- **Chapter 5**: **Project Impacts on Multimodal Facilities** – Describes planned multimodal improvements in the study area, and the Project's impact on those facilities.
- **Chapter 6**: **Vehicle Miles Traveled Analysis** – Describes the Project's impact on VMT and potential mitigation measures.

2 PROJECT TRIP GENERATION

This chapter provides a description of the proposed Project, a discussion of the trip generation, and distribution/assignment methods used to assign Project trips to the surrounding roadway network.

2.1 PROJECT SITE DESCRIPTION

The Project consists of an approximately 535-acre site that currently includes a mix of undeveloped parcels, rural residential, and agriculture uses. The site also contains the existing Hidahl Elementary School, Central Valley High School, and Hanline Elementary School. All existing site uses, with the exception of the existing schools, would be removed with development of the Project. **Table 2.1** provides a summary of the proposed land uses in the Copper Trails development, a breakdown of the potential commercial uses that would make up the commercial portion of the Project, and *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition* land use categories and codes for each use. Note that the Project's commercial land uses and quantities shown in **Table 2.1** are used for planning-level analyses and may not represent the final uses contained in the ultimate build-out of the site.

Table 2.1. Project Land Use Summary

Land Use	Acreage	FAR[1]	ITE Land Use	ITE Code	Units[2]	Quantity
Residential						
Low Density Residential (LDR)	179.6	-	Single-Family Detached Housing	210	DU	988
Medium Density Residential (MDR)	33.1	-	Single-Family Detached Housing	210	DU	298
Medium High Density Residential (MHDR)	16.8	-	Single-Family Attached Housing	215	DU	336
High Density Residential (HDR)	30.8	-	Multi-Family Housing (Low-Rise)	220	DU	770
Commercial (107.4 Total Acres)						
Regional Commercial	53.8	0.25	Shopping Center (>150k)	820	KSF	585.882
Hotel	13.4	0.25	Hotel	310	Rooms	250
Commercial Mixed-Use (Allows HDR)						
Retail Commercial	4.5	0.25	Shopping Center (>150k)	820	KSF	49.005
Office	4.5	0.25	General Office Building	710	KSF	49.005
High Density Residential	4.4		Multi-Family Housing (Low-Rise)	220	DU	110
Office	13.4	0.25	General Office Building	710	KSF	145.926
Drive-Through Commercial						
Fast-Food with Drive Through	1.8	0.25	Fast-Food Restaurant with Drive-Through Window	934	KSF	19.602
High-Turnover (Sit-Down) Restaurant	1.8	0.25	High-Turnover (Sit-Down) Restaurant	932	KSF	19.602
Supermarket	6.0	0.25	Supermarket	850	KSF	65.000
Retail Commercial	3.8	0.25	Shopping Center (>150k)	820	KSF	41.382
Schools						
Elementary School – New Students[3]	-	-	Elementary School	520	Students	1,085
High School – New Students[3]	-	-	High School	525	Students	620

Notes:
[1]FAR = Floor-to-Area ratio
[2]DU = Dwelling Units, KSF = 1,000 square feet
*[3]See **Attachment A** for detailed calculation of projected number of new Elementary and High School students generated by the Project.*

Although the Project would not develop new schools, the residential portions of the Project would lead to increased enrollment at existing area schools. The increased enrollment would generate new student trips at the existing schools on and near the Project site. Note that adjacent to the existing Central Valley High School campus is an existing elementary school facility (Hanline Elementary School) that currently houses the Ceres Adult School. This facility is anticipated to transition to elementary school use as demand requires. **Appendix C** contains the data and methodology used to estimate the number of new high school and elementary school students generated by the Project.

2.2 PROJECT GENERATED TRIPS

The trip generation data and methodologies contained in the *Institute of Transportation Engineers Trip Generation Manual, 11th Edition,* was used to approximate the number of trips generated by the Project. **Table 2.2** shows the Project trip generation estimate.

Table 2.2. Project Trip Generation

Land Use	ITE Code	Quantity	Units[2]	Daily[1]	AM Peak Hour[1]			PM Peak Hour[1]		
					In	Out	Total	In	Out	Total
Single-Family Detached Housing	210	1,286	DU	10,578	190	571	761	690	406	1,096
Single-Family Attached Housing	215	336	DU	2,510	42	127	169	117	81	198
Multi-Family Housing (Low-Rise)	220	880	DU	5,716	71	225	296	251	148	399
Walk, Bike, Transit Reduction: 4% [4]				*-752*	*-12*	*-37*	*-49*	*-42*	*-25*	*-68*
Total Residential Trips				18,052	291	886	1,177	1,016	610	1,625
School Internal Capture Trips with Residential[5]				*-1,760*	*0*	*-575*	*-575*	*-126*	*0*	*-126*
Residential Internal Capture with Office, Retail, Restaurant, and Hotel[3]				*-1,688*	*-21*	*-71*	*-92*	*-148*	*-52*	*-200*
Total Residential External Trips				***14,604***	***270***	***240***	***510***	***742***	***558***	***1,299***
Elementary School	520	1,085	Students	2,463	434	369	803	80	94	174
High School	525	620	Students	1,203	268	126	394	42	45	87
Walk, Bike, Transit Reduction: 4% [4]				*-147*	*-28*	*-20*	*-48*	*-5*	*-6*	*-10*
Total School Trips				3,519	674	475	1,149	117	133	251
School Internal Capture Trips with Residential[5]				*-1,760*	*-575*	*0*	*-575*	*0*	*-126*	*-126*
Total School External Trips				***1,759***	***99***	***475***	***574***	***117***	***7***	***125***
Shopping Center (>150k)	820	676.269	KSF	23,521	330	203	533	1,073	1,162	2,235
Supermarket	850	65.000	KSF	5,960	110	76	186	273	272	545
Total Retail Trips				29,481	440	279	719	1,346	1,434	2,780
Retail Internal Capture with Office, Restaurant, and Hotel[3]				*-3,934*	*-52*	*-46*	*-98*	*-206*	*-157*	*-363*
Retail Internal Capture with Residential[3]				*-906*	*-3*	*-6*	*-9*	*-13*	*-123*	*-136*
Total Retail External Trips				***24,641***	***385***	***227***	***612***	***1,127***	***1,154***	***2,281***
General Office Building	710	194.931	KSF	2,074	261	36	297	49	240	289
Office Internal Capture with Retail, Restaurant, and Hotel[3]				*-558*	*-55*	*-33*	*-88*	*-25*	*-45*	*-70*
Office Internal Capture with Residential[3]				*-111*	*-6*	*0*	*-6*	*-23*	*-2*	*-25*
Total Office External Trips				***1,405***	***200***	***3***	***203***	***1***	***193***	***194***
Hotel	310	250	Rooms	1,998	66	52	118	80	77	157
Hotel Internal Capture with Office, Retail, and Restaurant[3]				*-672*	*-3*	*-20*	*-23*	*-41*	*-34*	*-75*
Hotel Internal Capture with Residential[3]				*-64*	*0*	*0*	*0*	*-10*	*0*	*-10*
Total Hotel External Trips				***1,262***	***63***	***32***	***95***	***29***	***43***	***72***
Fast-Food Restaurant With Drive-Through	934	19.602	KSF	9,164	446	428	874	336	311	647
High-Turnover (Sit-Down) Restaurant	932	19.602	KSF	2,101	103	85	188	108	69	177
Total Restaurant Trips				11,265	549	513	1,062	444	380	824
Restaurant Internal Capture with Office, Retail, and Hotel[3]				*-3,143*	*-64*	*-75*	*-139*	*-158*	*-194*	*-352*
Restaurant Internal Capture with Residential[3]				*-607*	*-62*	*-15*	*-77*	*-6*	*-23*	*-29*
Total Restaurant External Trips				***7,515***	***423***	***423***	***846***	***280***	***163***	***443***
Total External Primary Trips				**51,186**	**1,440**	**1,400**	**2,840**	**2,296**	**2,118**	**4,414**

Notes:
[1]Trip rates are calculated based on ITE Trip Generation (11th Edition) fitted curve equations or average rates.
[2]DU = Dwelling Unit, KSF = 1,000 square feet
[3]Internal Capture based on ITE NCHRP Report 684 estimator tool.
[4]Walk, Bike, Transit Reduction based on California Statewide Household Survey Data for Ceres/Stanislaus County.
[5]50% of School trips were assumed to be internally matched with Residential trips

As illustrated in **Table 2.2**, the proposed Project is anticipated to generate a total of 51,186 external daily primary trips, 2,840 external AM peak hour primary trips (1,440 inbound, 1,400 outbound), and 4,414 external PM peak hour primary trips (2,296 inbound, 2,118 outbound). The ITE National Cooperative Highway Research Program (NCHRP) Report 684 estimator tool, which is an industry standard tool, was utilized to estimate the number of trips that would occur between Project land uses, also known as "internal" trips. It was estimated that the Project would generate a total of 15,203 internal daily trips, 1,682 internal AM peak hour trips, and 1,512 internal PM peak hour trips. These quantities translate to 22.9 percent of daily trips, 37.2 percent of AM peak hour tips, and 25.5 percent of PM peak hour trips staying internal to the Project site. Detailed totals of Project internal, external, and total trips are included in **Appendix D**.

The Project land uses were also plugged into the "Plus Project" scenarios in the StanCOG TDM. The "Plus Project" StanCOG TDM scenarios were ran and the Project generated trips estimated by the StanCOG TDM were extracted. The StanCOG TDM Project generated trips were compared against the ITE Project trip generation in **Table 2.2** to verify that the StanCOG TDM was generating a reasonable number of trips for the Project. Since the StanCOG TDM generally was found to generate a lower number of trips for the Project than was estimated in the ITE Trip Generation, the StanCOG TDM Project volumes were conservatively factored as necessary to match the ITE Trip Generation. A summary of the comparison of StanCOG TDM Project trips and ITE Trip Generation Project trips is included in **Appendix D**.

2.3 PROJECT TRIP ASSIGNMENT

The Project trip assignment was determined using the StanCOG TDM. The planned Service Road Interchange project was assumed to be completed under all "Plus Project" StanCOG TDM scenarios. The planned Service Road Interchange causes a significant rerouting of existing traffic patterns in the Project study area. Also, addition of Project land uses to the model causes a significant rerouting in existing background traffic as vehicles avoid new areas of congestion and travel to/from new destinations in the Project site. The rerouted background traffic, combined with the new Project trips on the network, is referred to as the net "Project Effect" traffic, and is further discussed in the next chapter. Note that some "Project Effect" values may be negative due to the rerouted background traffic discussed above.

3 ROADWAY SEGMENT ADT FOR ENVIRONMENTAL STUDIES

This section provides roadway segment ADT for 26 existing and proposed study roadway segments under all study scenarios. The following roadway segments were studied in this TIA:

1. Morgan Road between Hackett Road and Service Road
2. Blaker Road between Hackett Road and Service Road
3. Blaker Road south of Service Road
4. Central Avenue between Pine Street and Service Road
5. Central Avenue between Service Road and High School Southern Access
6. Central Avenue between High School Southern Access and E Redwood Road
7. Pine Street between Central Avenue and El Camino Avenue
8. Collins Road between Don Pedro Road and Service Road
9. Moffett Road south of Service Road
10. Moffett Road north of E Redwood Road
11. El Camino Avenue north of Pine Street
12. El Camino Avenue north of Service Road
13. Mitchell Road between Don Pedro Road and Service Road
14. Mitchell Road south of Service Road
15. Service Road between Morgan Road and Blaker Road
16. Service Road between Blaker Road and Central Avenue
17. Service Road between Central Avenue and Moffett Road

18. Service Road between El Camino Avenue and Mitchell Road
19. Lucas Road south of Service Road
20. Lucas Road north of Mitchell Road
21. E Redwood Road between Central Avenue and Moffett Road
22. E Redwood Road between Moffett Road and Lucas Road
23. New Project Road between E Redwood Road and Lucas Road
24. New Project Road between Blaker Road and Central Avenue
25. New Project Road between Central Avenue and Moffett Road
26. New Project Road between Moffett Road and Lucas Road
27. Mitchell Road between E Redwood Road and Lucas Road

Existing roadway segment ADTs were collected on November 30, 2023. ADT count data is contained in **Appendix E**. ADTs were not collected at Segments #10, #20, and #27 as they would have similar ADTs to adjacent segments under existing conditions. Study roadway segments are shown in **Figure 3.1**.

The StanCOG TDM was used to estimate daily roadway volumes under the following model scenarios:

- "2023 Base Year" – does not include the Project or the Service Road Interchange
- "2023 Plus Project" – includes the Project and the Service Road Interchange
- "Cumulative 2048 Base" – does not include the Project, includes the Service Road Interchange
- "Cumulative 2048 Plus Project" – includes the Project and the Service Road Interchange

Net "Near-Term Project Effect" and "Cumulative Project Effect" traffic volumes were calculated by taking the difference between "2023 Base Year" and "2023 Plus Project" model volumes, and "Cumulative 2048 Base" and "Cumulative 2048 Plus Project" model volumes, respectively. These "Project Effect" volumes account for both new Project trips added to the study roadway network and background trips that have rerouted due to the new Service Road Interchange and new congestion and destinations from the Project.

Yearly growth rates were calculated for each study segment by comparing "2023 Base Year" and "Cumulative 2048 Base" traffic volumes. These growth rates were applied to Existing (2023) ADT over a five-year period to obtain "Near-Term 2028" Base volumes. The Existing Project Effect volumes were added to "Near-Term 2028 Base" volumes to obtain "Near-Term 2028 Plus Project" conditions ADT.

Yearly growth rates were also applied to Existing (2023) ADT over a 25-year period to obtain "Cumulative 2048 Base" volumes. The Cumulative Project Effect volumes were added to "Cumulative 2048 Base" volumes to obtain "Cumulative 2048 Plus Project" conditions ADT. **Table 3.1** contains ADTs for all study scenarios.

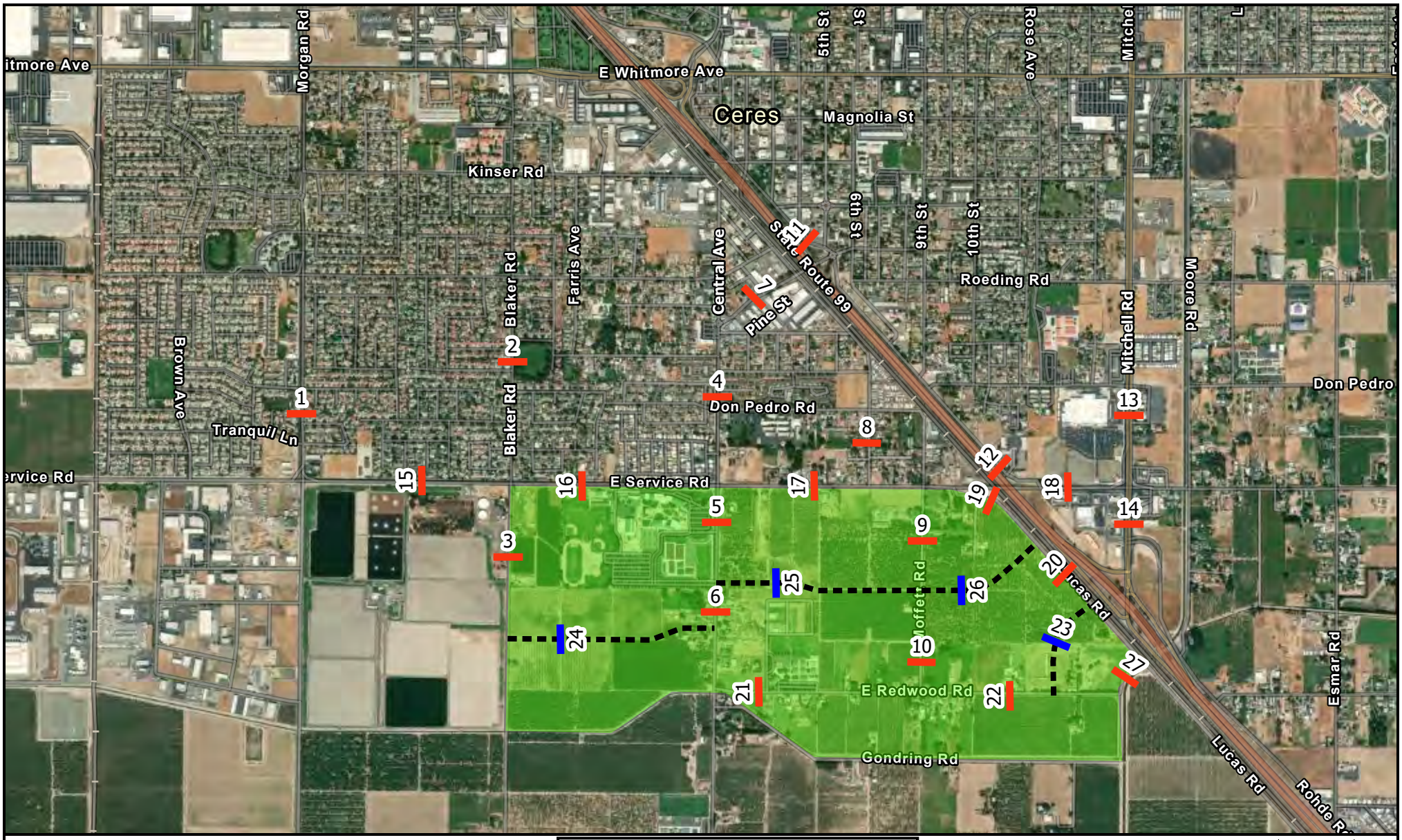


Figure 3.1

STUDY ROADWAY FACILITIES

COPPER TRAILS MASTER PLAN TIA

CERES, CA

MARCH 2024

Legend

- Existing Study Roadway Segments
- New Project Roadway Study Segments
- New Roadways
- Project Site

0 850 1,700

Feet

NORTH

WOOD RODGERS

Table 3.1. Roadway Segment ADT

#	Segment	Average Daily Traffic						
		Existing	Near-Term (2028)	Near-Term Project Effect	Near-Term Plus Project	Cuml. (2048)	Cuml. Project Effect	Cuml. Plus Project
1	Morgan Rd between Hackett Rd and Service Rd	7,789	8,223	4,008	12,231	10,217	3,608	13,825
2	Blaker Rd between Hackett Rd and Service Rd	3,820	4,098	397	4,495	5,428	-118	5,310
3	Blaker Rd south of Service Rd	925	962	380	1,342	1,124	315	1,439
4	Central Ave between Pine St and Service Rd	9,306	9,774	2,849	12,623	11,893	1,499	13,392
5	Central Ave between Service Rd and High School Southern Access	9,715	9,924	6,204	16,128	10,805	5,917	16,722
6	Central Ave between High School Southern Access and E Redwood Rd	7,352	7,564	4,206	11,770	8,477	3,976	12,453
7	Pine St between Central Ave and El Camino Ave	12,187	12,562	1,023	13,585	14,183	741	14,924
8	Collins Rd between Don Pedro Rd and Service Rd	1,510	1,511	831	2,342	1,513	1,195	2,708
9	Moffett Rd south of Service Rd	766	826	39,230	40,056	1,117	38,600	39,717
10	Moffett Rd north of E Redwood Rd[1]	766	789	11,400	12,189	889	10,522	11,411
11	El Camino Ave north of Pine St	10,514	10,515	-919	9,596	10,520	1,319	11,839
12	El Camino Ave north of Service Rd[2]	2,736	0	0	0	0	0	0
13	Mitchell Rd between Don Pedro Rd and Service Rd	27,390	28,924	6,372	35,296	35,968	7,345	43,313
14	Mitchell Rd south of Service Rd	28,953	30,058	-3,712	26,346	34,916	-1,025	33,891
15	Service Rd between Morgan Rd and Blaker Rd	11,616	12,298	-492	11,806	15,451	-3,151	12,300
16	Service Rd between Blaker Rd and Central Ave	13,780	14,680	-873	13,807	18,907	-4,099	14,808
17	Service Rd between Central Ave and Moffett Rd	16,089	17,153	544	17,697	22,163	-1,845	20,318
18	Service Rd between El Camino Ave and Mitchell Rd	18,876	19,588	8,652	28,240	22,714	9,278	31,992
19	Lucas Rd south of Service Rd	696	799	216	1,015	1,389	359	1,748
20	Lucas Rd north of Mitchell Rd[1]	696	799	-46	753	1,389	-68	1,321
21	E Redwood Rd between Central Ave and Moffett Rd	851	853	5,002	5,855	861	4,687	5,548
22	E Redwood Rd between Moffett Rd and Lucas Rd	278	302	13,082	13,384	421	12,119	12,540
23	New Project Rd between E Redwood Rd and Lucas Rd	0	0	395	395	0	388	388
24	New Project Rd between Blaker Rd and Central Ave	0	0	1,238	1,238	0	1,242	1,242
25	New Project Rd between Central Ave and Moffett Rd	0	0	356	356	0	294	294
26	New Project Rd between Moffett Rd and Lucas Rd	0	0	17,826	17,826	0	18,029	18,029
26	Mitchell Rd between E Redwood Rd and Lucas Rd[1]	278	0	1,462	1,462	0	2,181	2,181

*Notes: **Bold** values indicate unacceptable LOS.*
[1] Existing segment ADTs are assumed to be the same as the adjacent segment.
[2] The segment of El Camino Avenue north of Service Road would not exist with construction of the Service Road Interchange.

4 CALTRANS FACILITY ANALYSIS

The LDIGR Safety Review Practitioners Guidance (Caltrans, December 18, 2020) establishes the safety review expectations for proposed land use projects that would affect Caltrans facilities in the context of the CEQA review process. LDIGR guidelines consist of a freeway queueing analysis and traffic safety review, including collision analysis.

4.1 SAFETY EVALUATION

This section provides a safety evaluation under Existing conditions for the following ramp facilities:

- SR 99 Northbound Off-Ramp to Pine Street/El Camino Avenue/4th Street (PM R11.338)
- SR 99 Southbound On-Ramp from 2nd Street/North Street (PM R 11.379)
- SR 99 Northbound On-Ramp from Pine Street/El Camino Avenue/4th Street (PM R11.408)
- SR 99 Southbound Off-Ramp to El Camino Avenue/North Street (PM R11.772)
- SR 99 Southbound On-Ramp from Mitchell Road (PM R9.974)
- SR 99 Northbound Off-Ramp to Mitchell Road (PM R9.993)
- SR 99 Northbound On-Ramp from Mitchell Road (PM R10.346)
- SR 99 Southbound Off-Ramp to Mitchell Road (PM R10.365)

Five years of collision data were obtained from the Caltrans Traffic Accident Surveillance and Analysis Systems (TASAS) for the study facilities to identify high collision locations and common collision characteristics. Data provided for all facilities is from April 1, 2017 to March 31, 2022, with the exception of data for the SR 99 SB Off-Ramp to El Camino Avenue/North Street, which is from July 1, 2018 to June 30, 2023.

Table 4.1 summarizes collision rates at the Caltrans study facilities by severity over the last five years and provides average rates for similar facilities throughout the state for comparison.

Table 4.1. Collision Rates for Caltrans Facilities (TASAS)

Roadway	Total No. of Collisions	Actual Collision Rate (per million vehicle miles)			Average Collision Rate (per million vehicle miles)		
		Fatal	Fatal + Injury	Total[1]	Fatal	Fatal + Injury	Total[1]
SR 99 NB Off-Ramp to Pine St/El Camino Ave/4th St	9	0	1.06	4.75	0.007	0.42	1.37
SR 99 SB On-Ramp from 2nd St/North St	3	0	0.24	0.72	0.002	0.18	0.57
SR 99 NB On-Ramp from Pine St/El Camino Ave/4th St	0	0	0	0	0.002	0.18	0.57
SR 99 SB Off-Ramp to El Camino Ave/North St	5	0	0.15	0.38	0.007	0.42	1.37
SR 99 SB On-Ramp from Mitchell Rd	8	0	0.16	0.43	0.002	0.23	0.63
SR 99 NB Off-Ramp to Mitchell Rd	5	0	0.12	0.29	0.003	0.38	1.04
SR 99 NB On-Ramp from Mitchell Rd	2	0	0.15	0.31	0.002	0.23	0.63
SR 99 SB Off-Ramp to Mitchell Rd	25	0.149	1.34	3.58	0.003	0.38	1.04
Notes: *[1] Total collisions include Fatal + Injury and Property Damage Only (PDO) collisions*							

As shown in **Table 4.1**, the SR 99 Northbound Off-Ramp to Pine Street/El Camino Avenue/4th Street, the SR 99 Southbound On-Ramp from 2nd Street/North Street, and the SR 99 Southbound Off-Ramp to Mitchell Road have experienced higher Total Collision rates and Fatal + Injury collision rates than the state average for similar facilities. Additionally, the SR 99 Southbound Off-Ramp to Mitchell Road experienced a higher-than-average Fatal collision rate. All other study facilities experienced lower than average Total collision rates.

Table 4.2 summarizes the collisions at the Caltrans study facilities and describes the collision severity (fatal, serious injury, other injury, and Property Damage Only (PDO)) and the collision type. The TASAS data indicated that a total of 56 collisions occurred at the Caltrans study facilities over the last five years. The most common collision types were Hit Object collisions, followed by Rear End type collisions.

Table 4.2. Collision Severity and Type for Caltrans Facilities (TASAS)

Roadway	Total Collisions	Severity				Type						
		Fatal	Serious Injuries	Other Injuries	PDO	Sideswipe	Rear-End	Broadside	Hit Object	Overturn	Other	Head-On
SR 99 NB Off-Ramp to Pine St/El Camino Ave/4th St	9	0	0	2	7	0	0	0	9	0	0	0
SR 99 SB On-Ramp from 2nd St/North St	3	0	0	1	2	1	0	0	1	0	0	1
SR 99 NB On-Ramp from Pine St/El Camino Ave/4th St	0	0	0	0	0	0	0	0	0	0	0	0
SR 99 SB Off-Ramp to El Camino Ave/North St	5	0	1	1	3	0	2	0	3	0	0	0
SR 99 SB On-Ramp from Mitchell Rd	8	0	1	2	5	0	3	1	4	0	0	0
SR 99 NB Off-Ramp to Mitchell Rd	5	0	0	2	3	1	1	0	2	1	0	0
SR 99 NB On-Ramp from Mitchell Rd	2	0	0	1	1	0	0	0	2	0	0	0
SR 99 SB Off-Ramp to Mitchell Rd	24	1	0	8	15	1	8	4	7	1	1	2

Table 4.3 shows the primary collision factors (PCFs) at each Caltrans study facility. As shown in **Table 4.3,** the most common PCFs were speeding and improper turning.

Of the existing study ramps, the Project is primarily projected to add trips to the SR 99 Northbound On-Ramp from Pine Street/El Camino Avenue/4th Street and the SR 99 Southbound Off-Ramp to El Camino Avenue/North Street. Both of these facilities have experienced collision rates below the average for similar facilities. Construction of the Service Road Interchange project would reconstruct the entire Mitchell Road Interchange by eliminating the SR 99 Northbound On-Ramp from Mitchell Road and the SR 99 Southbound Off-Ramp to Mitchell Road and modifying the Northbound Off-Ramp and Southbound On-Ramp. With the new Service Road Interchange in place, Project traffic is unlikely to utilize the Mitchell Road ramps. Additionally, the new Service Road Interchange is projected to redirect a significant amount of traffic away from the remaining nearby existing ramps to the new DDI ramps at Service Road. It is projected that the Project would not add a significant number of trips to the existing ramps that have higher than typical collision rates.

Table 4.3. Primary Collision Factors for Caltrans Facilities (TASAS)

Roadway	Total Collisions	PCF				
		Speeding	Improper Turn	Influence of Alcohol	Failure to Yield	Other Violations
SR 99 NB Off-Ramp to Pine St/El Camino Ave/4th St	9	3	2	4	0	0
SR 99 SB On-Ramp from 2nd St/North St	3	0	1	0	1	1
SR 99 NB On-Ramp from Pine St/El Camino Ave/4th St	0	0	0	0	0	0
SR 99 SB Off-Ramp to El Camino Ave/North St	5	1	1	2	0	1
SR 99 SB On-Ramp from Mitchell Rd	8	4	1	1	2	0
SR 99 NB Off-Ramp to Mitchell Rd	5	1	3	0	0	1
SR 99 NB On-Ramp from Mitchell Rd	2	0	2	0	0	0
SR 99 SB Off-Ramp to Mitchell Rd	24	8	5	3	6	2

4.2 Off-Ramp Queueing Analysis

95th percentile AM and PM peak hour off-ramp queueing was analyzed to determine if the addition of Project trips would add two or more car lengths to an off-ramp queue that will extend into the freeway mainline. The Project is projected to add trips to the following five existing and proposed SR 99 Ramp intersections:

1. El Camino Avenue & 99 Southbound Off-Ramp/North Street
2. El Camino Avenue & SR 99 Northbound Ramps/4th Street
3. SR 99 Southbound Ramps & Service Road (proposed)
4. SR 99 Northbound Ramps & Service Road (proposed)
5. SR 99 Ramps/Mitchell Road & Rhode Road/Ceres Gateway Access (proposed)

The above intersections were modeled using *SimTraffic 11* software in order to analyze 95th percentile queueing at the following five off-ramp facilities:

1. SR 99 Southbound Off-Ramp to El Camino Avenue/North Street
2. SR 99 Northbound Off-Ramp to El Camino Avenue/4th Street
3. SR 99 Southbound Off-Ramp to Service Road
4. SR 99 Northbound Off-Ramp to Service Road
5. SR 99 Northbound Off-Ramp to Mitchell Road

4.2.1 Study Intersection Volumes

Off-Ramp queueing was performed for Near-Term (2028) and Near-Term Plus Project conditions. Near-Term scenarios were used in lieu of Existing conditions scenarios for the ramp queueing analysis as the new Service Road Interchange is planned to be constructed well before the Project is complete. Near-Term (No

Project) condition volumes at the Service Road and Mitchell Road ramp intersections were obtained from the Service Road Interchange TOAR Addendum.

Near-Term conditions intersection volumes at the El Camino Avenue & 99 Southbound Off-Ramp/North Street and El Camino Avenue & SR 99 Northbound Ramps/4th Street intersections were developed by applying a growth rate from the StanCOG TDM to existing intersection counts. Existing traffic counts were collected at the intersections on Thursday November 30, 2023, during the AM (7-9AM) and PM (4-6PM) peak periods. Intersection count sheets are included in **Appendix E**. An average growth rate of 0.5% per year was calculated based on growth between "2023 Base Year" and "Cumulative 2048 Base" scenarios in the StanCOG TDM at the El Camino Avenue & 99 Southbound Off-Ramp/North Street and El Camino Avenue & SR 99 Northbound Ramps/4th Street intersections. The growth rate was applied between Existing year 2023 and Near-Term year 2028.

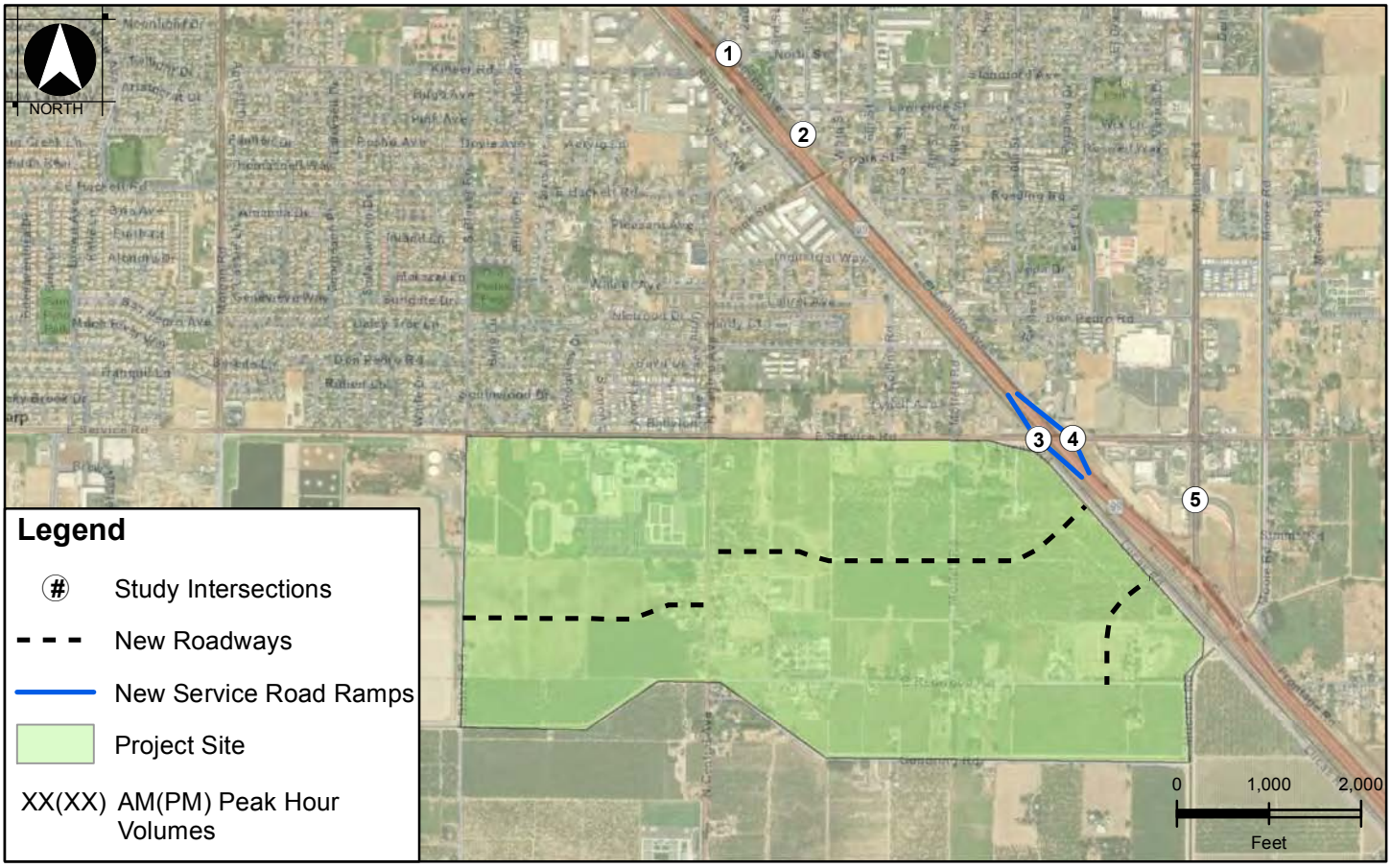
Existing (2023) traffic volumes at the El Camino Avenue & 99 Southbound Off-Ramp/North Street and El Camino Avenue & SR 99 Northbound Ramps/4th Street intersections are shown in **Figure 4.1**. Near-Term base study intersection volumes are shown in **Figure 4.2**.

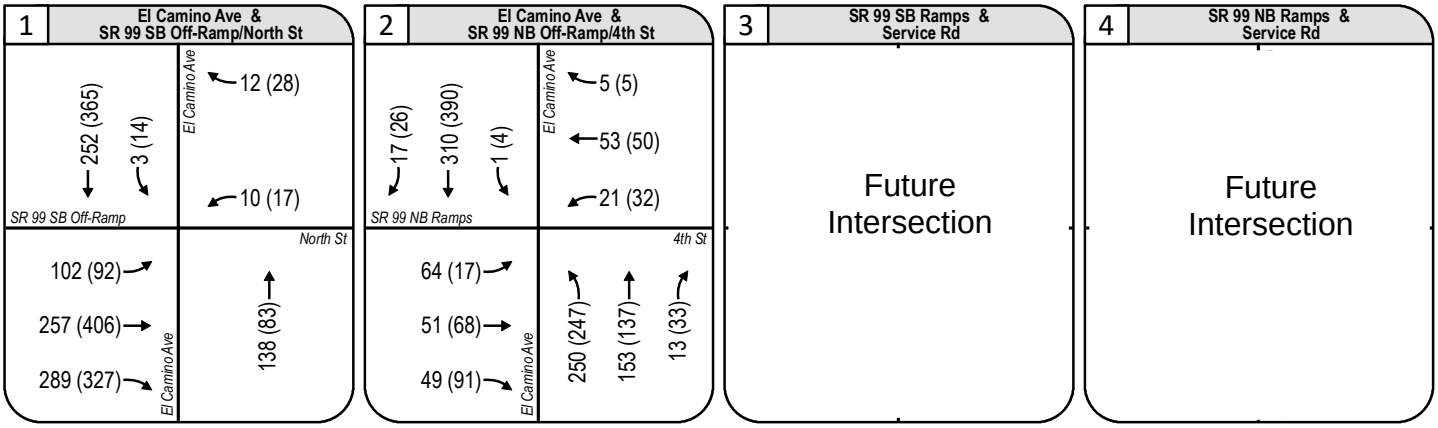
In order to capture the effect of the new Service Road Interchange and new Project trips on existing traffic volumes, Project Effect volumes for the El Camino Avenue Ramp intersections were calculated by using the difference method between "2023 Base Year" (which does not include the Service Road Interchange) and "2023 Base Year Plus Project" (which includes the Service Road Interchange) scenarios of the StanCOG TDM.

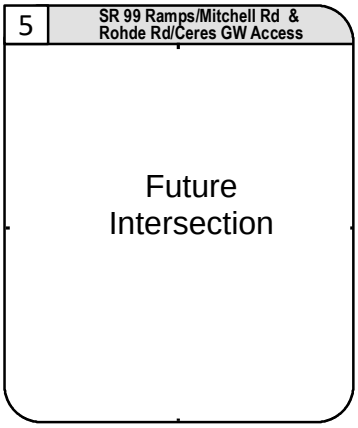
As the Near-Term base volumes for the Service Road Interchange and Michell Road interchange intersections are from the Service Road Interchange TOAR Addendum, those volumes already accounted for the rerouting of trips due to the Service Road Interchange. Therefore, Project Effect trips at the Service Road Interchange and Michell Road interchange intersections were calculated by using the difference method between "2023 Base Year Plus Service Road Interchange" and "2023 Base Year Plus Project" (which also includes the Service Road Interchange) scenarios of the StanCOG TDM. Project Effect traffic volumes are shown in **Figure 4.3** and Near-Term Plus Project volumes are shown in **Figure 4.4**.

4.2.2 Analysis Methodology and Assumptions

Synchro 11 software was used to model the study intersections and SimTraffic 11 software was used to analyze 95th percentile queues. Synchro models used in the Service Road Interchange TOAR Addendum were obtained from Fehr & Peers. These models contained the planned Service Road Interchange, the reconfigured Mitchell Road Interchange, and various adjacent intersections, driveways, and improvements associated with the planned Mitchell Ranch/Ceres Gateway developments. These models were updated to include the El Camino Avenue & SR 99 Southbound Off-Ramp/North Street and El Camino Avenue & SR 99 Northbound Ramps/4th Street intersections. For the purposes of this analysis, the intersections of Moffett Road & Service Road and Mitchell Road & Service Road were included in model, as were the three future intersections/driveways on Service Road between the proposed Northbound SR 99 Ramps and Mitchell Road. These additional facilities were included in the SimTraffic model runs in order to more accurately simulate the interaction between the closely spaced intersections at the new interchange and along Service Road. The SimTraffic models were run with a 10-minute warm-up period and results were the average of 10 runs. A peak hour factor of 0.93 was used throughout the study network, consistent with the Service Road Interchange TOAR Addendum analysis.







Existing Traffic Volumes
Copper Trails Master Plan TIA
Ceres, CA
March 2024

Figure 4.1

WOOD RODGERS

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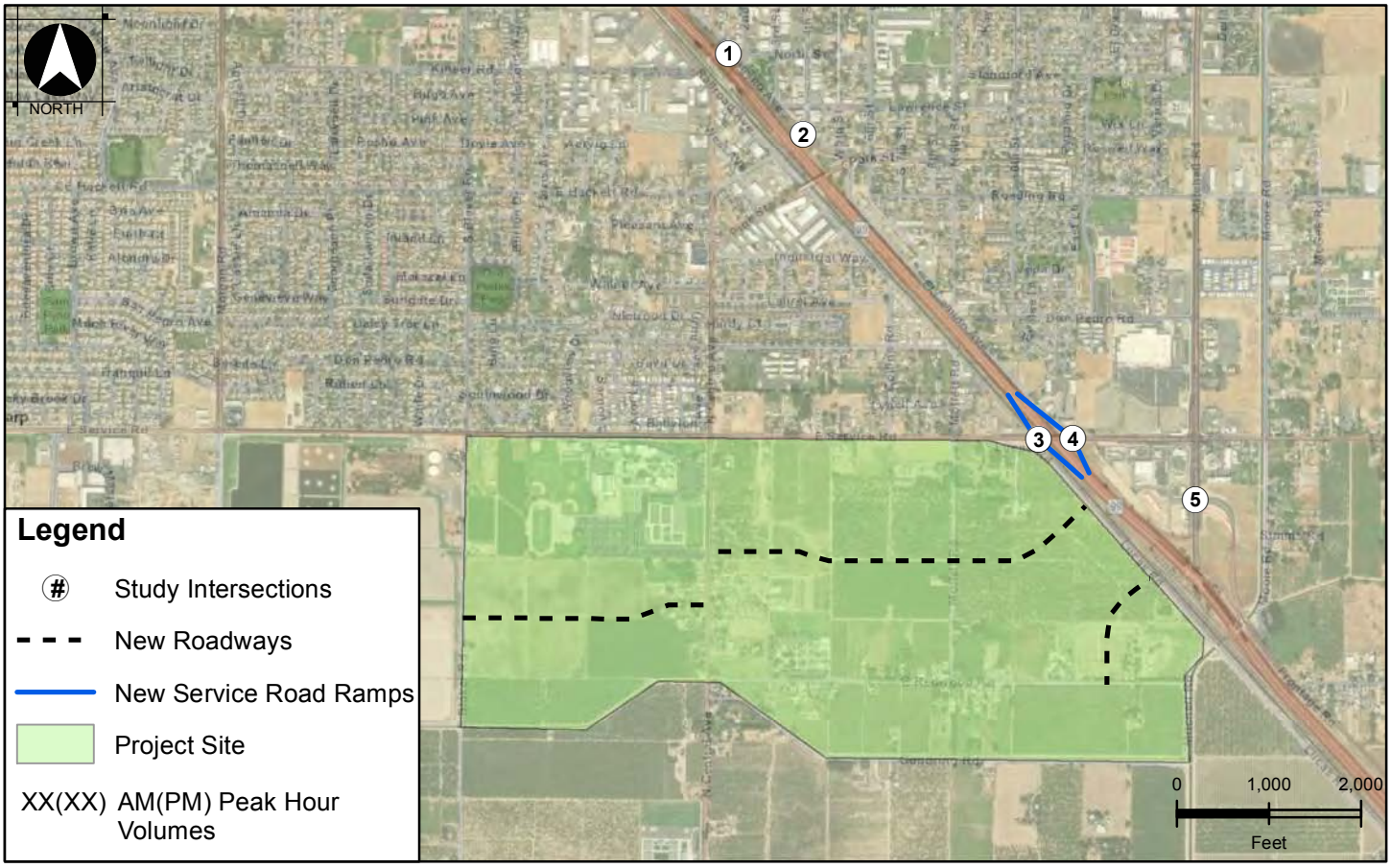
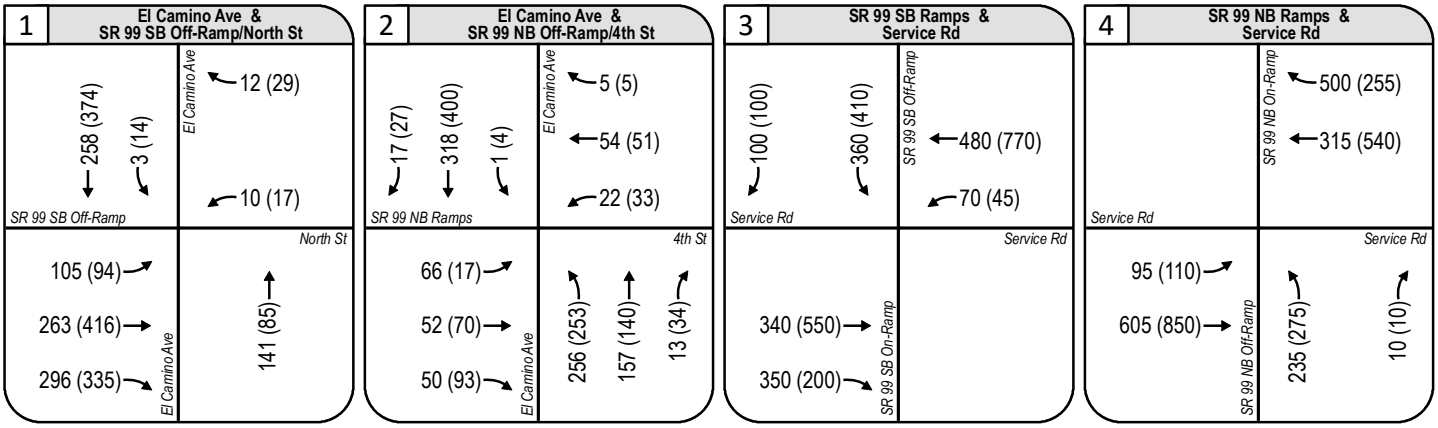
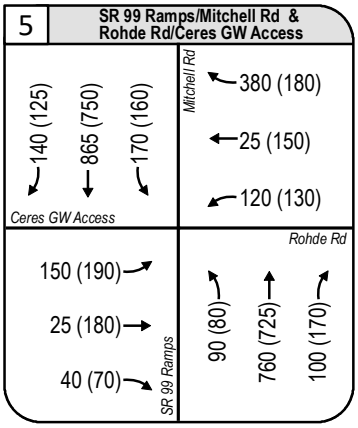




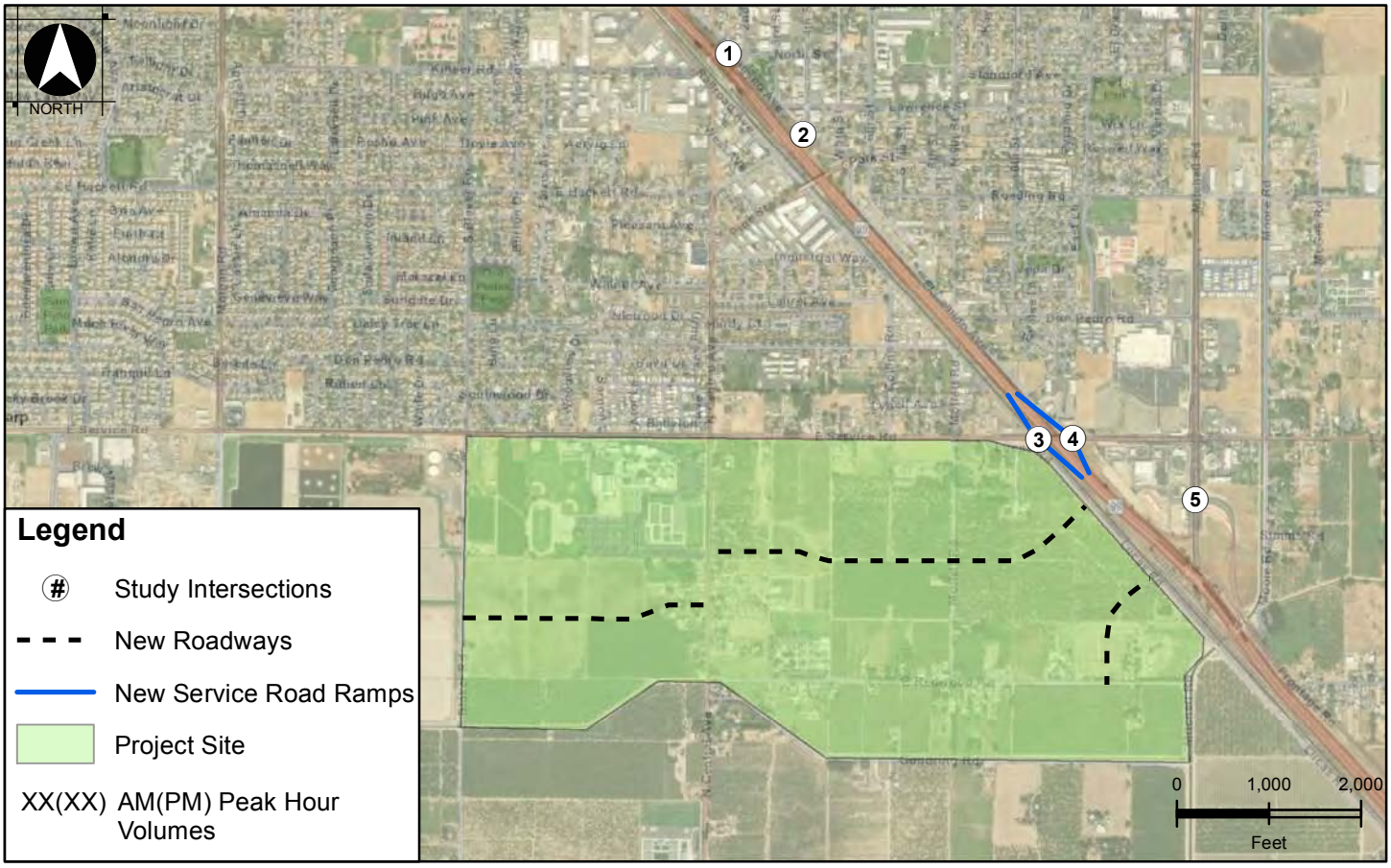


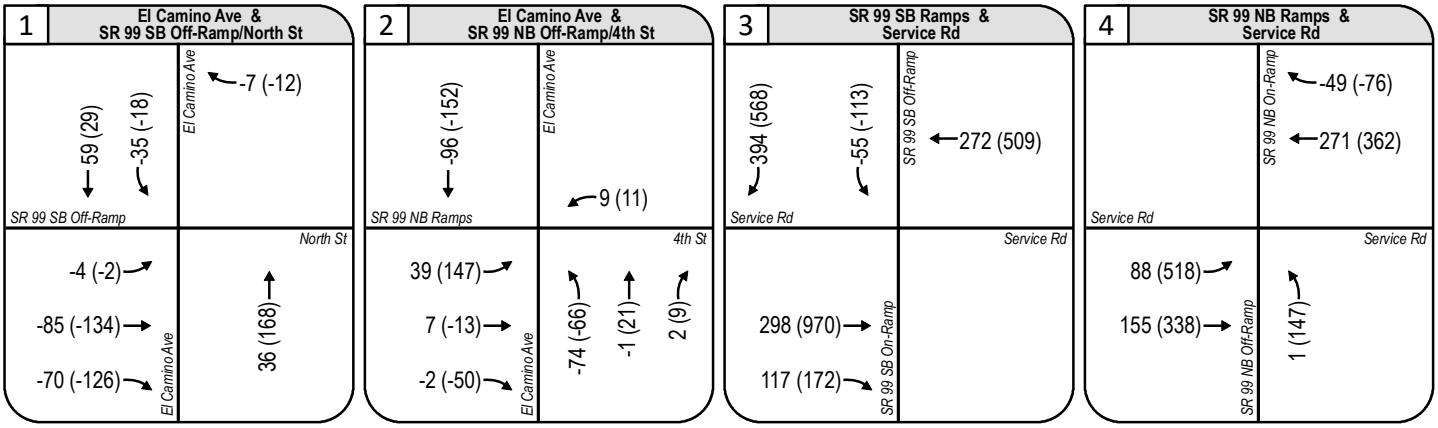
Near-Term Traffic Volumes

Copper Trails Master Plan TIA
Ceres, CA
March 2024

Figure 4.2

WOOD RODGERS



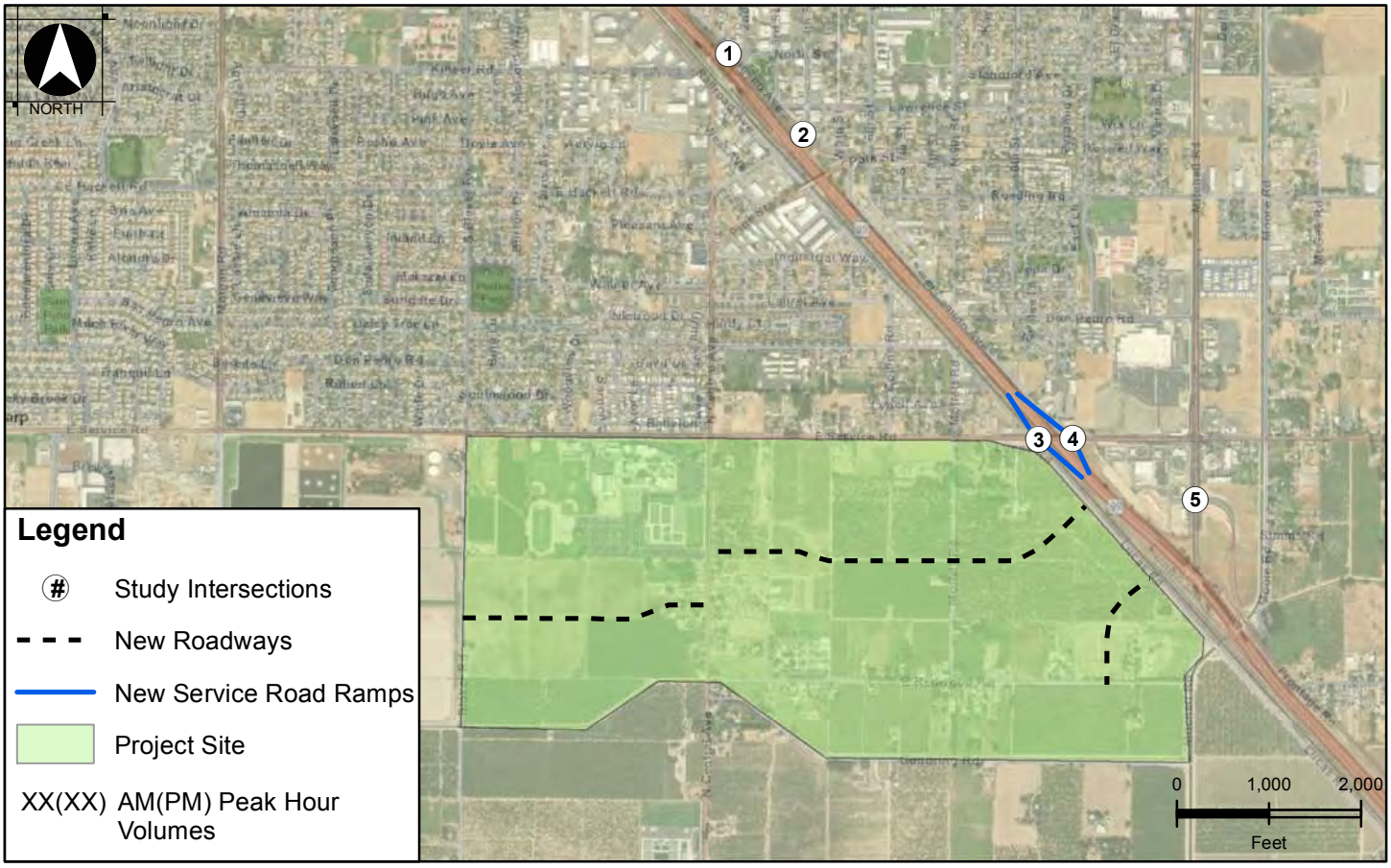


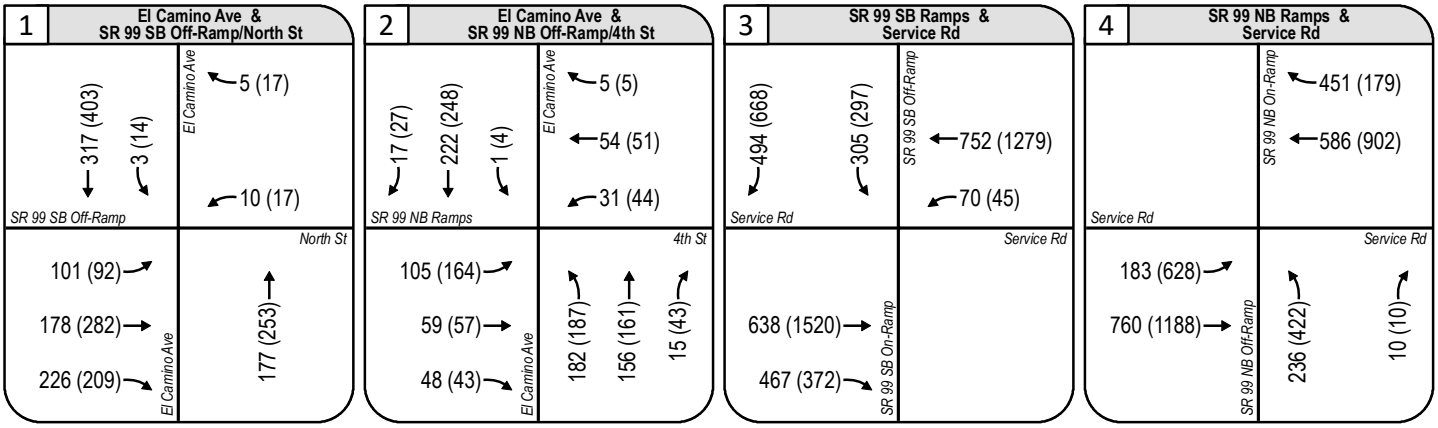
Project Effects Traffic Volumes

Copper Trails Master Plan TIA
Ceres, CA
March 2024

Figure 4.3

WOOD RODGERS





Near-Term Plus Project Traffic Volumes

Copper Trails Master Plan TIA
Ceres, CA
March 2024

Figure 4.4

WOOD RODGERS

4.2.3 Intersection Geometries

Under Near-Term (No Project) conditions, the study intersections near the Service Road Interchange and Mitchell Road Interchange were assumed to have the geometries specified in the Service Road Interchange GAD (see **Appendix B**). The study intersections near the El Camino Avenue Interchange were assumed to have existing conditions geometries.

Under Near-Term Plus Project conditions, all intersection geometries were assumed to be the same as under Near-Term (No Project) conditions, except the following lane configuration and controls were implemented at the Moffett Road & Service Road intersection in order to accommodate the addition of Project traffic:

- Signalization with protected left-turn phasing on all approaches and northbound right-turn overlap phasing.
- Eastbound Approach: one left-turn lane, three through lanes, and one right-turn lane.
- Westbound Approach: three left-turn lanes (including one left-turn trap lane), two through lanes, and one right-turn lane.
- Northbound Approach: one left-turn lane, one through lane, and two right-turn lanes.
- Southbound Approach: one left-turn lane and one shared through-right-turn lane.

It was assumed that the Moffett Road & Service Road signal would be coordinated with the Service Road Interchange signals. The assumed geometries at the Moffett Road & Service Road intersection under Near-Term Plus Project conditions is shown in **Figure 4.5** below.

Figure 4.5. Recommended Moffet Road & Service Road Intersection Geometry with Project

4.2.4 Study Intersection Off-Ramp Queueing Operations and Impacts

Table 4.4 shows available storage lengths and projected peak hour 95th percentile off-ramp queues under Near-Term and Near-Term Plus Project conditions.

Table 4.4. Near-Term and Near-Term Plus Project Queueing Analysis Results

Off-Ramp/Intersection	Movement	Available Storage (ft)[1]	Peak Hour	95th Percentile Queue (ft)[2]	
				Near-Term	Near-Term Plus Project
SR 99 Southbound Off-Ramp – El Camino Avenue & 99 Southbound Off-Ramp/North Street	EB	1,240	AM	121	108
			PM	649	152
SR 99 Northbound Off-Ramp – El Camino Avenue & SR 99 Northbound Ramps/4th Street	EB	515	AM	77	89
			PM	81	105
SR 99 Southbound Off-Ramp to Service Road – SR 99 Southbound Ramps & Service Road	SB	1,376	AM	155	391
			PM	188	**1,513**
SR 99 Northbound Off-Ramp to Service Road – SR 99 Northbound Ramps & Service Road	NB	1,280	AM	99	110
			PM	107	50
SR 99 Northbound Off-Ramp to Mitchell Road – SR 99 Ramps & Mitchell Road	NB	2,190	AM	157	151
			PM	162	147

*Notes: **Bold** values indicate queue exceeds available storage. One vehicle length is assumed to equal 20 feet.*
[1] Available storage represents the distance to the beginning of the off-ramp gore area. Off-Ramp storage for the Service Road and Mitchell Road ramps are based on the Service Road Interchange Draft Geometric Approval Drawing (GAD) (Prepared by NV5, October 16, 2023).
[2] Queue reported represents the longest single-lane queue on the off-ramp.

As shown in **Table 4.4**, all off-ramp queues are projected to fit within available storage under Near-Term conditions. The SR 99 Southbound Off-Ramp queue at Service Road is projected to exceed available storage under Near-Term Plus Project PM peak hour conditions. The remaining off-ramp queues are projected to fit within available storage under Near-Term Plus Project conditions. SimTraffic queueing reports are included in **Appendix F**.

The Project would have a **queueing impact** at the SR 99 Southbound Off-Ramp to Service Road under Near-Term Plus Project PM peak hour conditions.

The microsimulation runs at the Service Road Interchange were reviewed to determine the cause of the queueing impact identified above, as well as to identify any other potential queueing issues in the study area. The results of the microsimulation review are summarized on the following pages.

SR 99 Southbound Off-Ramp to Service Road

The queueing impact at the SR 99 Southbound Off-Ramp shown in **Table 4.4** is largely due to the significant increase in southbound right turn volumes due to vehicles traveling to the Project. The excessive queueing at the SR 99 Southbound Off-Ramp is shown in a screenshot of the microsimulation model run in **Figure 4.6**.

Figure 4.6. Near-Term Plus Project PM Queueing at the SR 99 SB Off Ramp to Service Road

Eastbound Queueing at the Service Road Interchange

In addition to the SR 99 Southbound Off-Ramp queuing impact, observation of the microsimulation runs reveal excessive eastbound queueing was shown to occur on Service Road between Moffet Road and the SR 99 Northbound On-Ramps. Eastbound queueing on Service Road is due to the significantly increased volume of eastbound left-turn traffic entering the Northbound On-Ramp from the Project via Service Road. With the Project, there is a high number of vehicles that make a northbound right turn at the Moffett Road & Service Road intersection, and then want to merge all the way to the inside eastbound lane on Service Road to get to the Northbound On-Ramp, causing a lane utilization problem. The excessive eastbound queueing on Service Road is shown in a screenshot of the microsimulation model run in **Figure 4.7**.

Figure 4.7. Near-Term Plus Project PM Queueing on Eastbound Service Road

4.2.5 Service Road Interchange Mitigations and Improvements

SR 99 Southbound Off-Ramp to Service Road

To mitigate the queuing impact, it is recommended that the proposed Southbound Off-Ramp be reconfigured to include two southbound right-turn lanes and one southbound left-turn lane.

Eastbound Queueing at the Service Road Interchange

In order to improve eastbound queueing on Service road and address the lane utilization issue, it is recommended to widen the eastbound entrance to the Northbound On-Ramp to two lanes and convert the eastbound approach of Service Road at the Northbound On-Ramp to consist of one dedicated left-turn trap lane onto the ramp, one shared left-through-lane, and one through lane.

Off-Ramp queueing results with the mitigations and improvements in place are shown in **Table 4.5.**

Table 4.5. Near-Term Plus Project With Improvements Queueing Analysis Results

Off-Ramp/Intersection	Movement	Available Storage (ft)[1]	Peak Hour	95th Percentile Queue (ft)[2]		
				Near-Term	Near-Term Plus Project	Near-Term Plus Project With Improvements
SR 99 Southbound Off-Ramp to Service Road – SR 99 Southbound Ramps & Service Road	SB	1,376	AM	155	391	282
			PM	188	**1,513**	262
SR 99 Northbound Off-Ramp to Service Road – SR 99 Northbound Ramps & Service Road	NB	1,280	AM	99	110	103
			PM	107	50	222

*Notes: **Bold** values indicate queue exceeds available storage. One vehicle length is assumed to equal 20 feet.*
[1] Available storage represents the distance to the beginning of the off-ramp gore area. Off-Ramp storage for the Service Road and Mitchell Road ramps are based on the Service Road Interchange Draft Geometric Approval Drawing (GAD) (Prepared by NV5, October 16, 2023).
[2] Queue reported represents the longest single-lane queue on the off-ramp.

As shown in **Table 4.5**, off-ramp queueing would fit within available storage with the mitigation and improvements in place. The Project queueing impact at the SR 99 Southbound Off Ramp to Service Road would be **less than significant after mitigation**. SimTraffic queueing reports for improved conditions are included in **Appendix F**.

It is recommended that Service Road Interchange operations are further analyzed in the Project Traffic Operations Analysis to ensure that the interchange will operate acceptably under Cumulative Plus Project conditions.

5 PROJECT IMPACTS ON PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

The Project proposes the following internal pedestrian and bicycle features:

- 12-foot sidewalks and 8-foot bike lanes on eastbound Service road along Project frontage
- 5-foot sidewalks in both directions along typical interior Project streets
- 5-foot sidewalks and 4-foot bike lanes in both directions along Central Avenue
- 10-foot multiuse path along northbound Blaker Road along Project frontage
- 5-foot sidewalks and 4-foot bike lanes in both directions along interior collector streets
- 8-foot path/trail along Project frontage adjacent to the TID Lateral canal

The Project would provide pedestrian connectivity to the existing sidewalk network on Blaker Road and Central Avenue and to the proposed pedestrian and bicycle facilities to be completed with the Service Road Interchange project. The Project's proposed pedestrian and bicycle facilities are illustrated in **Appendix A**.

The Project area is served by the Stanislaus Regional Transit Authority (StanRTA). StanRTA offers fixed route bus services, as well as ADA Paratransit and Medivan services. The closest transit stops to the Project site are located on Service Road in front of Central Valley High School and on Blaker Road and Central Avenue north of Service Road. These stops are served by Route 42, which provides connectivity between the Modesto Transit Center and the Ceres Walmart Transit Hub via residential and commercial roads. Route 42 operates at 30-minute to 1-hour headways between approximately 5:45 AM and 11:00 PM on weekdays, 7:15 AM to 9:30 PM on Saturdays, and 8:45 AM to 7:30 PM on Sundays. The Project is considering a potential extension of StanRTA's fixed-route bus service which would run along Central Avenue, E. Redwood Road, proposed Street C, Lucas Road, proposed Street B, and Moffett Road within the Project site. The preliminary extension of the StanRTA transit route is illustrated in **Appendix A**.

5.1 PEDESTRIAN, BICYCLE, AND TRANSIT IMPACTS AND MITIGATIONS

The Project would not impact existing or proposed pedestrian or bicycle facilities in a way that would discourage their use, nor is the Project anticipated to cause a significant increase in pedestrian or bicycle demand in the study area that would put existing facilities over capacity.

The Project would likely cause a significant increase in local transit demand. It is recommended that the Project accommodate new transit demand by including an extended transit route and transit stops within the Project site, including the regional commercial and office portions of the site. Expanded service areas for Route 42 or other local bus routes should be explored in coordination with the City and StanRTA.

6 VEHICLE MILES TRAVELED ANALYSIS

Senate Bill 743 (SB 743), signed in 2013, required changes to CEQA guidelines on the measurement and identification of transportation impacts due to new projects in California. Revised CEQA Guidelines were adopted in 2018 which identified VMT as the most appropriate metric to evaluate transportation impacts. Statewide implementation of assessment of VMT as a metric of transportation impact occurred for all jurisdictions on July 1, 2020. The Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) (December 2018), contains technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The City has not currently adopted official VMT guidelines or thresholds. Therefore, this memorandum utilizes recommended thresholds and methodologies outlined in the OPR Technical Advisory for analyzing residential, office, and retail land uses.

6.1 VMT METHODOLOGY

The latest version of the StanCOG TDM was used to estimate VMT generated by the Project land uses. The StanCOG TDM was edited to include the same changes as those made for the Mitchell Road Interchange TOAR Addendum. A review of the StanCOG TDM was performed in the Project study area. Additional detail and calibration changes were made to the StanCOG TDM in the Project study area in order to create an accurate estimate of travel characteristics near the Project. Additional detail and calibration changes included editing roadway network and land use assumptions in the study area to better match existing conditions and adding detail where lacking in the off the shelf model.

The following scenarios were run in the StanCOG TDM for Project VMT analysis:

- Existing Year 2023 No Project
- Existing Year 2023 Plus Project
- Cumulative Year 2048 No Project
- Cumulative Year 2048 Plus Project

The "No Project" scenarios were run to estimate VMT thresholds based on existing City average VMT, while the "Plus Project" scenarios were run to estimate Project VMT. Note that the proposed SR 99/Mitchell Road/Service Road Diverging Diamond Interchange project was assumed to be complete under all "Plus Project" scenarios as well as under the Cumulative Year 2048 No Project scenario. While the interchange has a target completion date of 2028, the interchange was assumed to be complete under all "Plus Project" scenarios because the interchange is necessary to support the traffic generated by the Project.

The StanCOG TDM was used to estimate all City and Project VMT within Stanislaus County. In order to estimate City and Project VMT outside of Stanislaus County, consistent with OPR Guidelines, this analysis utilizes trip length and origin-destination information from the location-based services data vendor Replica. Additional information on Replica can be found here: https://replicahq.com/about/. The latest available Replica data for average Thursday daily conditions in Spring of 2023 was utilized for this analysis. All data used in this analysis was from the California-Nevada region, which means it will capture all trips that start or end within the states of California or Nevada. Replica has nation-wide data, which means all trip lengths reported from Replica are full trip lengths and are not truncated due to jurisdictional boundaries. All Replica data used in this study can be provided upon request.

Three VMT metrics are used in this analysis: VMT per capita (based on home-based trips), VMT per employee (based on work commute trips), and net change in VMT (based on all trips). Home-based trips include trips made by residents of the City or Project to or from the home, including driving to/from work, school, shopping, and other destinations. Work commute trips include trips made by employees of land uses within the City or Project for commuting to/from work. "All" trips include all trips made within the StanCOG model

boundary, including home-based trips, work trips, and trips made for all other purposes including shopping, recreation, and other activities.

Project land uses and roadways were coded into the StanCOG TDM under the "Plus Project" scenarios consistent with the Project description in Section 2.1 of this TIA. Note that regarding retail land uses, OPR guidance states the following:

> By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact…Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT.

The Project includes a large quantity of proposed regional serving retail land uses, as well as some retail land uses that would operate as local serving retail. Regional serving retail is typically considered to consist of the big box stores and shopping centers with a large footprint that would potentially draw customers from nearby Cities and communities. Local serving retail is typically considered to consist of smaller businesses that would primarily serve nearby residents or people already in the area, such as restaurants, grocery stores, gas stations, drug stores, etc. For proposed retail land uses in the Project, rerouting of retail trips from existing businesses in the area/region was accounted for consistent with OPR recommendations.

6.2 VMT THRESHOLDS

6.2.1 Residential VMT Threshold

Based on OPR Technical Advisory guidance, this memorandum assumes the residential land uses in the Project would result in a less-than-significant VMT impact if the Project site's VMT per Capita is at least 15% below the existing City average VMT per Capita (i.e., 85% of the City average VMT per Capita).

Data from the StanCOG TDM Existing Year 2023 No Project scenario, supplemented by Replica-based out-of-County trip lengths, was used to calculate City of Ceres VMT per capita under existing baseline conditions. The existing baseline VMT per capita values for the City were used to create residential land use significance thresholds for potential impacts and are shown in **Table 6.1**.

Table 6.1. City of Ceres Residential VMT Threshold

City of Ceres Metric	Value
Existing Residents	48,360
Average Daily Trips by Residents	81,716
Average Daily Vehicle-Miles Traveled by Residents	710,977
Existing Average VMT Per Capita	14.7
Residential VMT per Capita Threshold (85% of Average)	**12.5**
Note: All data from the StanCOG TDM.	

6.2.2 Office VMT Threshold

Based on OPR Technical Advisory guidance, this memorandum assumes the office land uses in the Project would result in a less-than-significant VMT impact if the Project site's VMT per Employee is at least 15% below the existing City average VMT per Employee (i.e., 85% of the City average VMT per Employee).

Data from the StanCOG TDM Existing Year 2023 No Project scenario, supplemented by Replica-based out-of-County trip lengths, was used to calculate City of Ceres VMT per employee under existing baseline conditions. The existing baseline VMT per employee values for the City were used to create office land use significance thresholds for potential impacts and are shown in **Table 6.2**.

Table 6.2. City of Ceres Office VMT Threshold

City of Ceres Metric	Value
Existing Employees	12,157
Average Daily Commute Trips by Employees	14,997
Average Daily Vehicle-Miles Traveled by Employees	281,341
Existing Average VMT Per Employees	23.1
Office VMT per Employee Threshold (85% of Average)	**19.7**
Note: All data from the StanCOG TDM.	

6.2.3 Retail VMT Threshold

Based on OPR Technical Advisory guidance, this memorandum assumes the retail land uses in the Project would result in a less-than-significant VMT impact if the retail land uses result in "**no net increase in VMT on Stanislaus County roadways"** under both Existing and Cumulative conditions.

6.3 INITIAL PROJECT VMT

6.3.1 Project Residential VMT per Capita

Data from the StanCOG TDM Existing Year 2023 Plus Project scenario, supplemented by Replica-based out-of-County trip lengths, was used to calculate Project VMT per capita under baseline plus Project conditions. The Project VMT per capita values were compared against the City significance thresholds as shown in **Table 6.3**.

Table 6.3. Initial Project VMT per Capita

Metric	Value
Project Residents	7,704
Average Daily Trips by Project Residents	11,903
Average Daily Vehicle-Miles Traveled by Project Residents	105,688
Initial Project VMT Per Capita	**13.7**
VMT per Capita Threshold	12.5
Percent Difference	+9.6%
Note: All data from the StanCOG TDM.	

As shown in **Table 6.3**, the Initial Project VMT per capita is approximately 9.6 percent above the City VMT per Capita Threshold.

6.3.2 Project Office VMT per Employee

Data from the StanCOG TDM Existing Year 2023 Plus Project scenario, supplemented by Replica-based out-of-County trip lengths, was used to calculate Project VMT per employee under baseline plus Project conditions. The Project VMT per employee values were compared against the City significance thresholds as shown in **Table 6.4**.

Table 6.4. Initial Project VMT per Employee

Metric	Value
Project Employees	2,655
Average Daily Commute Trips by Project Employees	2,859
Average Daily Vehicle-Miles Traveled by Project Employees	66,606
Initial Project VMT Per Employee	**25.1**
VMT per Employee Threshold	19.7
Percent Difference	+27.4%
Note: All data from the StanCOG TDM.	

As shown in **Table 6.4**, the Initial Project VMT per employee is approximately 27.4 percent above the City VMT per Employee Threshold.

6.3.3 Project Retail Net Change To County VMT

The StanCOG TDM Existing Year 2023 Plus Project and Cumulative Year 2048 Plus Project scenarios were used to calculate VMT on Stanislaus County roadways with and without the proposed retail portion of the Project. The Project retail land use net change to Stanislaus County roadway VMT is shown in **Table 6.5**.

Table 6.5. Initial Project Retail Net Change In County VMT

Metric	Value
Total VMT on County Roadways under Existing Plus Project Minus Retail	12,634,733
Total VMT on County Roadways under Existing Plus Project	12,672,539
Initial Net Change to County VMT (Existing Plus Project)	**+37,806**
Total VMT on County Roadways under Cumulative Plus Project Minus Retail	15,891,918
Total VMT on County Roadways under Cumulative Plus Project	15,931,871
Initial Net Change to County VMT (Cumulative Plus Project)	**+39,953**
Net Change to County VMT Threshold	+0
Note: All data from the StanCOG TDM.	

As shown in **Table 6.5,** the Project regional retail land uses would cause an initial net increase in total County VMT of 37,806 under Existing plus Project conditions, and an initial net increase in total County VMT of 39,953 under Cumulative plus Project conditions.

6.4 PROJECT VMT REDUCTIONS

The Project VMT values estimated in the prior section were based on data from the StanCOG TDM and the Replica big data platform. While the StanCOG TDM and Replica platform do provide a good initial estimate of Project VMT, they do have limitations. In particular, they cannot fully account for the diversity of land uses and resulting internal capture on the Project site, and they cannot fully account for the effects of multimodal infrastructure improvements, such as multi-use paths, on Project VMT. This section quantifies the VMT reductions due to those Project features which cannot be fully captured by the StanCOG TDM and Replica platform.

6.4.1 Diversity of Land Uses

The Project proposes a significant diversity of land uses, including residential, office, local serving retail, regional retail, and mixed-use buildings. As a result, a certain percentage of Project trips will stay on site, traveling from one land use type to another (for example from one of the homes to a store in the Project). The trips that occur on site between Project land uses are typically referred to as "internal trips". The StanCOG TDM accounts for internal trips to some extent by estimating the number of origin-destination pairs between Project land uses. The Project ITE trip generation contained in Chapter 2 of this TIA also accounts for Project internal trips though application of the ITE NCHRP Report 684 estimator tool, which is an industry standard tool. The estimates of overall Project internal trips are summarized in **Table 6.6** below.

Table 6.6. Project Daily Trip Comparison (TDM vs. ITE)

Trip Type	StanCOG TDM Project Trip Generation	ITE Project Trip Generation	Difference
All Trips	52,336	66,389	-14,053
Internal Trips	4,293	15,203	-10,910
% Internal Trips	**8.2%**	**22.9%**	**-14.7%**
External Trips	48,043	51,186	-3,143

As shown in **Table 6.6**, the StanCOG TDM estimates that approximately 8.2 percent of Project trips would be internal to the Project site, while the ITE Project trip generation estimates that approximately 22.9 percent of Project trips would be internal to the Project site. Generally, the NCHRP Report 864 estimator tool used in the ITE Project Trip Generation is considered to be an industry standard way of estimating Project internal trips and is considered to produce an accurate estimate of internal trip percentage for a project of this type.

Therefore, the StanCOG TDM is likely underestimating the percentage of internal trips in the Project by approximately 14.7 percent (8.2% - 22.9% = -14.7%).

The StanCOG TDM assumes a much higher number of Project trips to/from destinations outside the Project than the ITE Project Trip Generation assumes, which would result in a higher than typical VMT estimates for Project trips. To compensate for this, it was determined that the additional Project internal trip percentage from the ITE Project Trip Generation (14.7%) should be applied to the Project retail trips, which are responsible for a large portion of internal trips. The resulting reduction in retail VMT due to the additional Project internal trip percentage is shown in **Table 6.7**.

Table 6.7. Project Internal Trip VMT Reduction – Retail

Metric	Value
Project Daily Retail Trips	38,594 trips
Average External Retail Trip Length	9.92 miles
Average Internal Retail Trip Length	0.56 miles
Trip Length Difference	9.36 miles
Additional Percent Internal Trips	14.7%
Total Internal Trip VMT Reduction (Retail)	-53,102 vehicle-miles

The residential land uses in the Project are evaluated based on the associated home-based trips. Therefore, all calculations regarding residential VMT need to be based on home-based trips. **Table 6.8** shows a comparison of the internal Project home-based trip percentages from the StanCOG TDM and the ITE Trip Generation.

Table 6.8. Project Home-Based Internal Trip Percentages

Metric	StanCOG TDM Project Trip Generation	ITE Project Trip Generation	Difference
% Internal Home-Based Trips	14.8%	19.1%	-4.3%

As shown in **Table 6.8**, the StanCOG TDM estimates that approximately 14.8 percent of Project home-based trips would be internal to the Project site, while the ITE Project trip generation estimates that approximately 19.1 percent of Project home-based trips would be internal to the Project site. Therefore, the StanCOG TDM is likely underestimating the percentage of internal home-based trips in the Project by approximately 4.3 percent (14.8% - 19.1% = -4.3%). To compensate for this, it was determined that the additional Project internal home-based trip percentage from the ITE Project Trip Generation (4.3%) should be applied to the Project residential trips. The resulting reduction in residential VMT due to the additional Project internal home-based trip percentage is shown in **Table 6.9**.

Table 6.9. Project Internal Trip VMT Reduction – Residential

Metric	Value
Project Daily Residential Home-Based Trips	11,903
Average External Residential Trip Length	10.24 miles
Average Internal Residential Trip Length	0.78 miles
Trip Length Difference	9.46 miles
Additional Percent Internal Trips	4.3%
Total Internal Trip VMT Reduction (Residential)	4,842 vehicle-miles
Project Residents	7,704
Per Capita Internal Trip VMT Reduction (Residential)	-0.6 VMT per Capita

The office land uses in the Project are evaluated based on the associated commute trips, also known as home-based-work (HBW) trips. Office employees would typically live throughout the region. Therefore, the percentage of internal trips for office commute trips would typically be lower than the overall project internal trip percentage of 22.9 percent shown in **Table 6.6**. Therefore, the Project Office commute trips and VMT per employee were not adjusted for internal trips.

6.4.2 Proposed Multi-Use Paths

The Project proposes to construct a 10-foot-wide separated multi-use path along the east side of Blaker Road between Service Road and the TID Canal. This facility would provide north/south linkage along the western edge of the Project area.

The Project proposes to construct an 8-foot-wide street-separated multi-use path within the greenbelt adjacent to the TID Canal. This facility would provide east/west linkage between several residential neighborhoods, parks, and the regional commercial center. It also includes two northward spurs providing connections to E. Redwood Road at Moffett Road and at the regional commercial center. Both proposed multi-use paths also provide connectivity to the on-site sidewalks which provide routes to the schools located within the Project area.

The OPR Technical Advisory identifies constructing bicycle and pedestrian infrastructure such as multi-use paths as potential measures to reduce a Project's VMT. Note that the proposed sidewalks in the Project were assumed to not reduce Project VMT beyond the initial estimates from the StanCOG TDM because presence of sidewalks along local roadways and collectors is typical in the City of Ceres. Separated multi-use paths, however, are currently less common in the City, and therefore would likely lead to more multimodal trips than typical.

VMT reduction from the proposed multi-use paths was quantified using methodologies outlined in the California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (CAPCOA Handbook) (December 2021). Measure T-18 Provide Pedestrian Network Improvement in the CAPCOA Handbook was determined to best represent the proposed impromvents. The study area was assumed to be the Project site. **Table 6.10** and **Table 6.11** show the estimated percent reduction in VMT due to the multi-use paths.

Table 6.10. Measure T-18 Provide Pedestrian Network Improvement

Equation: A = ((C / B) - 1) x D

Variables:	**ID**	**Variable**	**Value**	**Unit**	**Source**	**Note**
	Output					
	A	Percent reduction in GHG emissions from household vehicle travel in plan/ community	0-6.4	%	calculated	
	User Inputs					
	B	Sidewalk length in study area	6.69	miles	user input	Calculated based on Project site plan.
	C	Sidewalk length in study area with measure	2.44	miles	user input	Calculated based on Project site plan
	Constants, Assumptions, and Available Defaults					
	D	Elasticity of household VMT with respect to the ratio of sidewalks-to-streets	-0.05	unitless	Frank et al. 2011	Recommended value from the CAPCOA Handbook.
Measure Max:	A_{max}	The percent reduction in GHG emissions (A) is capped at the specified value	-6.4	%	CAPCOA Handbook	Recommended value from the CAPCOA Handbook.

Subsector: Neighborhood Design

Reduction:	A =	-3.18%

Table 6.11. Project VMT Reduction Due to Multi-Use Paths

Equation: VMT Reduction = Study Area VMT x Reduction

Variables:	**ID**	**Measure**	**Value**	**Unit**
	Study Area VMT	Daily VMT Generated by Project Area Land Uses on Project Area Roadways	40,036	vehicle-miles
	Reduction	VMT Reduction Percentage due to the Proposed Multi-Use Paths	3.18	%

Study Area Daily VMT Reduction:		
	Total VMT Reduction =	-1,273 vehicle-miles
	VMT per Capita Reduction =	-0.2 VMT per Capita

6.5 Final Project VMT and Impacts

This section applies the VMT reductions calculated in Section 6.4.1 and 6.4.2 to the Initial Project VMT values from Section 6.3.

Table 6.12. Final Project VMT Per Capita

Metric	Value
Initial Project VMT Per Capita	13.7
Internal Trip Reduction (VMT per Capita)	-0.6
Multi-Use Path Trip Reduction (VMT per Capita)	-0.2
Final Project VMT Per Capita	**12.9**
VMT per Capita Threshold	12.5
Percent Difference	+3.2%
Note: All data from the StanCOG TDM.	

As shown in **Table 6.12**, the Final Project VMT per Capita is approximately 3.2 percent above the City VMT per Capita Threshold. Therefore, the **residential land uses** in the Project would have **significant impacts before mitigation**.

Table 6.13. Project VMT Per Employee After Reductions

Metric	Value
Initial Project VMT Per Employee	25.1
Internal Trip Reduction (VMT per Employee)	-0.0
Final Project VMT Per Employee	**25.1**
VMT per Employee Threshold	19.7
Percent Difference	+27.4%
Note: All data from the StanCOG TDM.	

As shown in **Table 6.13**, the Final Project VMT per Employee is approximately 27.4 percent above the City VMT per Employee Threshold. Therefore, the **office land uses** in the Project would have **significant impacts before mitigation**.

Table 6.14. Project Retail Net Change In County VMT After Reductions

Metric	Value
Initial Net Change to County VMT (Existing Plus Project)	+37,806
Retail Internal Trip Reduction	-53,102
Final Net Change to County VMT (Existing Plus Project)	**-15,296**
Initial Net Change to County VMT (Cumulative Plus Project)	+39,953
Retail Internal Trip Reduction	-53,102
Final Net Change to County VMT (Cumulative Plus Project)	**-13,149**
Net Change to County VMT Threshold	+0
Note: All data from the StanCOG TDM.	

As shown in **Table 6.14**, the Project retail land uses would cause a net decrease in total County VMT of 15,296 under Existing plus Project conditions, and a net decrease in total County VMT of 13,149 under Cumulative plus Project conditions. Therefore, the **retail land uses** in the Project would have **less than significant impacts**.

6.6 POTENTIAL VMT MITIGATION MEASURES

The OPR Technical Advisory provides a number of potential mitigation measures to reduce a Project's VMT. The effectiveness of the measures can vary and typically depends on the characteristics of the area and the specifics of the measures proposed. The CAPCOA Handbook is the industry standard methodology for quantifying the VMT reductions from proposed mitigation measures, and also provides a range of effectiveness for each measure.

The Project is still in the process of being developed, and therefore VMT mitigation measures have not been finalized at this time. It is recommended that the City and the Project team coordinate to identify and implement a number of VMT mitigation measure that would be feasible to implement for the Project and which would reduce the VMT impacts identified in the previous section. This section identifies a number of recommended mitigation measures for the Project and their potential range of effectiveness.

Note that the San Joaquin Valley Air Pollution Control District Rule 9410 requires employers with at least 100 eligible employees to implement an Employer Trip Reduction Implementation Plan (ETRIP). The ETRIP must include measures from a list of identified Trip Reduction Strategies which includes many of the same measures as those recommended by the OPR Technical Advisory. Therefore, implementation of the ETRIP would help the Project to reduce the VMT per employee. The full text of Rule 9410 is available online at: https://ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations/.

Table 6.15 identifies a list of potential VMT mitigation measures that could be utilized to reduce Project VMT. **Table 6.15** also identifies the potential range of effectiveness of each measure, and the type of VMT/impact that the measure would address.

Table 6.15 Potential VMT Mitigation Measures

CAPCOA ID	Measure	Range of Potential VMT Reduction	Type of VMT/Impact that would be Reduced
Trip Reduction Programs			
T-4	Implement Commute Trip Reduction Program (Voluntary)	0.0%-4.0%	VMT per Employee
T-5	Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)	0.0%-26.0%	VMT per Employee
T-6	Implement commute Trip Reduction Marketing	0.0%-4.0%	VMT per Employee
T-7	Provide Ridesharing Program	0.0%-8.0%	VMT per Employee
T-8	Implement Subsidized or Discounted Transit Program	0.0%-5.5%	VMT per Employee or per Capita
T-9	Provide End-of-Trip Bicycle Facilities	0.1%-4.4%	VMT per Employee
T-10	Provide Employer-Sponsored Vanpool	3.4%-20.4%	VMT per Employee
T-11	Price Workplace Parking	0.0%-20.0%	VMT per Employee
T-12	Implement Employee Parking Cash-Out	0.0%-12.0%	VMT per Employee
T-22	Provide Community-Based Travel Planning	0.0%-2.3%	VMT per Capita or Net Change
Parking or Road Pricing/Management			
T-14	Limit Residential Parking Supply	0.0%-13.7%	VMT per Capita
T-15	Unbundle Residential Parking Costs from Property Cost	0.0%-15.7%	VMT per Capita
T-23	Implement Market Price Public Parking (On-Street)	0.0%-30.0%	VMT per Capita or Net Change
Neighborhood Design			
T-17	Provide Pedestrian Network Improvement	0.0%-6.4%	VMT per Capita or Net Change
T-18-A	Construct or Improve Bike Facility	0.0%-0.8%	Net Change
T-19	Expand Bikeway Network	0.0%-0.5%	VMT per Capita or Net Change
T-20-B	Implement Electric Carshare Program	0.0%-0.18%	VMT per Capita or Net Change
T-21-B	Implement Electric Bikeshare Program	0.0%-0.06%	VMT per Capita or Net Change
T-21-C	Implement Scootershare Program	0.0%-0.07%	VMT per Capita or Net Change
Transit			
T-24	Extend Transit Network Coverage or Hours	0.0%-4.6%	VMT per Employee or per Capita or Net Change
T-25	Increase Transit Service Frequency	0.0%-11.3%	VMT per Employee or per Capita or Net Change
T-26	Implement Transit-Supportive Roadway Treatments	0.0%-0.6%	VMT per Employee or per Capita or Net Change
T-27	Reduce Transit Fare	0.0%-1.2%	VMT per Employee or per Capita or Net Change

Note: All data from the Handbook for Analyzing Greenhouse Has Emission Reduction, Assessing Climate Vulnerabilities, and Advancing Health and Equity (California Air Pollution Control Officers Association, August 2021).

APPENDIX A

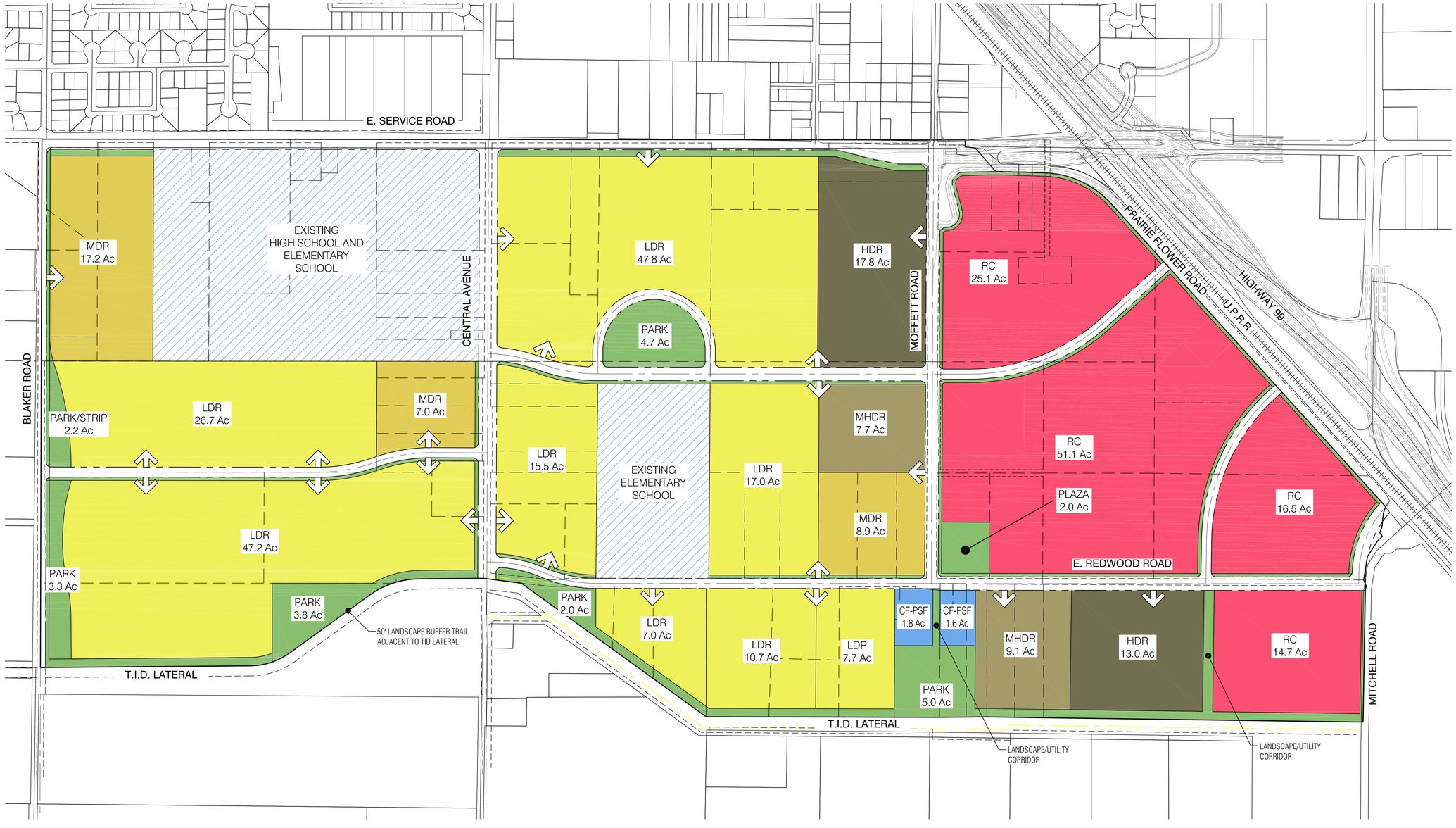
Project Land Use Map and Multimodal Improvements

BUBBLE PLAN V1.7 REV. 1

COPPER TRAILS

CERES, CALIFORNIA

NorthStar
Engineering Group, Inc.
• CIVIL ENGINEERING • SURVEYING • PLANNING •
620 12th Street Modesto, CA 95354
(209) 524-3525 Phone (209) 524-3526 Fax



250 175 0 250
1" = 250'

LAND USE TABLE

	PRODUCT	ACREAGE	MIN./MAX. LOT COUNT
	LOW DENSITY RESIDENTIAL	179.6 AC	178 - 1,248
	MEDIUM DENSITY RESIDENTIAL	33.1 AC	232 - 397
	MEDIUM HIGH DENSITY RESIDENTIAL	16.8 AC	202 - 336
	HIGH DENSITY RESIDENTIAL	30.8 AC	616 - 924
	REGIONAL COMMERCIAL	107.4 AC	1,022,900 S.F. - 1,278,570 S.F.
	PARK OPEN SPACE	42.3 AC	
	PUBLIC USAGE	3.4 AC	
	EXISTING PUBLIC USAGE	74.1 AC	
	BACKBONE ROADS	47.1 AC	
	TOTALS	534.6 AC	

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DRAWING: G:\2010 Copper Trails\Planning\Bubble Plans\2023_07-24 Bubble Plan V1.7 Rev1\SWC Bubble Plan V1.7 Rev1 (2023_07-24).dwg

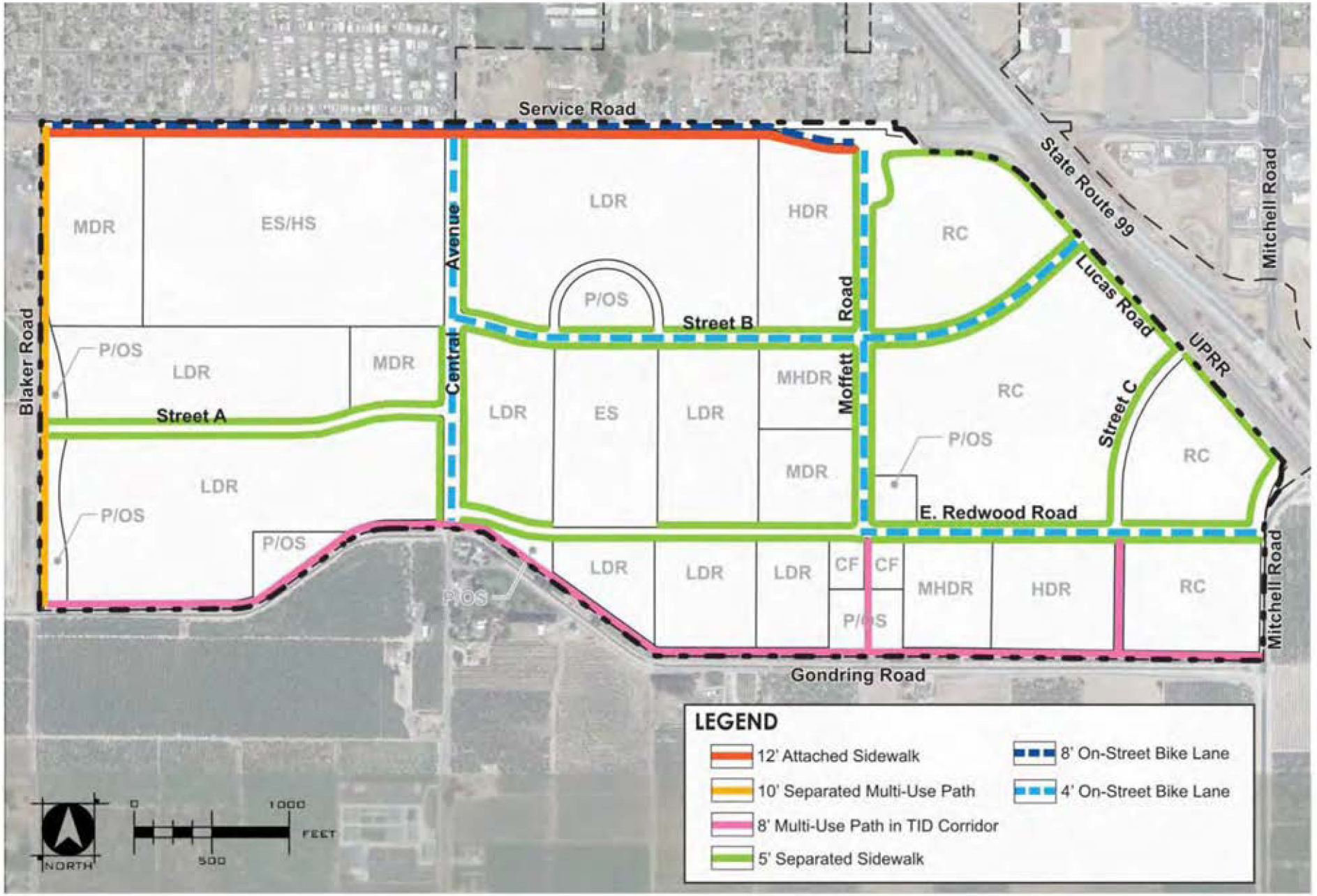
CROSS SECTION PLAN V1.7 REV. 1

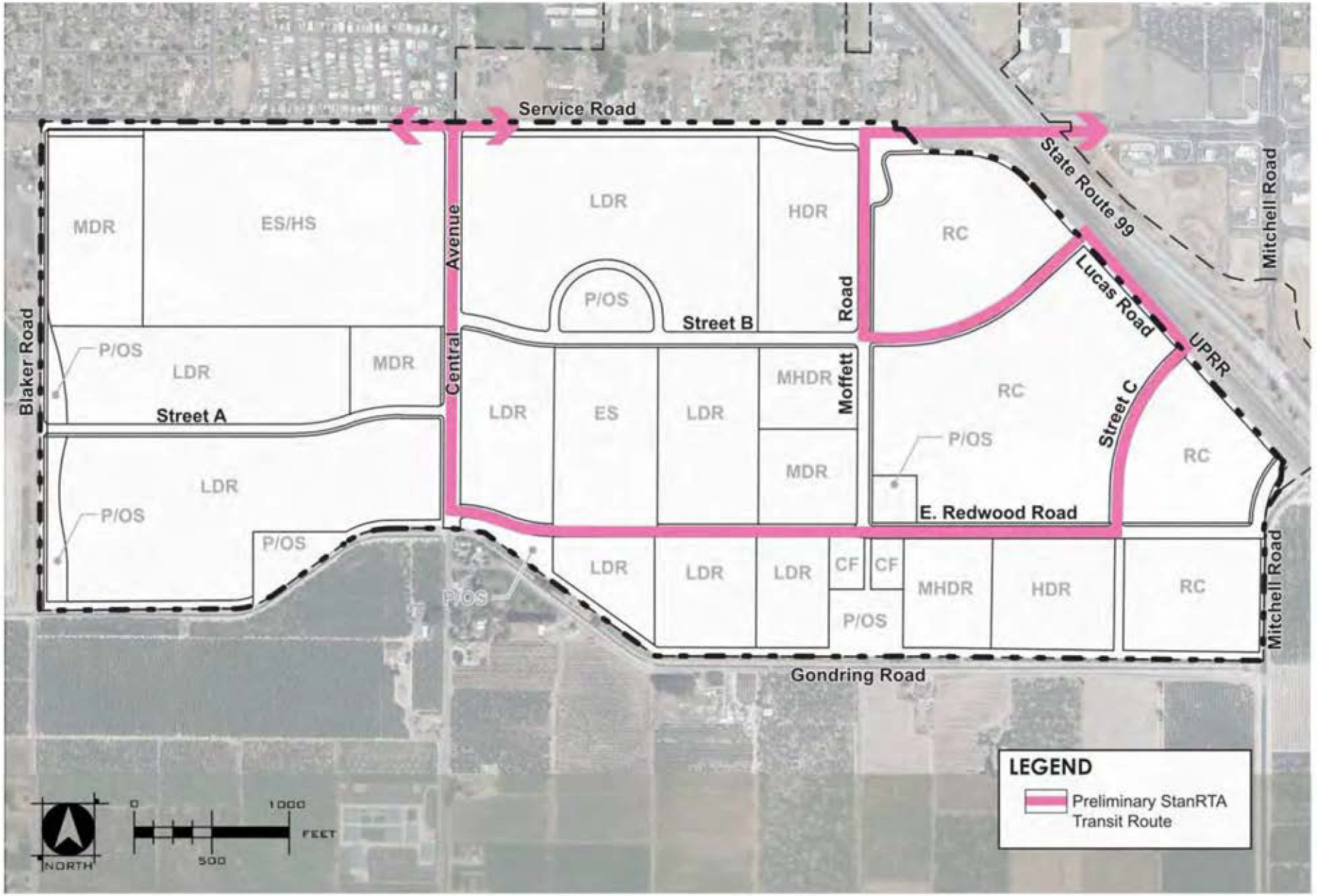
COPPER TRAILS

CERES, CALIFORNIA

NorthStar Engineering Group, Inc.
• CIVIL ENGINEERING • SURVEYING • PLANNING •
620 12th Street Modesto, CA 95354
(209) 524-3525 Phone (209) 524-3526 Fax


E. SERVICE ROAD
A1
A2
MDR 17.2 Ac
EXISTING HIGH SCHOOL AND ELEMENTARY SCHOOL
CENTRAL AVENUE
LDR 47.8 Ac
PARK 4.7 Ac
HDR 17.8 Ac
MOFFETT ROAD
RC 25.1 Ac
PRAIRIE FLOWER ROAD
U.P.R.R.
HIGHWAY 99
C1
BLAKER ROAD
PARK/STRIP 2.2 Ac
LDR 26.7 Ac
MDR 7.0 Ac
B
D
LDR 15.5 Ac
EXISTING ELEMENTARY SCHOOL
LDR 17.0 Ac
MHDR 7.7 Ac
MDR 8.9 Ac
RC 51.1 Ac
PLAZA 2.0 Ac
E
RC 16.5 Ac
C2
LDR 47.2 Ac
PARK 3.3 Ac
PARK 3.8 Ac
50' LANDSCAPE BUFFER TRAIL ADJACENT TO TID LATERAL
PARK 2.0 Ac
E. REDWOOD ROAD
LDR 7.0 Ac
LDR 10.7 Ac
LDR 7.7 Ac
CF-PSF 1.8 Ac
CF-PSF 1.6 Ac
MHDR 9.1 Ac
HDR 13.0 Ac
RC 14.7 Ac
MITCHELL ROAD
PARK 5.0 Ac
T.I.D. LATERAL
F
LANDSCAPE/UTILITY CORRIDOR
350 225 0 350
1" = 350'
A1 SERVICE ROAD NTS
A2 SERVICE ROAD NTS
50' TYPICAL INTERIOR STREET NTS
B CENTRAL AVENUE NTS
C1 BLAKER ROAD NTS
C2 BLAKER ROAD NTS
D INTERIOR COLLECTOR NTS
E INTERIOR COLLECTOR NTS
F TID LATERAL LOTS NTS
LANDSCAPE LOT
SIDE WALK
PARKING LANE
BIKE LANE
TRAVEL LANE
EX. TRAVEL LANE
EX. CENTER LANE
CENTER LANE
ISLAND
LSCING
PATH
P.U.E.
R/W
EX. R/W
C/L
F/L
100' MIN. LANDSCAPE LOT
STORMWATER STORAGE/ TREATMENT SWALE
BOUNDARY
EX. TID LATERAL


Service Road
State Route 99
Mitchell Road
Blaker Road
Central Avenue
Moffett Road
Lucas Road
UPRR
Street A
Street B
Street C
E. Redwood Road
Gondring Road
MDR
ES/HS
LDR
HDR
RC
P/OS
MHDR
ES
CF
LEGEND
12' Attached Sidewalk
10' Separated Multi-Use Path
8' Multi-Use Path in TID Corridor
5' Separated Sidewalk
8' On-Street Bike Lane
4' On-Street Bike Lane
NORTH
0
500
1000
FEET


Service Road
State Route 99
Mitchell Road
Blaker Road
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Moffett Road
Lucas Road
UPRR
Street A
Street B
Street C
E. Redwood Road
Gondring Road
MDR
ES/HS
LDR
HDR
RC
P/OS
MHDR
ES
CF
NORTH
0
1000
500
FEET
LEGEND
Preliminary StanRTA Transit Route

APPENDIX B

Service Road Interchange GAD (10/16/2023)

ALTERNATIVE 1
STATE ROUTE 99
MITCHELL / SERVICE ROAD
DIVERGING DIAMOND INTERCHANGE
DESIGN YEAR 2048
UNCONSTRAINED VOLUMES
OCTOBER 16, 2023

SCALE: 1"=100'

NV5
BEYOND ENGINEERING

APPENDIX C

Copper Trails New Student Trip Generation Calculations

Student Trip Generation Calculations

Data:

- Total Proposed Dwelling Units in Copper Trails = 2,503
- City of Ceres Census Data (https://www.census.gov/quickfacts/fact/table/cerescitycalifornia,US/PST045222):
    - Persons Per Household= 3.58
    - Percent School-Aged Persons (5 to 18 years old) = 22.5%
    - Percent of School-Aged persons that would attend Elementary School (Grades K-6) = 54%
    - Percent of School-Aged persons that would attend High School (Grades 9-12) = 31%

Calculations:

- Estimated Persons Living In Copper Trails = 2,502 * 3.58 = 8,957
- Estimated School-Age Persons Living In Copper Trails = 8,957 * 22.5% = 2,015
- Estimated Elementary School Students Living In Copper Trails = 54% * 2,015 = 1,085
- Estimated High School Students Living In Copper Trails = 31% * 2,015 = 620

APPENDIX D

StanCOG Travel Demand Model Project Trip Generation Summary

All Trips

Land Use	StanCOG Model Network Trips 2019							ITE Trips						
	Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
Residential	9,031	134	916	1,050	695	275	970	18,052	291	886	1,177	1,016	610	1,625
Commercial	41,014	2,387	1,286	3,674	1,596	2,209	3,806	44,818	1,316	880	2,196	1,919	2,131	4,050
School	2,290	254	119	373	51	86	138	3,519	674	475	1,149	117	133	251
Total Project	52,336	2,775	2,321	5,096	2,343	2,571	4,913	66,389	2,281	2,241	4,522	3,052	2,874	5,926

Internal Trips

Land Use	StanCOG Model Network Trips 2019							ITE Trips						
	Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
Residential								3,448	21	646	667	274	52	326
Commercial								9,995	245	195	440	482	578	1,060
School								1,760	575	0	575	0	126	126
Total Project	4,293	174	171	346	210	214	423	15,203	841	841	1,682	756	756	1,512

External Trips

Land Use	StanCOG Model Network Trips 2019							ITE Trips						
	Daily	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
Residential								14,604	270	240	510	742	558	1,299
Commercial								34,823	1,071	685	1,756	1,437	1,553	2,990
School								1,759	99	475	574	117	7	125
Total Project	48,043	2,601	2,150	4,751	2,133	2,357	4,490	51,186	1,440	1,400	2,840	2,296	2,118	4,414

APPENDIX E

ADT and Intersection Count Sheets

Prepared by National Data & Surveying Services

El Camino Ave & SR 99 SB Off-Ramp/North St

Peak Hour Turning Movement Count

ID: 23-090145-001
City: Ceres

Day: Thursday
Date: 11/30/2023

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
03:30 PM - 04:30 PM	3:30 PM - 06:00 PM

CONTROL: 4-Way Stop

	AM	NOON	PM
TEV	1063	0	1332
PHF	0.94		0.89

SOUTHBOUND (El Camino Ave)

	Left	Thru	Right	U-Turn	Total	
AM	0	252	3	0	252	AM
NOON	0	0	0	0	0	NOON
PM	0	365	14	0	203	PM

WESTBOUND (SR 99 SB Off-Ramp/North St)

	Left	Thru	Right	U-Turn
AM	0	0	0	0
NOON	0	0	0	0
PM	28	0	12	0

	Left	Thru	Right
AM	420	0	260
NOON	0	0	0
PM	709	0	83

NORTHBOUND (El Camino Ave)

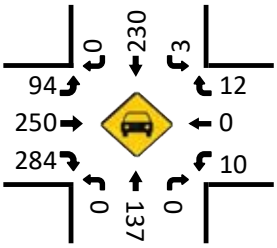
	Left	Thru	Right	U-Turn	Total	
PM	709	0	0	83	0	PM
NOON	0	0	0	0	0	NOON
AM	551	0	0	138	0	AM

EASTBOUND (SR 99 SB Off-Ramp/North St)

	Left	Thru	Right	U-Turn
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

	Left	Thru	Right
AM	257	0	406
NOON	289	0	327
PM	102	0	92

Cars (AM)



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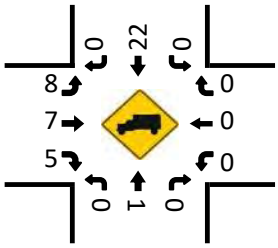

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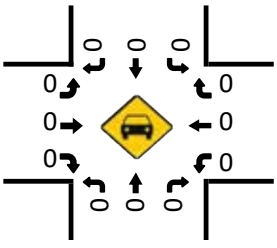

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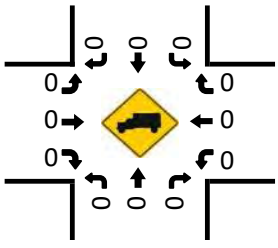
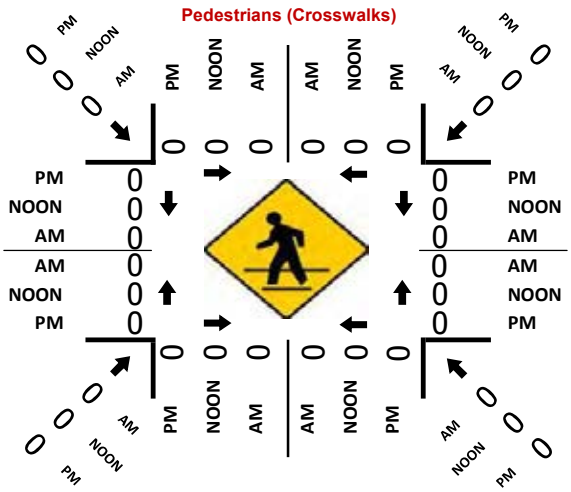


Pedestrians (Crosswalks)



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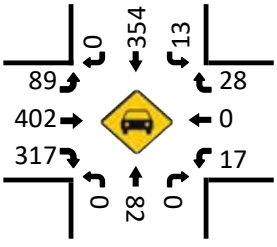

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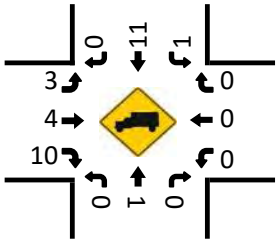


Prepared by National Data & Surveying Services

El Camino Ave & SR 99 NB On/Off-Ramp/4th St

Peak Hour Turning Movement Count

ID: 23-090145-002
City: Ceres

Day: Thursday
Date: 11/30/2023

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
03:30 PM - 04:30 PM	3:30 PM - 06:00 PM

CONTROL: 4-Way Stop

	AM	NOON	PM
TEV	987	0	1100
PHF	0.94		0.90

SOUTHBOUND (El Camino Ave)

	L	T	R	U	Total	
AM	17	310	1	0	222	AM
NOON	0	0	0	0	0	NOON
PM	26	390	4	0	159	PM

EASTBOUND (SR 99 NB On/Off-Ramp/4th St)

AM	NOON	PM		
320	0	323	⇦	
0	0	0	↶	0
64	0	17	↰	0
51	0	68	→	1
49	0	91	↱	1
AM	NOON	PM		

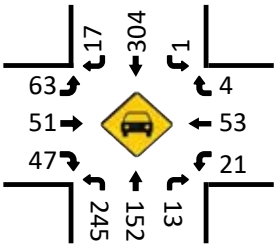
WESTBOUND (SR 99 NB On/Off-Ramp/4th St)

PM	NOON	AM		
5	0	5	↶	0
50	0	53	←	1
32	0	21	↰	0
0	0	0	↱	0
105	0	65	⇨	
PM	NOON	AM		

NORTHBOUND (El Camino Ave)

	L	T	R	U	Total	
PM	513	0	247	137	33	PM
NOON	0	0	0	0	0	NOON
AM	380	0	250	153	13	AM

Cars (AM)



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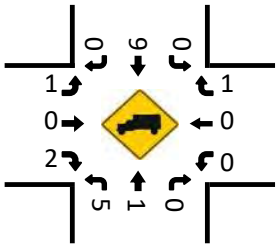
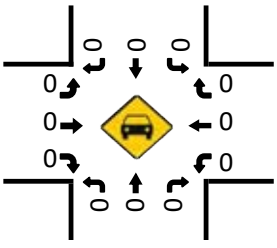


Cars (NOON)



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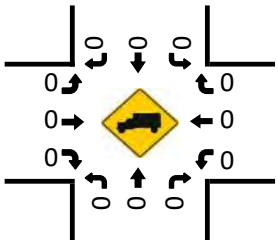
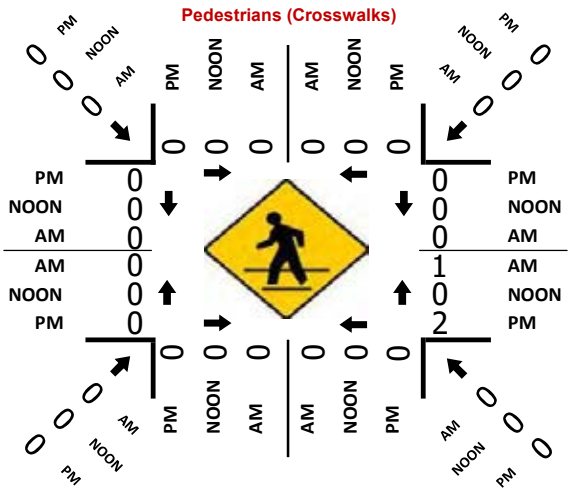
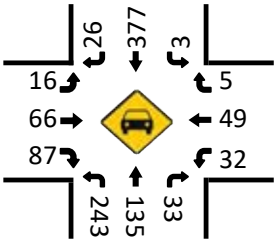


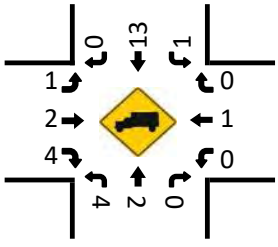
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 99 NB Ramps & Mitchall Rd

Peak Hour Turning Movement Count

ID: 23-090145-003
City: Ceres

Day: Thursday
Date: 11/30/2023

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	7:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	3:30 PM - 06:00 PM

SOUTHBOUND — SR 99 NB Ramps

AM	0	0	0	0	344	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	310	PM

EASTBOUND — Mitchall Rd

AM	NOON	PM	
643	0	830	⇦
0	0	0	↶ 0
1	0	0	↱ 0
202	0	344	→ 0
0	0	0	↴ 0
AM	NOON	PM	

0 1 0 0

WESTBOUND — Mitchall Rd

PM	NOON	AM	
310	0	342	0 ↰
829	0	642	1 ←
0	0	0	0 ↙
0	0	0	0 ↳
1127	0	908	⇨
PM	NOON	AM	

0 0 0 0

NORTHBOUND — SR 99 NB Ramps

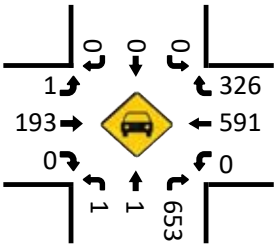
PM	0	0	1	0	783	PM
NOON	0	0	0	0	0	NOON
AM	0	0	1	1	706	AM

CONTROL

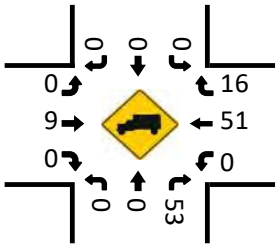
2-Way Stop (NB/EB)

	AM	NOON	PM
TEV	1895	0	2267
PHF	0.93	NOON	0.98

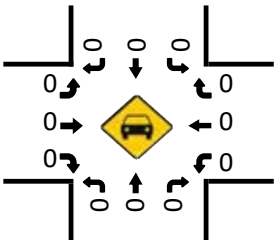
Cars (AM)



HT (AM)



Cars (NOON)



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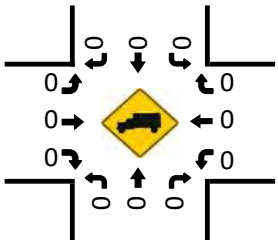
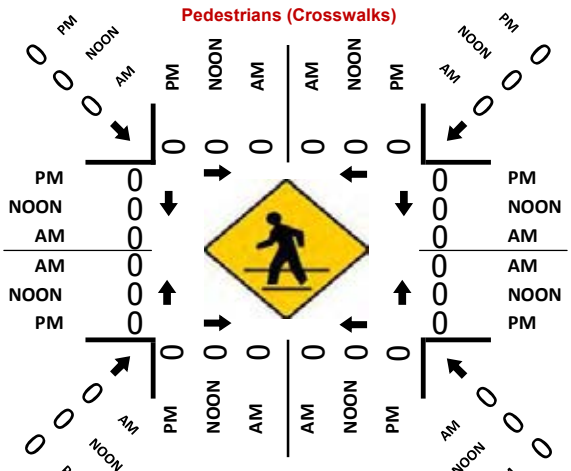
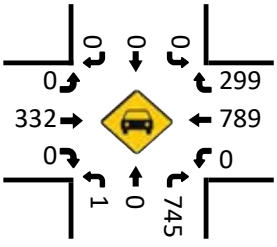


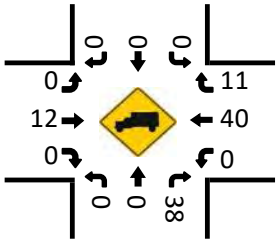
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 99 SB Ramps & Mitchall Rd

Peak Hour Turning Movement Count

ID: 23-090145-004
City: Ceres

Day: Thursday
Date: 11/30/2023

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS	
AM	7:00 AM - 09:00 AM
NOON	NONE
PM	3:30 PM - 06:00 PM

SOUTHBOUND (SR 99 SB Ramps)

	L	T	R	U
AM	1	0	201	0
NOON	0	0	0	0
PM	0	0	326	0

EASTBOUND (Mitchall Rd)

	L	T	R	U
AM	646	0	851	0
NOON	0	0	0	0
PM	0	0	0	0

WESTBOUND (Mitchall Rd)

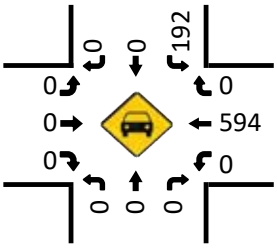
	L	T	R	U
AM	0	0	201	0
NOON	0	0	0	0
PM	1	1	326	0

NORTHBOUND (SR 99 SB Ramps)

	L	T	R	U
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

CONTROL			
1-Way Stop(SB)			
TEV	847 AM	0 NOON	1177 PM
PHF	0.90		0.96

Cars (AM)



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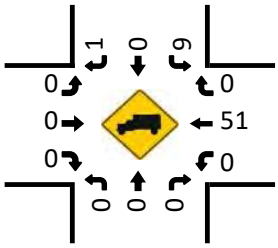
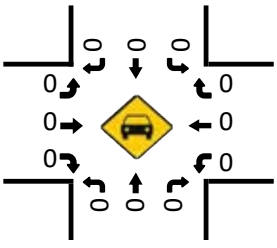


Cars (NOON)



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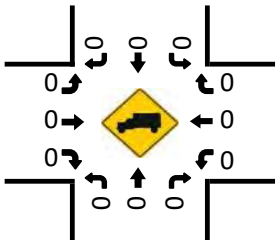
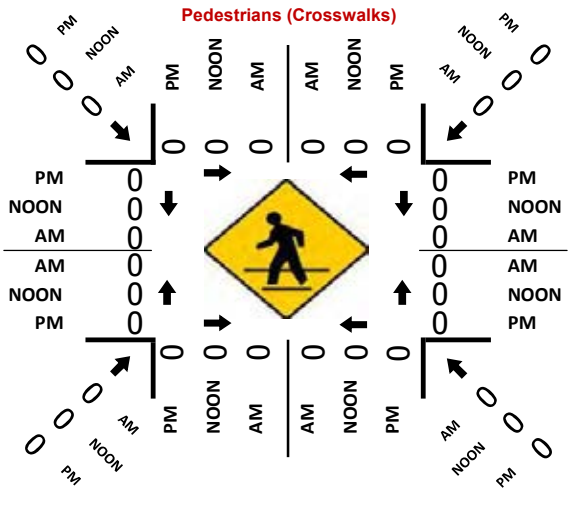
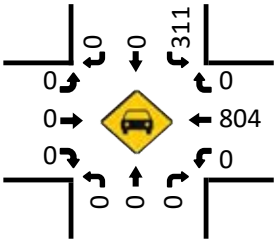


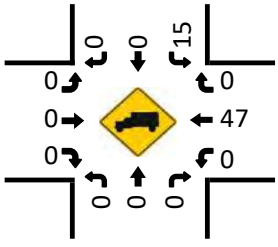
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

VOLUME

Morgan Rd Bet. Hackett Rd & Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_001

DAILY TOTALS	NB	SB	EB	WB	Total
	3,916	3,873	0	0	7,789

DAILY TOTALS

15-Minutes Interval

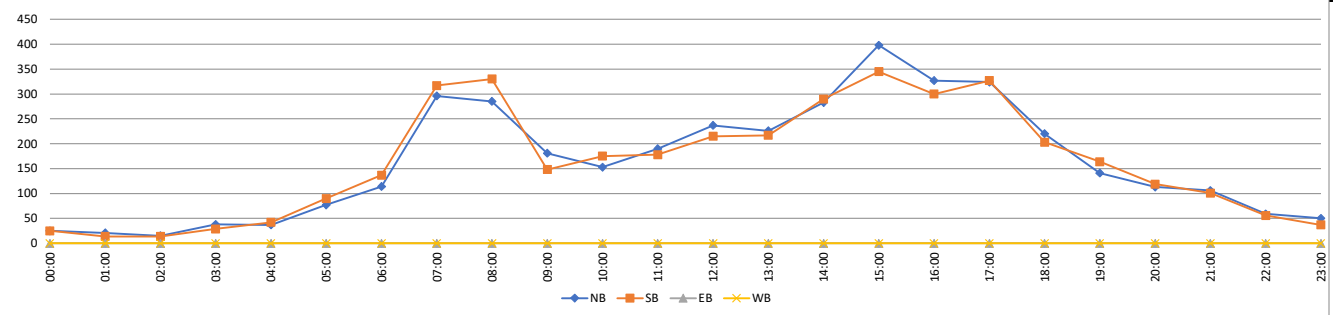
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	9	6			15	12:00	57	53			110
00:15	6	5			11	12:15	52	41			93
00:30	2	7			9	12:30	58	60			118
00:45	8	7			15	12:45	70	61			131
01:00	9	7			16	13:00	55	70			125
01:15	4	1			5	13:15	66	52			118
01:30	6	4			10	13:30	55	51			106
01:45	2	2			4	13:45	50	44			94
02:00	2	2			4	14:00	58	54			112
02:15	4	6			10	14:15	68	76			144
02:30	6	1			7	14:30	86	91			177
02:45	3	5			8	14:45	71	69			140
03:00	9	4			13	15:00	75	84			159
03:15	10	6			16	15:15	71	95			166
03:30	8	7			15	15:30	138	87			225
03:45	11	12			23	15:45	114	79			193
04:00	6	8			14	16:00	85	61			146
04:15	13	17			30	16:15	83	88			171
04:30	5	8			13	16:30	80	76			156
04:45	13	9			22	16:45	79	75			154
05:00	10	16			26	17:00	89	106			195
05:15	18	23			41	17:15	77	71			148
05:30	22	24			46	17:30	84	75			159
05:45	27	27			54	17:45	74	75			149
06:00	23	33			56	18:00	77	76			153
06:15	32	30			62	18:15	48	46			94
06:30	28	41			69	18:30	54	49			103
06:45	31	33			64	18:45	41	32			73
07:00	40	66			106	19:00	36	45			81
07:15	79	70			149	19:15	41	50			91
07:30	80	79			159	19:30	27	37			64
07:45	97	102			199	19:45	37	32			69
08:00	81	140			221	20:00	32	38			70
08:15	87	79			166	20:15	29	22			51
08:30	70	65			135	20:30	30	31			61
08:45	47	46			93	20:45	22	28			50
09:00	41	38			79	21:00	29	27			56
09:15	45	36			81	21:15	22	31			53
09:30	49	41			90	21:30	29	17			46
09:45	46	33			79	21:45	26	26			52
10:00	29	40			69	22:00	21	23			44
10:15	38	36			74	22:15	10	12			22
10:30	49	40			89	22:30	15	14			29
10:45	37	59			96	22:45	13	7			20
11:00	51	41			92	23:00	16	7			23
11:15	45	44			89	23:15	8	13			21
11:30	42	45			87	23:30	11	11			22
11:45	52	48			100	23:45	15	6			21
TOTALS	1432	1499	0	0	2931	TOTALS	2484	2374	0	0	4858
SPLIT %	49%	51%	0%	0%	38%	SPLIT %	51%	49%	0%	0%	62%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	25	25			50
01:00	02:00	21	14			35
02:00	03:00	15	14			29
03:00	04:00	38	29			67
04:00	05:00	37	42			79
05:00	06:00	77	90			167
06:00	07:00	114	137			251
07:00	08:00	296	317			613
08:00	09:00	285	330			615
09:00	10:00	181	148			329
10:00	11:00	153	175			328
11:00	12:00	190	178			368
12:00	13:00	237	215			452
13:00	14:00	226	217			443
14:00	15:00	283	290			573
15:00	16:00	398	345			743
16:00	17:00	327	300			627
17:00	18:00	324	327			651
18:00	19:00	220	203			423
19:00	20:00	141	164			305
20:00	21:00	113	119			232
21:00	22:00	106	101			207
22:00	23:00	59	56			115
23:00	00:00	50	37			87

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1432	1499			2931
Peak Hour	7:30	7:30			7:30
Peak Volume	345	400			745
Peak Hour Factor	0.889	0.714			0.843
Peak Period	12:00	to	00:00		
Volume	2484	2374			4858
Peak Hour	15:30	15:00			15:00
Peak Volume	420	345			743
Peak Hour Factor	0.761	0.908			0.826
Peak Period	07:00	to	09:00		
Volume	581	647			1228
Peak Hour	7:30	7:30			7:30
Peak Volume	345	400			745
Peak Hour Factor	0.889	0.714			0.843
Peak Period	16:00	to	18:00		
Volume	651	627			1278
Peak Hour	16:15	16:15			16:15
Peak Volume	331	345			676
Peak Hour Factor	0.930	0.814			0.867



Prepared by National Data & Surveying Services

VOLUME

Blaker Rd Bet. Hackett Rd & Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_002

DAILY TOTALS	NB	SB	EB	WB	Total
	2,021	1,799	0	0	3,820

DAILY TOTALS

15-Minutes Interval

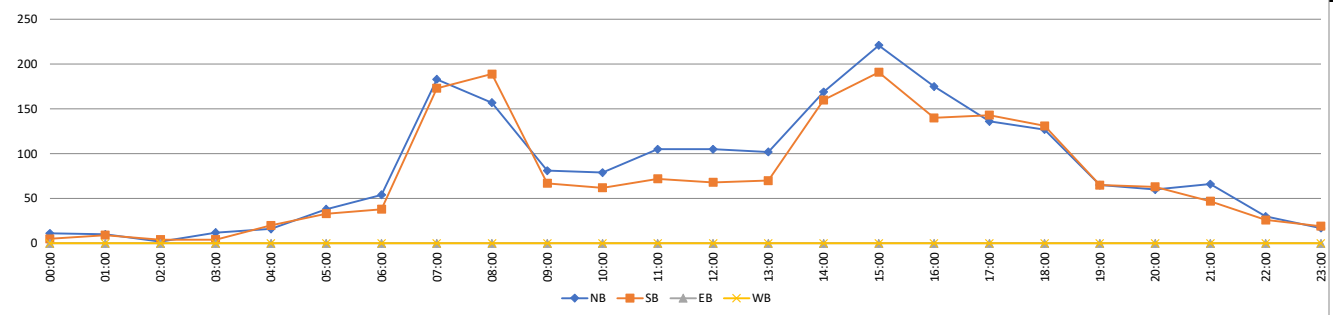
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	6	1			7	12:00	19	20			39
00:15	1	1			2	12:15	33	17			50
00:30	3	1			4	12:30	23	14			37
00:45	1	2			3	12:45	30	17			47
01:00	1	4			5	13:00	26	12			38
01:15	3	2			5	13:15	27	15			42
01:30	3	0			3	13:30	25	21			46
01:45	3	3			6	13:45	24	22			46
02:00	1	2			3	14:00	24	22			46
02:15	1	2			3	14:15	37	29			66
02:30	0	0			0	14:30	69	59			128
02:45	0	0			0	14:45	39	50			89
03:00	1	1			2	15:00	27	38			65
03:15	2	0			2	15:15	42	55			97
03:30	1	1			2	15:30	102	56			158
03:45	8	2			10	15:45	50	42			92
04:00	2	2			4	16:00	43	31			74
04:15	4	4			8	16:15	41	38			79
04:30	3	10			13	16:30	50	33			83
04:45	7	4			11	16:45	41	38			79
05:00	11	9			20	17:00	24	42			66
05:15	7	4			11	17:15	34	34			68
05:30	10	8			18	17:30	41	33			74
05:45	10	12			22	17:45	37	34			71
06:00	15	9			24	18:00	31	26			57
06:15	10	7			17	18:15	37	31			68
06:30	11	7			18	18:30	30	28			58
06:45	18	15			33	18:45	29	46			75
07:00	26	15			41	19:00	25	21			46
07:15	37	33			70	19:15	16	16			32
07:30	46	53			99	19:30	13	16			29
07:45	74	72			146	19:45	11	12			23
08:00	53	96			149	20:00	12	11			23
08:15	40	53			93	20:15	16	15			31
08:30	32	25			57	20:30	15	21			36
08:45	32	15			47	20:45	17	16			33
09:00	22	18			40	21:00	19	13			32
09:15	22	22			44	21:15	14	11			25
09:30	17	15			32	21:30	16	11			27
09:45	20	12			32	21:45	17	12			29
10:00	14	14			28	22:00	8	5			13
10:15	20	18			38	22:15	9	8			17
10:30	33	14			47	22:30	5	8			13
10:45	12	16			28	22:45	8	5			13
11:00	23	22			45	23:00	7	6			13
11:15	24	14			38	23:15	2	7			9
11:30	30	20			50	23:30	2	2			4
11:45	28	16			44	23:45	6	4			10
TOTALS	748	676	0	0	1424	TOTALS	1273	1123	0	0	2396
SPLIT %	53%	47%	0%	0%	37%	SPLIT %	53%	47%	0%	0%	63%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	11	5			16
01:00	02:00	10	9			19
02:00	03:00	2	4			6
03:00	04:00	12	4			16
04:00	05:00	16	20			36
05:00	06:00	38	33			71
06:00	07:00	54	38			92
07:00	08:00	183	173			356
08:00	09:00	157	189			346
09:00	10:00	81	67			148
10:00	11:00	79	62			141
11:00	12:00	105	72			177
12:00	13:00	105	68			173
13:00	14:00	102	70			172
14:00	15:00	169	160			329
15:00	16:00	221	191			412
16:00	17:00	175	140			315
17:00	18:00	136	143			279
18:00	19:00	127	131			258
19:00	20:00	65	65			130
20:00	21:00	60	63			123
21:00	22:00	66	47			113
22:00	23:00	30	26			56
23:00	00:00	17	19			36

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	748	676			1424
Peak Hour	7:30	7:30			7:30
Peak Volume	213	274			487
Peak Hour Factor	0.720	0.714			0.817
Peak Period	12:00	to	00:00		
Volume	1273	1123			2396
Peak Hour	15:15	14:30			15:15
Peak Volume	237	202			421
Peak Hour Factor	0.581	0.856			0.666
Peak Period	07:00	to	09:00		
Volume	340	362			702
Peak Hour	7:30	7:30			7:30
Peak Volume	213	274			487
Peak Hour Factor	0.720	0.714			0.817
Peak Period	16:00	to	18:00		
Volume	311	283			594
Peak Hour	16:00	16:15			16:00
Peak Volume	175	151			315
Peak Hour Factor	0.875	0.899			0.949



Prepared by National Data & Surveying Services

VOLUME

Blaker Rd S/O Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_003

DAILY TOTALS	NB	SB	EB	WB	Total
	570	355	0	0	925

DAILY TOTALS

15-Minutes Interval

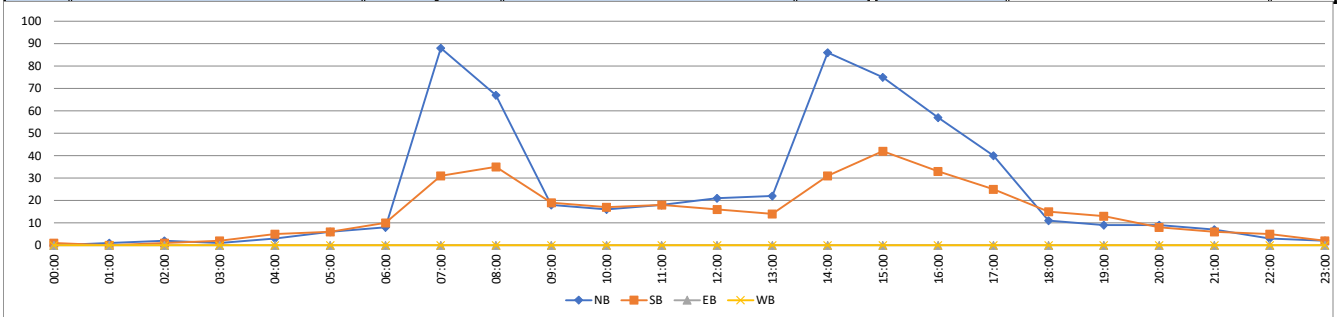
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	0	1			1	12:00	4	3			7
00:15	0	0			0	12:15	6	3			9
00:30	0	0			0	12:30	6	6			12
00:45	0	0			0	12:45	5	4			9
01:00	0	0			0	13:00	7	3			10
01:15	1	0			1	13:15	7	2			9
01:30	0	0			0	13:30	5	5			10
01:45	0	0			0	13:45	3	4			7
02:00	1	0			1	14:00	12	4			16
02:15	0	1			1	14:15	22	5			27
02:30	0	0			0	14:30	34	12			46
02:45	1	0			1	14:45	18	10			28
03:00	1	1			2	15:00	13	13			26
03:15	0	0			0	15:15	17	7			24
03:30	0	0			0	15:30	22	10			32
03:45	0	1			1	15:45	23	12			35
04:00	0	2			2	16:00	11	7			18
04:15	2	0			2	16:15	12	9			21
04:30	0	2			2	16:30	19	9			28
04:45	1	1			2	16:45	15	8			23
05:00	1	0			1	17:00	8	8			16
05:15	2	1			3	17:15	10	5			15
05:30	3	2			5	17:30	11	7			18
05:45	0	3			3	17:45	11	5			16
06:00	1	4			5	18:00	5	3			8
06:15	2	1			3	18:15	1	1			2
06:30	1	1			2	18:30	4	6			10
06:45	4	4			8	18:45	1	5			6
07:00	4	6			10	19:00	1	4			5
07:15	9	9			18	19:15	2	2			4
07:30	29	6			35	19:30	2	5			7
07:45	46	10			56	19:45	4	2			6
08:00	37	11			48	20:00	2	1			3
08:15	13	9			22	20:15	4	2			6
08:30	10	9			19	20:30	1	4			5
08:45	7	6			13	20:45	2	1			3
09:00	4	5			9	21:00	1	3			4
09:15	5	6			11	21:15	1	2			3
09:30	5	4			9	21:30	5	1			6
09:45	4	4			8	21:45	0	0			0
10:00	3	4			7	22:00	0	0			0
10:15	9	7			16	22:15	0	1			1
10:30	2	4			6	22:30	3	2			5
10:45	2	2			4	22:45	0	2			2
11:00	7	4			11	23:00	0	0			0
11:15	5	7			12	23:15	0	0			0
11:30	2	2			4	23:30	0	0			0
11:45	4	5			9	23:45	2	2			4
TOTALS	228	145	0	0	373	TOTALS	342	210	0	0	552
SPLIT %	61%	39%	0%	0%	40%	SPLIT %	62%	38%	0%	0%	60%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	0	1			1
01:00	02:00	1	0			1
02:00	03:00	2	1			3
03:00	04:00	1	2			3
04:00	05:00	3	5			8
05:00	06:00	6	6			12
06:00	07:00	8	10			18
07:00	08:00	88	31			119
08:00	09:00	67	35			102
09:00	10:00	18	19			37
10:00	11:00	16	17			33
11:00	12:00	18	18			36
12:00	13:00	21	16			37
13:00	14:00	22	14			36
14:00	15:00	86	31			117
15:00	16:00	75	42			117
16:00	17:00	57	33			90
17:00	18:00	40	25			65
18:00	19:00	11	15			26
19:00	20:00	9	13			22
20:00	21:00	9	8			17
21:00	22:00	7	6			13
22:00	23:00	3	5			8
23:00	00:00	2	2			4

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	228	145			373
Peak Hour	7:30	7:45			7:30
Peak Volume	125	39			161
Peak Hour Factor	0.679	0.886			0.719
Peak Period	12:00	to	00:00		
Volume	342	210			552
Peak Hour	14:15	14:30			14:15
Peak Volume	87	42			127
Peak Hour Factor	0.640	0.808			0.690
Peak Period	07:00	to	09:00		
Volume	155	66			221
Peak Hour	7:30	7:45			7:30
Peak Volume	125	39			161
Peak Hour Factor	0.679	0.886			0.719
Peak Period	16:00	to	18:00		
Volume	97	58			155
Peak Hour	16:00	16:15			16:00
Peak Volume	57	34			90
Peak Hour Factor	0.750	0.944			0.804



Prepared by National Data & Surveying Services

VOLUME

Central Ave Bet. Pine St & Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_004

DAILY TOTALS	NB	SB	EB	WB	Total
	4,506	4,800	0	0	9,306

DAILY TOTALS

15-Minutes Interval

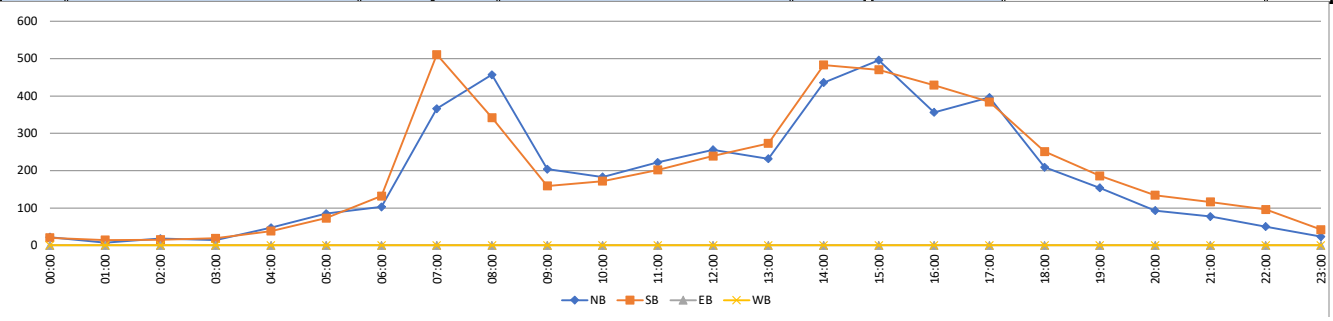
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	7	8			15	12:00	75	54			129
00:15	8	8			16	12:15	68	57			125
00:30	4	2			6	12:30	57	64			121
00:45	3	2			5	12:45	56	64			120
01:00	2	3			5	13:00	58	69			127
01:15	2	2			4	13:15	59	69			128
01:30	2	2			4	13:30	61	65			126
01:45	1	7			8	13:45	54	70			124
02:00	1	5			6	14:00	67	110			177
02:15	2	1			3	14:15	103	146			249
02:30	9	4			13	14:30	151	112			263
02:45	6	5			11	14:45	115	115			230
03:00	3	6			9	15:00	84	123			207
03:15	2	3			5	15:15	90	127			217
03:30	5	4			9	15:30	188	121			309
03:45	4	6			10	15:45	134	99			233
04:00	8	5			13	16:00	98	96			194
04:15	11	8			19	16:15	89	116			205
04:30	11	8			19	16:30	92	114			206
04:45	17	17			34	16:45	77	103			180
05:00	12	13			25	17:00	114	93			207
05:15	19	14			33	17:15	89	98			187
05:30	20	18			38	17:30	103	97			200
05:45	34	28			62	17:45	90	96			186
06:00	14	25			39	18:00	69	73			142
06:15	23	27			50	18:15	50	68			118
06:30	27	29			56	18:30	42	51			93
06:45	39	51			90	18:45	48	59			107
07:00	51	73			124	19:00	39	55			94
07:15	79	115			194	19:15	36	52			88
07:30	100	139			239	19:30	50	47			97
07:45	136	184			320	19:45	29	32			61
08:00	159	133			292	20:00	22	40			62
08:15	139	90			229	20:15	18	31			49
08:30	103	75			178	20:30	23	36			59
08:45	56	44			100	20:45	30	27			57
09:00	43	43			86	21:00	24	30			54
09:15	50	52			102	21:15	15	22			37
09:30	57	30			87	21:30	19	33			52
09:45	54	34			88	21:45	19	31			50
10:00	47	48			95	22:00	16	18			34
10:15	55	39			94	22:15	14	17			31
10:30	44	39			83	22:30	12	48			60
10:45	37	46			83	22:45	8	13			21
11:00	52	47			99	23:00	6	16			22
11:15	57	53			110	23:15	10	6			16
11:30	55	50			105	23:30	5	9			14
11:45	58	52			110	23:45	2	11			13
TOTALS	1728	1697	0	0	3425	TOTALS	2778	3103	0	0	5881
SPLIT %	50%	50%	0%	0%	37%	SPLIT %	47%	53%	0%	0%	63%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	22	20			42
01:00	02:00	7	14			21
02:00	03:00	18	15			33
03:00	04:00	14	19			33
04:00	05:00	47	38			85
05:00	06:00	85	73			158
06:00	07:00	103	132			235
07:00	08:00	366	511			877
08:00	09:00	457	342			799
09:00	10:00	204	159			363
10:00	11:00	183	172			355
11:00	12:00	222	202			424
12:00	13:00	256	239			495
13:00	14:00	232	273			505
14:00	15:00	436	483			919
15:00	16:00	496	470			966
16:00	17:00	356	429			785
17:00	18:00	396	384			780
18:00	19:00	209	251			460
19:00	20:00	154	186			340
20:00	21:00	93	134			227
21:00	22:00	77	116			193
22:00	23:00	50	96			146
23:00	00:00	23	42			65

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1728	1697			3425
Peak Hour	7:45	7:15			7:30
Peak Volume	537	571			1080
Peak Hour Factor	0.844	0.776			0.844
Peak Period	12:00	to	00:00		
Volume	2778	3103			5881
Peak Hour	15:15	14:15			15:00
Peak Volume	510	496			966
Peak Hour Factor	0.678	0.849			0.782
Peak Period	07:00	to	09:00		
Volume	823	853			1676
Peak Hour	7:45	7:15			7:30
Peak Volume	537	571			1080
Peak Hour Factor	0.844	0.776			0.844
Peak Period	16:00	to	18:00		
Volume	752	813			1565
Peak Hour	17:00	16:00			16:15
Peak Volume	396	429			798
Peak Hour Factor	0.868	0.925			0.964



Prepared by National Data & Surveying Services

VOLUME

Central Ave Bet. Service Rd & Central Valley High School Southern Access Dwy

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_005

DAILY TOTALS	NB	SB	EB	WB	Total
	5,534	4,181	0	0	9,715

DAILY TOTALS

15-Minutes Interval

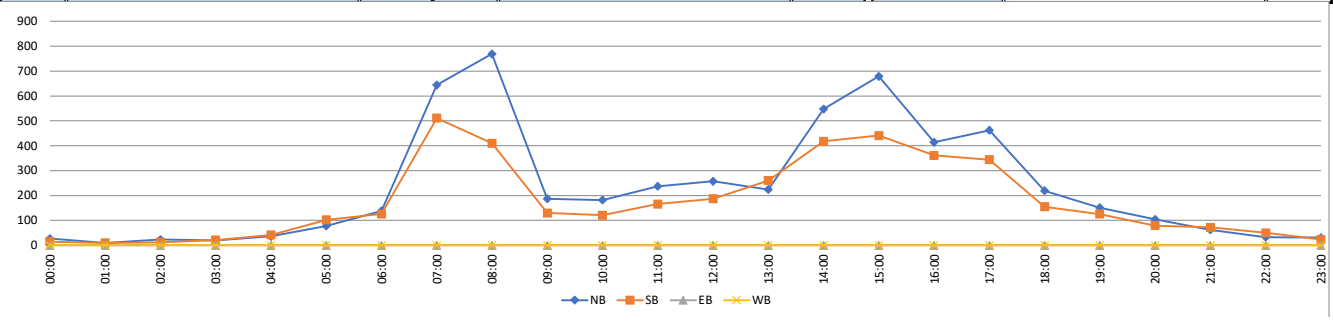
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	6	5			11	12:00	60	51			111
00:15	11	2			13	12:15	51	42			93
00:30	3	6			9	12:30	58	40			98
00:45	7	2			9	12:45	88	54			142
01:00	3	2			5	13:00	55	71			126
01:15	3	2			5	13:15	56	58			114
01:30	2	4			6	13:30	54	61			115
01:45	1	2			3	13:45	59	70			129
02:00	4	4			8	14:00	71	104			175
02:15	6	2			8	14:15	137	111			248
02:30	7	2			9	14:30	239	117			356
02:45	6	4			10	14:45	101	86			187
03:00	1	6			7	15:00	87	110			197
03:15	5	3			8	15:15	150	104			254
03:30	3	6			9	15:30	287	143			430
03:45	11	6			17	15:45	155	84			239
04:00	7	6			13	16:00	117	72			189
04:15	8	7			15	16:15	99	94			193
04:30	8	15			23	16:30	107	92			199
04:45	13	14			27	16:45	91	103			194
05:00	19	15			34	17:00	116	90			206
05:15	15	18			33	17:15	98	85			183
05:30	18	35			53	17:30	139	88			227
05:45	26	34			60	17:45	109	81			190
06:00	24	18			42	18:00	82	56			138
06:15	26	28			54	18:15	40	42			82
06:30	46	34			80	18:30	50	32			82
06:45	42	46			88	18:45	47	25			72
07:00	84	72			156	19:00	29	30			59
07:15	197	114			311	19:15	41	38			79
07:30	162	145			307	19:30	50	32			82
07:45	201	180			381	19:45	31	25			56
08:00	266	150			416	20:00	13	20			33
08:15	294	145			439	20:15	23	27			50
08:30	153	68			221	20:30	40	22			62
08:45	56	47			103	20:45	28	10			38
09:00	41	38			79	21:00	18	24			42
09:15	41	34			75	21:15	16	19			35
09:30	47	28			75	21:30	14	19			33
09:45	58	30			88	21:45	14	10			24
10:00	32	37			69	22:00	9	10			19
10:15	50	22			72	22:15	11	16			27
10:30	56	27			83	22:30	7	15			22
10:45	44	35			79	22:45	6	9			15
11:00	43	47			90	23:00	5	9			14
11:15	58	35			93	23:15	14	7			21
11:30	64	31			95	23:30	4	3			7
11:45	72	53			125	23:45	8	4			12
TOTALS	2350	1666	0	0	4016	TOTALS	3184	2515	0	0	5699
SPLIT %	59%	41%	0%	0%	41%	SPLIT %	56%	44%	0%	0%	59%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	27	15			42
01:00	02:00	9	10			19
02:00	03:00	23	12			35
03:00	04:00	20	21			41
04:00	05:00	36	42			78
05:00	06:00	78	102			180
06:00	07:00	138	126			264
07:00	08:00	644	511			1155
08:00	09:00	769	410			1179
09:00	10:00	187	130			317
10:00	11:00	182	121			303
11:00	12:00	237	166			403
12:00	13:00	257	187			444
13:00	14:00	224	260			484
14:00	15:00	548	418			966
15:00	16:00	679	441			1120
16:00	17:00	414	361			775
17:00	18:00	462	344			806
18:00	19:00	219	155			374
19:00	20:00	151	125			276
20:00	21:00	104	79			183
21:00	22:00	62	72			134
22:00	23:00	33	50			83
23:00	00:00	31	23			54

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	2350	1666			4016
Peak Hour	7:30	7:30			7:30
Peak Volume	923	620			1543
Peak Hour Factor	0.785	0.861			0.879
Peak Period	12:00	to	00:00		
Volume	3184	2515			5699
Peak Hour	15:15	14:45			15:00
Peak Volume	709	443			1120
Peak Hour Factor	0.618	0.774			0.651
Peak Period	07:00	to	09:00		
Volume	1413	921			2334
Peak Hour	7:30	7:30			7:30
Peak Volume	923	620			1543
Peak Hour Factor	0.785	0.861			0.879
Peak Period	16:00	to	18:00		
Volume	876	705			1581
Peak Hour	17:00	16:15			16:45
Peak Volume	462	379			810
Peak Hour Factor	0.831	0.920			0.892



Prepared by National Data & Surveying Services

VOLUME

Central Ave Bet. Central Valley High School Southern Access Dwy & E Redwood Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_006

DAILY TOTALS	NB	SB	EB	WB	Total
	3,784	3,568	0	0	7,352

DAILY TOTALS

15-Minutes Interval

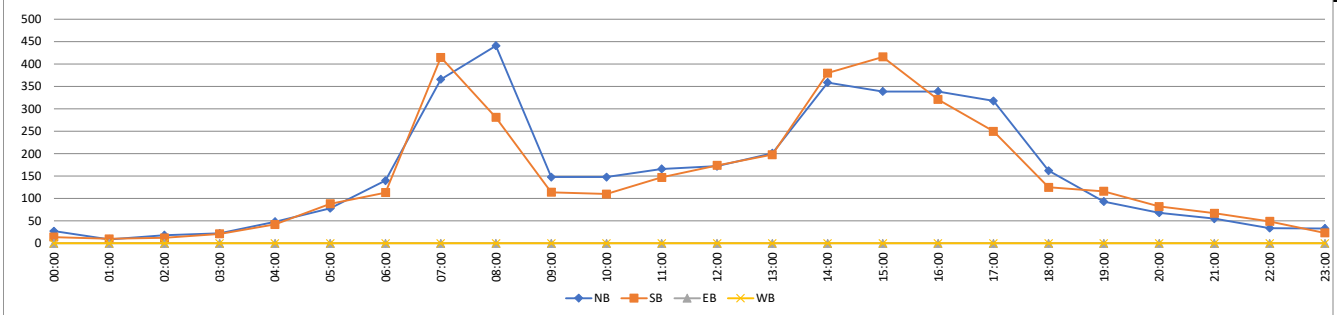
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	7	4			11	12:00	57	49			106
00:15	10	3			13	12:15	41	41			82
00:30	3	5			8	12:30	44	32			76
00:45	7	2			9	12:45	30	52			82
01:00	3	2			5	13:00	51	40			91
01:15	3	2			5	13:15	46	39			85
01:30	2	4			6	13:30	56	56			112
01:45	1	2			3	13:45	48	63			111
02:00	4	4			8	14:00	61	89			150
02:15	5	2			7	14:15	75	99			174
02:30	4	2			6	14:30	139	115			254
02:45	5	4			9	14:45	84	77			161
03:00	1	6			7	15:00	79	79			158
03:15	5	3			8	15:15	86	77			163
03:30	4	5			9	15:30	87	182			269
03:45	12	7			19	15:45	87	78			165
04:00	12	6			18	16:00	80	65			145
04:15	10	7			17	16:15	87	84			171
04:30	10	15			25	16:30	89	86			175
04:45	16	14			30	16:45	83	86			169
05:00	19	14			33	17:00	83	61			144
05:15	18	16			34	17:15	86	70			156
05:30	14	28			42	17:30	91	66			157
05:45	27	30			57	17:45	58	53			111
06:00	31	16			47	18:00	63	44			107
06:15	30	25			55	18:15	29	33			62
06:30	45	35			80	18:30	35	28			63
06:45	34	37			71	18:45	35	20			55
07:00	48	45			93	19:00	22	29			51
07:15	90	84			174	19:15	23	32			55
07:30	94	124			218	19:30	29	29			58
07:45	134	162			296	19:45	19	26			45
08:00	174	114			288	20:00	14	20			34
08:15	171	93			264	20:15	19	27			46
08:30	55	48			103	20:30	22	24			46
08:45	41	26			67	20:45	13	11			24
09:00	29	35			64	21:00	12	21			33
09:15	35	32			67	21:15	16	20			36
09:30	44	23			67	21:30	13	17			30
09:45	40	24			64	21:45	14	9			23
10:00	30	30			60	22:00	9	11			20
10:15	39	19			58	22:15	12	14			26
10:30	46	27			73	22:30	7	15			22
10:45	33	34			67	22:45	6	9			15
11:00	29	46			75	23:00	6	9			15
11:15	47	33			80	23:15	15	7			22
11:30	49	25			74	23:30	4	3			7
11:45	41	43			84	23:45	8	4			12
TOTALS	1611	1367	0	0	2978	TOTALS	2173	2201	0	0	4374
SPLIT %	54%	46%	0%	0%	41%	SPLIT %	50%	50%	0%	0%	59%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	27	14			41
01:00	02:00	9	10			19
02:00	03:00	18	12			30
03:00	04:00	22	21			43
04:00	05:00	48	42			90
05:00	06:00	78	88			166
06:00	07:00	140	113			253
07:00	08:00	366	415			781
08:00	09:00	441	281			722
09:00	10:00	148	114			262
10:00	11:00	148	110			258
11:00	12:00	166	147			313
12:00	13:00	172	174			346
13:00	14:00	201	198			399
14:00	15:00	359	380			739
15:00	16:00	339	416			755
16:00	17:00	339	321			660
17:00	18:00	318	250			568
18:00	19:00	162	125			287
19:00	20:00	93	116			209
20:00	21:00	68	82			150
21:00	22:00	55	67			122
22:00	23:00	34	49			83
23:00	00:00	33	23			56

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	1611	1367			2978
Peak Hour	7:30	7:30			7:30
Peak Volume	573	493			1066
Peak Hour Factor	0.823	0.761			0.900
Peak Period	12:00	to	00:00		
Volume	2173	2201			4374
Peak Hour	14:30	15:00			15:00
Peak Volume	388	416			755
Peak Hour Factor	0.698	0.571			0.702
Peak Period	07:00	to	09:00		
Volume	807	696			1503
Peak Hour	7:30	7:30			7:30
Peak Volume	573	493			1066
Peak Hour Factor	0.823	0.761			0.900
Peak Period	16:00	to	18:00		
Volume	657	571			1228
Peak Hour	16:45	16:00			16:00
Peak Volume	343	321			660
Peak Hour Factor	0.942	0.933			0.943



Prepared by National Data & Surveying Services

VOLUME

Pine St Bet. Central Ave & El Camino Ave

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,613	6,574	12,187

DAILY TOTALS

15-Minutes Interval

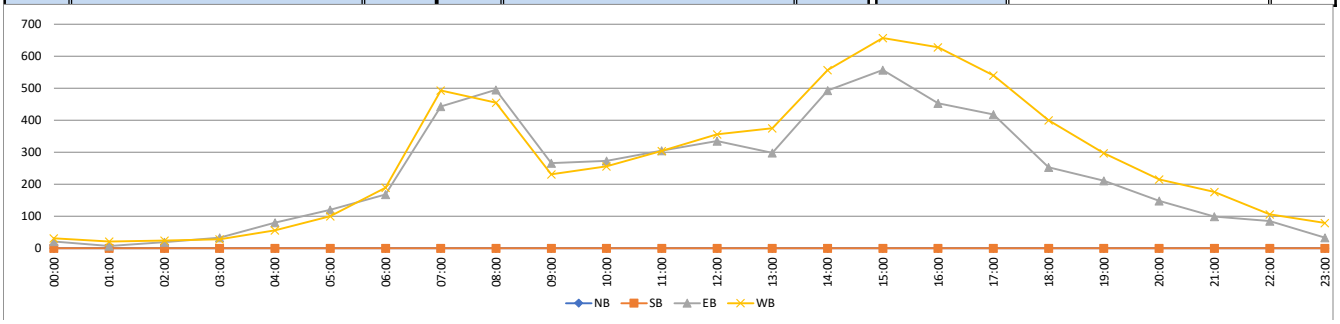
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00			7	13	20	12:00			100	93	193
00:15			7	5	12	12:15			101	77	178
00:30			4	10	14	12:30			69	101	170
00:45			3	3	6	12:45			65	85	150
01:00			1	6	7	13:00			66	99	165
01:15			2	4	6	13:15			67	80	147
01:30			3	4	7	13:30			81	86	167
01:45			1	7	8	13:45			84	110	194
02:00			3	5	8	14:00			73	114	187
02:15			1	6	7	14:15			125	140	265
02:30			8	7	15	14:30			158	133	291
02:45			7	6	13	14:45			137	170	307
03:00			8	8	16	15:00			103	168	271
03:15			2	4	6	15:15			112	172	284
03:30			10	4	14	15:30			186	185	371
03:45			13	12	25	15:45			156	132	288
04:00			12	5	17	16:00			104	150	254
04:15			27	12	39	16:15			125	169	294
04:30			22	12	34	16:30			105	163	268
04:45			19	27	46	16:45			119	146	265
05:00			20	13	33	17:00			117	139	256
05:15			23	16	39	17:15			101	121	222
05:30			41	30	71	17:30			103	149	252
05:45			36	41	77	17:45			97	131	228
06:00			31	36	67	18:00			76	117	193
06:15			44	39	83	18:15			61	101	162
06:30			42	39	81	18:30			55	95	150
06:45			51	75	126	18:45			61	87	148
07:00			58	88	146	19:00			52	87	139
07:15			94	111	205	19:15			54	71	125
07:30			132	128	260	19:30			64	75	139
07:45			159	166	325	19:45			41	64	105
08:00			180	145	325	20:00			42	40	82
08:15			132	134	266	20:15			31	64	95
08:30			107	110	217	20:30			34	56	90
08:45			76	66	142	20:45			41	55	96
09:00			63	58	121	21:00			29	55	84
09:15			63	57	120	21:15			26	43	69
09:30			70	60	130	21:30			24	43	67
09:45			70	56	126	21:45			20	35	55
10:00			68	60	128	22:00			18	32	50
10:15			76	56	132	22:15			16	27	43
10:30			64	57	121	22:30			36	27	63
10:45			65	83	148	22:45			15	20	35
11:00			84	70	154	23:00			8	26	34
11:15			76	81	157	23:15			14	16	30
11:30			69	71	140	23:30			8	21	29
11:45			76	82	158	23:45			3	16	19
TOTALS	0	0	2230	2188	4418	TOTALS	0	0	3383	4386	7769
SPLIT %	0%	0%	50%	50%	36%	SPLIT %	0%	0%	44%	56%	64%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			21	31	52
01:00	02:00			7	21	28
02:00	03:00			19	24	43
03:00	04:00			33	28	61
04:00	05:00			80	56	136
05:00	06:00			120	100	220
06:00	07:00			168	189	357
07:00	08:00			443	493	936
08:00	09:00			495	455	950
09:00	10:00			266	231	497
10:00	11:00			273	256	529
11:00	12:00			305	304	609
12:00	13:00			335	356	691
13:00	14:00			298	375	673
14:00	15:00			493	557	1050
15:00	16:00			557	657	1214
16:00	17:00			453	628	1081
17:00	18:00			418	540	958
18:00	19:00			253	400	653
19:00	20:00			211	297	508
20:00	21:00			148	215	363
21:00	22:00			99	176	275
22:00	23:00			85	106	191
23:00	00:00			33	79	112

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			2230	2188	4418
Peak Hour			7:30	7:30	7:30
Peak Volume			603	573	1176
Peak Hour Factor			0.838	0.863	0.905
Peak Period	12:00	to	00:00		
Volume			3383	4386	7769
Peak Hour			15:30	14:45	14:45
Peak Volume			571	695	1233
Peak Hour Factor			0.767	0.939	0.831
Peak Period	07:00	to	09:00		
Volume			938	948	1886
Peak Hour			7:30	7:30	7:30
Peak Volume			603	573	1176
Peak Hour Factor			0.838	0.863	0.905
Peak Period	16:00	to	18:00		
Volume			871	1168	2039
Peak Hour			16:15	16:00	16:15
Peak Volume			466	628	1083
Peak Hour Factor			0.932	0.929	0.921



Prepared by National Data & Surveying Services

VOLUME

Collins Rd Bet. Service Rd & Don Pedro Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_008

DAILY TOTALS	NB	SB	EB	WB	Total
	736	774	0	0	1,510

DAILY TOTALS

15-Minutes Interval

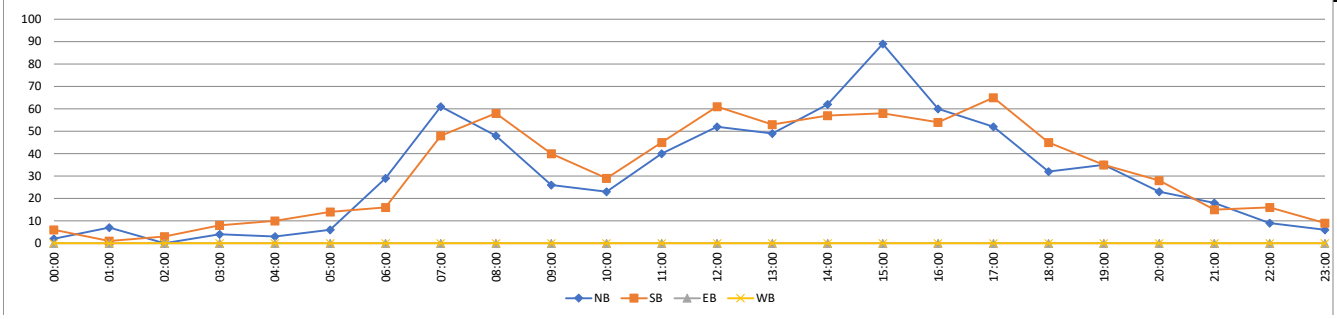
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	0	2			2	12:00	10	18			28
00:15	0	1			1	12:15	14	19			33
00:30	2	2			4	12:30	12	13			25
00:45	0	1			1	12:45	16	11			27
01:00	4	0			4	13:00	12	15			27
01:15	1	0			1	13:15	14	11			25
01:30	1	0			1	13:30	10	14			24
01:45	1	1			2	13:45	13	13			26
02:00	0	1			1	14:00	17	12			29
02:15	0	1			1	14:15	12	15			27
02:30	0	0			0	14:30	13	14			27
02:45	0	1			1	14:45	20	16			36
03:00	2	2			4	15:00	24	17			41
03:15	1	2			3	15:15	16	14			30
03:30	0	1			1	15:30	24	13			37
03:45	1	3			4	15:45	25	14			39
04:00	0	2			2	16:00	11	16			27
04:15	0	3			3	16:15	22	15			37
04:30	2	0			2	16:30	13	11			24
04:45	1	5			6	16:45	14	12			26
05:00	1	2			3	17:00	16	20			36
05:15	0	1			1	17:15	17	12			29
05:30	3	6			9	17:30	9	20			29
05:45	2	5			7	17:45	10	13			23
06:00	7	2			9	18:00	8	12			20
06:15	7	6			13	18:15	7	13			20
06:30	7	2			9	18:30	7	11			18
06:45	8	6			14	18:45	10	9			19
07:00	10	8			18	19:00	13	12			25
07:15	14	7			21	19:15	8	12			20
07:30	21	11			32	19:30	9	4			13
07:45	16	22			38	19:45	5	7			12
08:00	16	30			46	20:00	10	9			19
08:15	14	10			24	20:15	3	8			11
08:30	12	6			18	20:30	3	2			5
08:45	6	12			18	20:45	7	9			16
09:00	7	11			18	21:00	4	6			10
09:15	9	8			17	21:15	8	2			10
09:30	7	9			16	21:30	2	3			5
09:45	3	12			15	21:45	4	4			8
10:00	4	6			10	22:00	2	10			12
10:15	9	7			16	22:15	3	2			5
10:30	3	6			9	22:30	2	2			4
10:45	7	10			17	22:45	2	2			4
11:00	6	10			16	23:00	1	4			5
11:15	8	8			16	23:15	1	2			3
11:30	10	11			21	23:30	3	0			3
11:45	16	16			32	23:45	1	3			4
TOTALS	249	278	0	0	527	TOTALS	487	496	0	0	983
SPLIT %	47%	53%	0%	0%	35%	SPLIT %	50%	50%	0%	0%	65%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	2	6			8
01:00	02:00	7	1			8
02:00	03:00	0	3			3
03:00	04:00	4	8			12
04:00	05:00	3	10			13
05:00	06:00	6	14			20
06:00	07:00	29	16			45
07:00	08:00	61	48			109
08:00	09:00	48	58			106
09:00	10:00	26	40			66
10:00	11:00	23	29			52
11:00	12:00	40	45			85
12:00	13:00	52	61			113
13:00	14:00	49	53			102
14:00	15:00	62	57			119
15:00	16:00	89	58			147
16:00	17:00	60	54			114
17:00	18:00	52	65			117
18:00	19:00	32	45			77
19:00	20:00	35	35			70
20:00	21:00	23	28			51
21:00	22:00	18	15			33
22:00	23:00	9	16			25
23:00	00:00	6	9			15

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	249	278			527
Peak Hour	7:15	7:30			7:30
Peak Volume	67	73			140
Peak Hour Factor	0.798	0.608			0.761
Peak Period	12:00	to	00:00		
Volume	487	496			983
Peak Hour	15:00	17:00			15:00
Peak Volume	89	65			147
Peak Hour Factor	0.890	0.813			0.896
Peak Period	07:00	to	09:00		
Volume	109	106			215
Peak Hour	7:15	7:30			7:30
Peak Volume	67	73			140
Peak Hour Factor	0.798	0.608			0.761
Peak Period	16:00	to	18:00		
Volume	112	119			231
Peak Hour	16:15	17:00			16:15
Peak Volume	65	65			123
Peak Hour Factor	0.739	0.813			0.831



Prepared by National Data & Surveying Services

VOLUME

Moffett Rd S/O Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_009

DAILY TOTALS	NB	SB	EB	WB	Total
	346	420	0	0	766

DAILY TOTALS

15-Minutes Interval

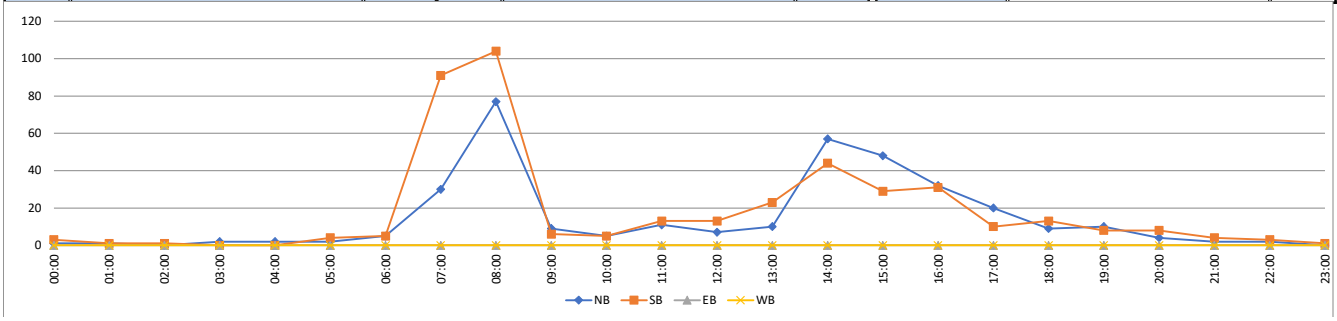
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	1	2			3	12:00	3	3			6
00:15	0	1			1	12:15	1	4			5
00:30	0	0			0	12:30	1	2			3
00:45	0	0			0	12:45	2	4			6
01:00	0	0			0	13:00	1	1			2
01:15	0	0			0	13:15	2	3			5
01:30	0	0			0	13:30	1	9			10
01:45	1	1			2	13:45	6	10			16
02:00	0	1			1	14:00	3	9			12
02:15	0	0			0	14:15	3	16			19
02:30	0	0			0	14:30	32	13			45
02:45	0	0			0	14:45	19	6			25
03:00	0	0			0	15:00	10	8			18
03:15	0	0			0	15:15	5	11			16
03:30	0	0			0	15:30	18	5			23
03:45	2	0			2	15:45	15	5			20
04:00	0	0			0	16:00	5	12			17
04:15	0	0			0	16:15	10	6			16
04:30	1	0			1	16:30	10	8			18
04:45	1	0			1	16:45	7	5			12
05:00	1	2			3	17:00	6	1			7
05:15	0	0			0	17:15	4	5			9
05:30	1	1			2	17:30	7	3			10
05:45	0	1			1	17:45	3	1			4
06:00	0	2			2	18:00	5	7			12
06:15	3	0			3	18:15	2	1			3
06:30	1	1			2	18:30	1	3			4
06:45	1	2			3	18:45	1	2			3
07:00	0	5			5	19:00	2	3			5
07:15	9	19			28	19:15	4	0			4
07:30	3	24			27	19:30	2	0			2
07:45	18	43			61	19:45	2	5			7
08:00	27	61			88	20:00	0	3			3
08:15	36	33			69	20:15	1	1			2
08:30	10	5			15	20:30	3	1			4
08:45	4	5			9	20:45	0	3			3
09:00	3	2			5	21:00	1	2			3
09:15	3	1			4	21:15	0	1			1
09:30	0	1			1	21:30	0	1			1
09:45	3	2			5	21:45	1	0			1
10:00	1	2			3	22:00	1	1			2
10:15	1	1			2	22:15	1	0			1
10:30	1	0			1	22:30	0	2			2
10:45	2	2			4	22:45	0	0			0
11:00	2	3			5	23:00	0	0			0
11:15	1	4			5	23:15	0	0			0
11:30	5	2			7	23:30	0	1			1
11:45	3	4			7	23:45	0	0			0
TOTALS	145	233	0	0	378	TOTALS	201	187	0	0	388
SPLIT %	38%	62%	0%	0%	49%	SPLIT %	52%	48%	0%	0%	51%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	1	3			4
01:00	02:00	1	1			2
02:00	03:00	0	1			1
03:00	04:00	2	0			2
04:00	05:00	2	0			2
05:00	06:00	2	4			6
06:00	07:00	5	5			10
07:00	08:00	30	91			121
08:00	09:00	77	104			181
09:00	10:00	9	6			15
10:00	11:00	5	5			10
11:00	12:00	11	13			24
12:00	13:00	7	13			20
13:00	14:00	10	23			33
14:00	15:00	57	44			101
15:00	16:00	48	29			77
16:00	17:00	32	31			63
17:00	18:00	20	10			30
18:00	19:00	9	13			22
19:00	20:00	10	8			18
20:00	21:00	4	8			12
21:00	22:00	2	4			6
22:00	23:00	2	3			5
23:00	00:00	0	1			1

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	145	233			378
Peak Hour	7:45	7:30			7:30
Peak Volume	91	161			245
Peak Hour Factor	0.632	0.660			0.696
Peak Period	12:00	to	00:00		
Volume	201	187			388
Peak Hour	14:30	13:45			14:15
Peak Volume	66	48			107
Peak Hour Factor	0.516	0.750			0.594
Peak Period	07:00	to	09:00		
Volume	107	195			302
Peak Hour	7:45	7:30			7:30
Peak Volume	91	161			245
Peak Hour Factor	0.632	0.660			0.696
Peak Period	16:00	to	18:00		
Volume	52	41			93
Peak Hour	16:15	16:00			16:00
Peak Volume	33	31			63
Peak Hour Factor	0.825	0.646			0.875



Prepared by National Data & Surveying Services

VOLUME

El Camino Ave N/O Pine St

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_010

DAILY TOTALS	NB	SB	EB	WB	Total
	4,854	5,660	0	0	10,514

DAILY TOTALS

15-Minutes Interval

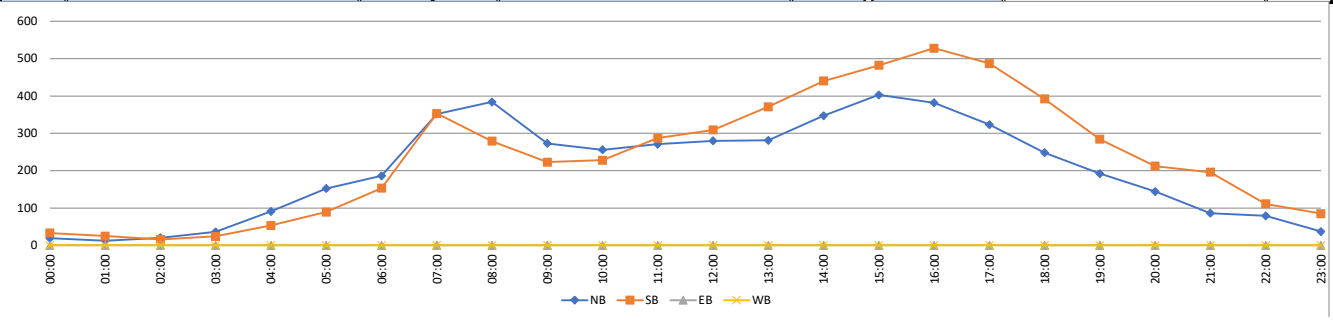
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	3	12			15	12:00	75	75			150
00:15	7	7			14	12:15	71	71			142
00:30	5	9			14	12:30	67	86			153
00:45	4	5			9	12:45	67	77			144
01:00	4	6			10	13:00	78	90			168
01:15	2	9			11	13:15	65	82			147
01:30	5	4			9	13:30	69	87			156
01:45	1	6			7	13:45	69	112			181
02:00	4	2			6	14:00	63	101			164
02:15	5	5			10	14:15	76	120			196
02:30	7	6			13	14:30	111	103			214
02:45	4	3			7	14:45	97	116			213
03:00	8	8			16	15:00	93	121			214
03:15	7	2			9	15:15	92	108			200
03:30	10	3			13	15:30	117	142			259
03:45	11	11			22	15:45	101	111			212
04:00	21	6			27	16:00	95	120			215
04:15	24	11			35	16:15	104	142			246
04:30	22	5			27	16:30	95	138			233
04:45	24	31			55	16:45	88	128			216
05:00	30	14			44	17:00	91	125			216
05:15	29	17			46	17:15	66	117			183
05:30	54	24			78	17:30	91	129			220
05:45	39	34			73	17:45	75	116			191
06:00	40	34			74	18:00	69	114			183
06:15	35	34			69	18:15	59	95			154
06:30	56	28			84	18:30	48	91			139
06:45	55	57			112	18:45	72	92			164
07:00	63	67			130	19:00	39	87			126
07:15	86	75			161	19:15	57	64			121
07:30	101	98			199	19:30	58	71			129
07:45	102	113			215	19:45	38	62			100
08:00	116	92			208	20:00	44	45			89
08:15	101	80			181	20:15	32	60			92
08:30	104	55			159	20:30	35	45			80
08:45	63	52			115	20:45	33	62			95
09:00	63	54			117	21:00	27	49			76
09:15	76	63			139	21:15	21	58			79
09:30	65	54			119	21:30	17	53			70
09:45	69	52			121	21:45	21	36			57
10:00	61	59			120	22:00	22	33			55
10:15	75	51			126	22:15	14	28			42
10:30	63	57			120	22:30	26	27			53
10:45	57	61			118	22:45	17	23			40
11:00	55	75			130	23:00	6	26			32
11:15	72	57			129	23:15	14	16			30
11:30	78	70			148	23:30	10	23			33
11:45	66	85			151	23:45	7	20			27
TOTALS	2052	1763	0	0	3815	TOTALS	2802	3897	0	0	6699
SPLIT %	54%	46%	0%	0%	36%	SPLIT %	42%	58%	0%	0%	64%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	19	33			52
01:00	02:00	12	25			37
02:00	03:00	20	16			36
03:00	04:00	36	24			60
04:00	05:00	91	53			144
05:00	06:00	152	89			241
06:00	07:00	186	153			339
07:00	08:00	352	353			705
08:00	09:00	384	279			663
09:00	10:00	273	223			496
10:00	11:00	256	228			484
11:00	12:00	271	287			558
12:00	13:00	280	309			589
13:00	14:00	281	371			652
14:00	15:00	347	440			787
15:00	16:00	403	482			885
16:00	17:00	382	528			910
17:00	18:00	323	487			810
18:00	19:00	248	392			640
19:00	20:00	192	284			476
20:00	21:00	144	212			356
21:00	22:00	86	196			282
22:00	23:00	79	111			190
23:00	00:00	37	85			122

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	2052	1763			3815
Peak Hour	7:45	7:30			7:30
Peak Volume	423	383			803
Peak Hour Factor	0.912	0.847			0.934
Peak Period	12:00	to	00:00		
Volume	2802	3897			6699
Peak Hour	15:30	16:15			15:30
Peak Volume	417	533			932
Peak Hour Factor	0.891	0.938			0.900
Peak Period	07:00	to	09:00		
Volume	736	632			1368
Peak Hour	7:45	7:30			7:30
Peak Volume	423	383			803
Peak Hour Factor	0.912	0.847			0.934
Peak Period	16:00	to	18:00		
Volume	705	1015			1720
Peak Hour	16:00	16:15			16:15
Peak Volume	382	533			911
Peak Hour Factor	0.918	0.938			0.926



Prepared by National Data & Surveying Services

VOLUME

El Camino Ave N/O Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_011

DAILY TOTALS	NB	SB	EB	WB	Total
	1,629	1,107	0	0	2,736

DAILY TOTALS

15-Minutes Interval

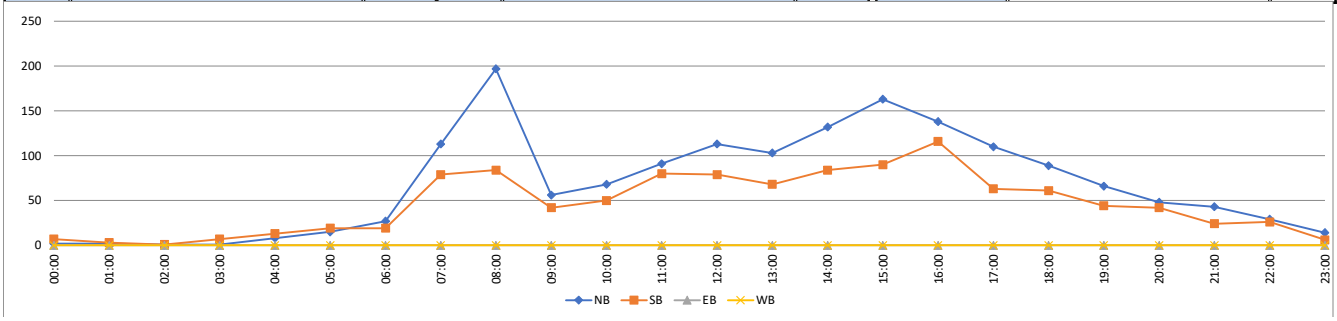
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	0	4			4	12:00	33	24			57
00:15	0	2			2	12:15	25	19			44
00:30	1	1			2	12:30	27	17			44
00:45	1	0			1	12:45	28	19			47
01:00	1	1			2	13:00	27	15			42
01:15	0	1			1	13:15	21	21			42
01:30	0	1			1	13:30	29	16			45
01:45	1	0			1	13:45	26	16			42
02:00	0	1			1	14:00	19	16			35
02:15	1	0			1	14:15	21	24			45
02:30	0	0			0	14:30	53	17			70
02:45	0	0			0	14:45	39	27			66
03:00	0	0			0	15:00	30	24			54
03:15	0	0			0	15:15	27	19			46
03:30	1	2			3	15:30	51	26			77
03:45	0	5			5	15:45	55	21			76
04:00	1	4			5	16:00	30	31			61
04:15	1	2			3	16:15	39	27			66
04:30	0	1			1	16:30	31	29			60
04:45	6	6			12	16:45	38	29			67
05:00	3	6			9	17:00	31	20			51
05:15	2	1			3	17:15	22	9			31
05:30	6	2			8	17:30	36	16			52
05:45	4	10			14	17:45	21	18			39
06:00	5	4			9	18:00	25	21			46
06:15	4	5			9	18:15	17	12			29
06:30	8	3			11	18:30	26	14			40
06:45	10	7			17	18:45	21	14			35
07:00	12	9			21	19:00	18	7			25
07:15	30	13			43	19:15	18	14			32
07:30	31	21			52	19:30	18	9			27
07:45	40	36			76	19:45	12	14			26
08:00	71	30			101	20:00	14	7			21
08:15	73	26			99	20:15	10	11			21
08:30	34	13			47	20:30	13	13			26
08:45	19	15			34	20:45	11	11			22
09:00	14	11			25	21:00	18	9			27
09:15	10	9			19	21:15	9	7			16
09:30	17	14			31	21:30	11	2			13
09:45	15	8			23	21:45	5	6			11
10:00	14	8			22	22:00	6	7			13
10:15	17	17			34	22:15	10	9			19
10:30	20	12			32	22:30	7	6			13
10:45	17	13			30	22:45	6	4			10
11:00	17	22			39	23:00	5	1			6
11:15	23	17			40	23:15	4	1			5
11:30	30	20			50	23:30	4	2			6
11:45	21	21			42	23:45	1	2			3
TOTALS	581	404	0	0	985	TOTALS	1048	703	0	0	1751
SPLIT %	59%	41%	0%	0%	36%	SPLIT %	60%	40%	0%	0%	64%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	2	7			9
01:00	02:00	2	3			5
02:00	03:00	1	1			2
03:00	04:00	1	7			8
04:00	05:00	8	13			21
05:00	06:00	15	19			34
06:00	07:00	27	19			46
07:00	08:00	113	79			192
08:00	09:00	197	84			281
09:00	10:00	56	42			98
10:00	11:00	68	50			118
11:00	12:00	91	80			171
12:00	13:00	113	79			192
13:00	14:00	103	68			171
14:00	15:00	132	84			216
15:00	16:00	163	90			253
16:00	17:00	138	116			254
17:00	18:00	110	63			173
18:00	19:00	89	61			150
19:00	20:00	66	44			110
20:00	21:00	48	42			90
21:00	22:00	43	24			67
22:00	23:00	29	26			55
23:00	00:00	14	6			20

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	581	404			985
Peak Hour	7:45	7:30			7:30
Peak Volume	218	113			328
Peak Hour Factor	0.747	0.785			0.812
Peak Period	12:00	to	00:00		
Volume	1048	703			1751
Peak Hour	15:30	16:00			15:30
Peak Volume	175	116			280
Peak Hour Factor	0.795	0.935			0.909
Peak Period	07:00	to	09:00		
Volume	310	163			473
Peak Hour	7:45	7:30			7:30
Peak Volume	218	113			328
Peak Hour Factor	0.747	0.785			0.812
Peak Period	16:00	to	18:00		
Volume	248	179			427
Peak Hour	16:15	16:00			16:00
Peak Volume	139	116			254
Peak Hour Factor	0.891	0.935			0.948



Prepared by National Data & Surveying Services

VOLUME

Mitchell Rd Bet. Don Pedro Rd & Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_012

DAILY TOTALS	NB	SB	EB	WB	Total
	14,183	13,207	0	0	27,390

DAILY TOTALS

15-Minutes Interval

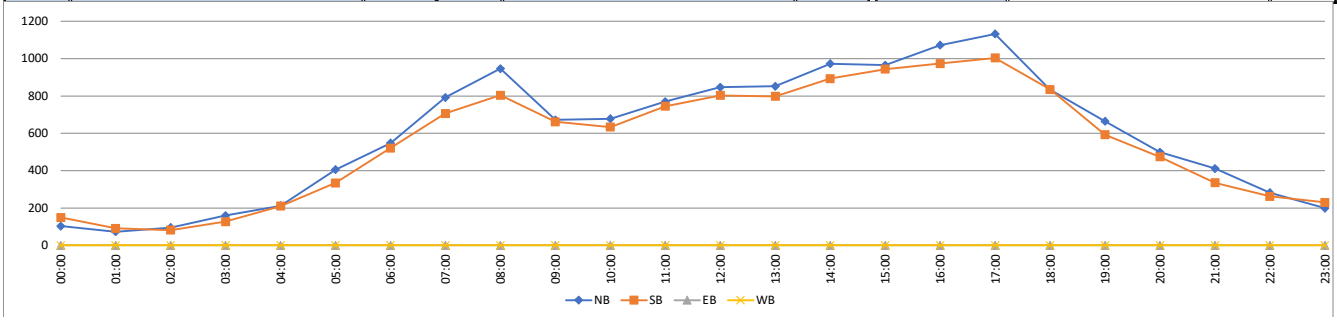
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	26	54			80	12:00	220	198			418
00:15	30	46			76	12:15	217	187			404
00:30	26	23			49	12:30	211	217			428
00:45	21	26			47	12:45	199	201			400
01:00	21	18			39	13:00	177	214			391
01:15	25	26			51	13:15	223	175			398
01:30	10	26			36	13:30	230	201			431
01:45	17	21			38	13:45	222	208			430
02:00	19	17			36	14:00	210	215			425
02:15	15	28			43	14:15	243	216			459
02:30	24	18			42	14:30	257	221			478
02:45	37	18			55	14:45	263	241			504
03:00	33	24			57	15:00	237	266			503
03:15	32	27			59	15:15	200	240			440
03:30	42	31			73	15:30	260	237			497
03:45	52	45			97	15:45	268	201			469
04:00	31	37			68	16:00	284	235			519
04:15	47	47			94	16:15	237	234			471
04:30	77	73			150	16:30	263	256			519
04:45	57	53			110	16:45	288	249			537
05:00	86	53			139	17:00	313	247			560
05:15	90	62			152	17:15	278	265			543
05:30	122	105			227	17:30	265	261			526
05:45	107	114			221	17:45	276	231			507
06:00	107	124			231	18:00	267	206			473
06:15	112	127			239	18:15	203	225			428
06:30	188	128			316	18:30	174	224			398
06:45	141	142			283	18:45	190	180			370
07:00	133	132			265	19:00	192	179			371
07:15	220	188			408	19:15	173	166			339
07:30	207	195			402	19:30	146	135			281
07:45	232	191			423	19:45	153	112			265
08:00	247	206			453	20:00	121	119			240
08:15	266	204			470	20:15	153	140			293
08:30	247	211			458	20:30	101	115			216
08:45	186	183			369	20:45	124	100			224
09:00	164	166			330	21:00	101	109			210
09:15	164	153			317	21:15	117	83			200
09:30	179	169			348	21:30	107	86			193
09:45	165	174			339	21:45	86	57			143
10:00	178	159			337	22:00	72	70			142
10:15	179	158			337	22:15	73	75			148
10:30	162	155			317	22:30	73	67			140
10:45	159	161			320	22:45	64	50			114
11:00	198	192			390	23:00	45	76			121
11:15	177	211			388	23:15	58	60			118
11:30	186	165			351	23:30	49	50			99
11:45	209	177			386	23:45	47	44			91
TOTALS	5453	5063	0	0	10516	TOTALS	8730	8144	0	0	16874
SPLIT %	52%	48%	0%	0%	38%	SPLIT %	52%	48%	0%	0%	62%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	103	149			252
01:00	02:00	73	91			164
02:00	03:00	95	81			176
03:00	04:00	159	127			286
04:00	05:00	212	210			422
05:00	06:00	405	334			739
06:00	07:00	548	521			1069
07:00	08:00	792	706			1498
08:00	09:00	946	804			1750
09:00	10:00	672	662			1334
10:00	11:00	678	633			1311
11:00	12:00	770	745			1515
12:00	13:00	847	803			1650
13:00	14:00	852	798			1650
14:00	15:00	973	893			1866
15:00	16:00	965	944			1909
16:00	17:00	1072	974			2046
17:00	18:00	1132	1004			2136
18:00	19:00	834	835			1669
19:00	20:00	664	592			1256
20:00	21:00	499	474			973
21:00	22:00	411	335			746
22:00	23:00	282	262			544
23:00	00:00	199	230			429

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	5453	5063			10516
Peak Hour	7:45	7:45			7:45
Peak Volume	992	812			1804
Peak Hour Factor	0.932	0.962			0.960
Peak Period	12:00	to	00:00		
Volume	8730	8144			16874
Peak Hour	16:45	16:45			16:45
Peak Volume	1144	1022			2166
Peak Hour Factor	0.914	0.964			0.967
Peak Period	07:00	to	09:00		
Volume	1738	1510			3248
Peak Hour	7:45	7:45			7:45
Peak Volume	992	812			1804
Peak Hour Factor	0.932	0.962			0.960
Peak Period	16:00	to	18:00		
Volume	2204	1978			4182
Peak Hour	16:45	16:45			16:45
Peak Volume	1144	1022			2166
Peak Hour Factor	0.914	0.964			0.967



Prepared by National Data & Surveying Services

VOLUME

Mitchell Rd S/O Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_013

DAILY TOTALS	NB	SB	EB	WB	Total
	14,395	14,558	0	0	28,953

DAILY TOTALS

15-Minutes Interval

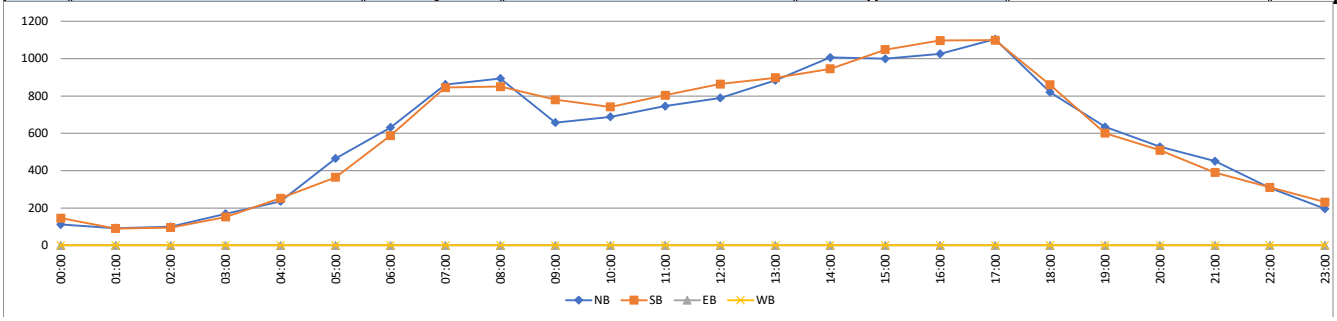
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	28	59			87	12:00	178	212			390
00:15	33	35			68	12:15	226	219			445
00:30	29	26			55	12:30	208	222			430
00:45	21	26			47	12:45	177	211			388
01:00	26	18			44	13:00	204	266			470
01:15	27	20			47	13:15	222	182			404
01:30	17	29			46	13:30	214	219			433
01:45	22	23			45	13:45	244	230			474
02:00	18	24			42	14:00	223	240			463
02:15	17	21			38	14:15	265	206			471
02:30	28	25			53	14:30	260	260			520
02:45	36	25			61	14:45	258	239			497
03:00	39	25			64	15:00	263	283			546
03:15	38	34			72	15:15	217	262			479
03:30	47	40			87	15:30	256	274			530
03:45	45	53			98	15:45	263	229			492
04:00	35	46			81	16:00	260	251			511
04:15	46	62			108	16:15	243	274			517
04:30	86	83			169	16:30	252	282			534
04:45	69	61			130	16:45	271	290			561
05:00	89	72			161	17:00	302	287			589
05:15	98	82			180	17:15	271	266			537
05:30	149	95			244	17:30	273	262			535
05:45	129	115			244	17:45	258	284			542
06:00	105	127			232	18:00	227	222			449
06:15	147	151			298	18:15	209	209			418
06:30	215	167			382	18:30	196	228			424
06:45	165	143			308	18:45	188	201			389
07:00	157	147			304	19:00	175	184			359
07:15	216	223			439	19:15	163	176			339
07:30	222	229			451	19:30	140	115			255
07:45	266	246			512	19:45	156	126			282
08:00	242	197			439	20:00	144	112			256
08:15	217	214			431	20:15	143	150			293
08:30	247	216			463	20:30	122	127			249
08:45	188	223			411	20:45	119	120			239
09:00	157	182			339	21:00	102	128			230
09:15	173	190			363	21:15	127	98			225
09:30	172	217			389	21:30	120	93			213
09:45	155	191			346	21:45	102	71			173
10:00	173	183			356	22:00	80	81			161
10:15	177	178			355	22:15	75	87			162
10:30	161	188			349	22:30	85	76			161
10:45	177	192			369	22:45	68	66			134
11:00	178	209			387	23:00	60	75			135
11:15	186	219			405	23:15	55	54			109
11:30	186	186			372	23:30	48	60			108
11:45	196	190			386	23:45	33	42			75
TOTALS	5650	5707	0	0	11357	TOTALS	8745	8851	0	0	17596
SPLIT %	50%	50%	0%	0%	39%	SPLIT %	50%	50%	0%	0%	61%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	111	146			257
01:00	02:00	92	90			182
02:00	03:00	99	95			194
03:00	04:00	169	152			321
04:00	05:00	236	252			488
05:00	06:00	465	364			829
06:00	07:00	632	588			1220
07:00	08:00	861	845			1706
08:00	09:00	894	850			1744
09:00	10:00	657	780			1437
10:00	11:00	688	741			1429
11:00	12:00	746	804			1550
12:00	13:00	789	864			1653
13:00	14:00	884	897			1781
14:00	15:00	1006	945			1951
15:00	16:00	999	1048			2047
16:00	17:00	1026	1097			2123
17:00	18:00	1104	1099			2203
18:00	19:00	820	860			1680
19:00	20:00	634	601			1235
20:00	21:00	528	509			1037
21:00	22:00	451	390			841
22:00	23:00	308	310			618
23:00	00:00	196	231			427

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	5650	5707			11357
Peak Hour	7:45	7:15			7:45
Peak Volume	972	895			1845
Peak Hour Factor	0.914	0.910			0.901
Peak Period	12:00	to	00:00		
Volume	8745	8851			17596
Peak Hour	16:45	16:15			16:45
Peak Volume	1117	1133			2222
Peak Hour Factor	0.925	0.977			0.943
Peak Period	07:00	to	09:00		
Volume	1755	1695			3450
Peak Hour	7:45	7:15			7:45
Peak Volume	972	895			1845
Peak Hour Factor	0.914	0.910			0.901
Peak Period	16:00	to	18:00		
Volume	2130	2196			4326
Peak Hour	16:45	16:15			16:45
Peak Volume	1117	1133			2222
Peak Hour Factor	0.925	0.977			0.943



Prepared by National Data & Surveying Services

VOLUME

Service Rd Bet. Morgan Rd & Blaker Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_014

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,690	5,926	11,616

DAILY TOTALS

15-Minutes Interval

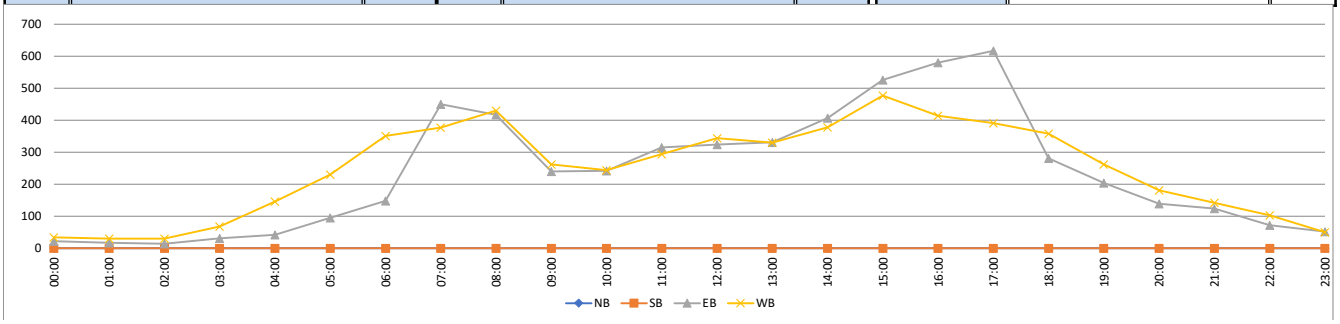
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00			4	6	10	12:00			96	81	177
00:15			4	10	14	12:15			74	83	157
00:30			9	7	16	12:30			76	85	161
00:45			5	11	16	12:45			78	95	173
01:00			5	5	10	13:00			96	83	179
01:15			6	12	18	13:15			71	78	149
01:30			3	5	8	13:30			96	96	192
01:45			3	8	11	13:45			68	73	141
02:00			3	7	10	14:00			94	83	177
02:15			1	7	8	14:15			105	84	189
02:30			5	5	10	14:30			117	108	225
02:45			5	11	16	14:45			91	103	194
03:00			11	12	23	15:00			114	89	203
03:15			6	16	22	15:15			150	93	243
03:30			8	17	25	15:30			149	177	326
03:45			6	23	29	15:45			113	118	231
04:00			6	29	35	16:00			141	102	243
04:15			12	34	46	16:15			128	96	224
04:30			10	33	43	16:30			171	103	274
04:45			14	50	64	16:45			140	113	253
05:00			23	31	54	17:00			182	98	280
05:15			21	55	76	17:15			154	102	256
05:30			24	65	89	17:30			153	91	244
05:45			27	79	106	17:45			128	100	228
06:00			39	77	116	18:00			90	95	185
06:15			29	93	122	18:15			70	92	162
06:30			37	79	116	18:30			74	91	165
06:45			43	102	145	18:45			47	80	127
07:00			79	67	146	19:00			63	64	127
07:15			122	105	227	19:15			58	73	131
07:30			121	112	233	19:30			39	65	104
07:45			128	93	221	19:45			44	60	104
08:00			137	95	232	20:00			33	43	76
08:15			132	107	239	20:15			32	55	87
08:30			86	132	218	20:30			38	41	79
08:45			62	96	158	20:45			36	42	78
09:00			46	60	106	21:00			35	34	69
09:15			74	64	138	21:15			35	38	73
09:30			55	67	122	21:30			25	43	68
09:45			65	71	136	21:45			29	27	56
10:00			61	59	120	22:00			23	33	56
10:15			54	59	113	22:15			22	20	42
10:30			64	72	136	22:30			13	23	36
10:45			63	54	117	22:45			14	27	41
11:00			89	71	160	23:00			13	15	28
11:15			62	59	121	23:15			10	15	25
11:30			95	80	175	23:30			17	7	24
11:45			69	84	153	23:45			12	13	25
TOTALS	0	0	2033	2496	4529	TOTALS	0	0	3657	3430	7087
SPLIT %	0%	0%	45%	55%	39%	SPLIT %	0%	0%	52%	48%	61%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			22	34	56
01:00	02:00			17	30	47
02:00	03:00			14	30	44
03:00	04:00			31	68	99
04:00	05:00			42	146	188
05:00	06:00			95	230	325
06:00	07:00			148	351	499
07:00	08:00			450	377	827
08:00	09:00			417	430	847
09:00	10:00			240	262	502
10:00	11:00			242	244	486
11:00	12:00			315	294	609
12:00	13:00			324	344	668
13:00	14:00			331	330	661
14:00	15:00			407	378	785
15:00	16:00			526	477	1003
16:00	17:00			580	414	994
17:00	18:00			617	391	1008
18:00	19:00			281	358	639
19:00	20:00			204	262	466
20:00	21:00			139	181	320
21:00	22:00			124	142	266
22:00	23:00			72	103	175
23:00	00:00			52	50	102

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			2033	2496	4529
Peak Hour			7:30	8:00	7:30
Peak Volume			518	430	925
Peak Hour Factor			0.945	0.814	0.968
Peak Period	12:00	to	00:00		
Volume			3657	3430	7087
Peak Hour			16:30	15:30	16:30
Peak Volume			647	493	1063
Peak Hour Factor			0.889	0.696	0.949
Peak Period	07:00	to	09:00		
Volume			867	807	1674
Peak Hour			7:30	8:00	7:30
Peak Volume			518	430	925
Peak Hour Factor			0.945	0.814	0.968
Peak Period	16:00	to	18:00		
Volume			1197	805	2002
Peak Hour			16:30	16:30	16:30
Peak Volume			647	416	1063
Peak Hour Factor			0.889	0.920	0.949



Prepared by National Data & Surveying Services

VOLUME

Service Rd Bet. Blaker Rd & Central Ave

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_015

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,937	6,843	13,780

15-Minutes Interval

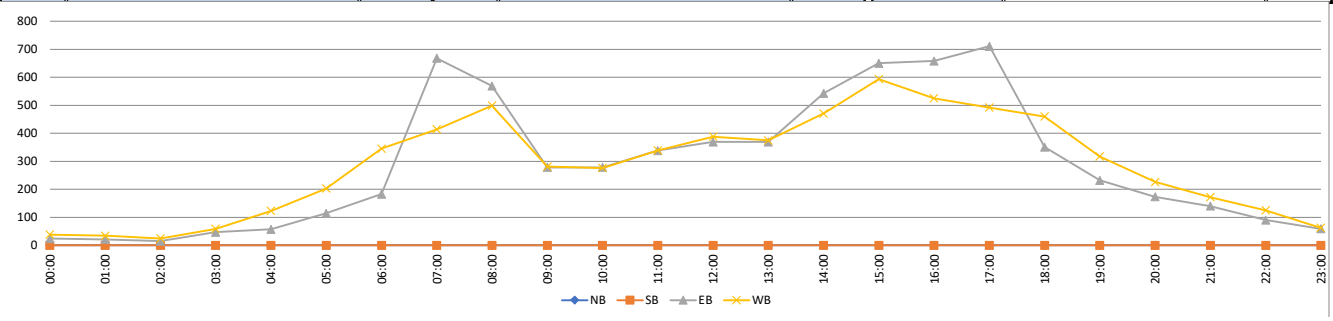
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00			5	7	12	12:00			108	86	194
00:15			4	12	16	12:15			89	92	181
00:30			9	7	16	12:30			89	101	190
00:45			6	12	18	12:45			83	109	192
01:00			7	7	14	13:00			102	95	197
01:15			7	13	20	13:15			77	93	170
01:30			3	7	10	13:30			104	96	200
01:45			4	7	11	13:45			86	91	177
02:00			3	7	10	14:00			122	103	225
02:15			1	5	6	14:15			136	103	239
02:30			5	4	9	14:30			164	142	306
02:45			6	9	15	14:45			121	123	244
03:00			13	8	21	15:00			145	108	253
03:15			7	14	21	15:15			188	120	308
03:30			13	16	29	15:30			172	223	395
03:45			14	21	35	15:45			145	143	288
04:00			8	26	34	16:00			156	134	290
04:15			16	28	44	16:15			153	123	276
04:30			15	23	38	16:30			191	128	319
04:45			18	46	64	16:45			158	140	298
05:00			28	26	54	17:00			203	111	314
05:15			25	49	74	17:15			176	125	301
05:30			30	55	85	17:30			179	116	295
05:45			31	73	104	17:45			153	140	293
06:00			47	73	120	18:00			107	129	236
06:15			34	90	124	18:15			85	116	201
06:30			44	79	123	18:30			87	110	197
06:45			58	103	161	18:45			72	105	177
07:00			96	76	172	19:00			66	73	139
07:15			167	118	285	19:15			69	87	156
07:30			187	119	306	19:30			50	80	130
07:45			218	101	319	19:45			47	77	124
08:00			217	115	332	20:00			40	52	92
08:15			175	129	304	20:15			39	69	108
08:30			103	155	258	20:30			52	49	101
08:45			74	100	174	20:45			42	56	98
09:00			64	66	130	21:00			37	46	83
09:15			80	67	147	21:15			37	45	82
09:30			63	71	134	21:30			34	49	83
09:45			71	77	148	21:45			32	32	64
10:00			77	69	146	22:00			31	39	70
10:15			61	70	131	22:15			25	25	50
10:30			69	82	151	22:30			19	31	50
10:45			71	55	126	22:45			15	30	45
11:00			95	85	180	23:00			14	23	37
11:15			72	63	135	23:15			12	13	25
11:30			103	94	197	23:30			20	11	31
11:45			68	97	165	23:45			13	15	28
TOTALS	0	0	2592	2636	5228	TOTALS	0	0	4345	4207	8552
SPLIT %	0%	0%	50%	50%	38%	SPLIT %	0%	0%	51%	49%	62%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			24	38	62
01:00	02:00			21	34	55
02:00	03:00			15	25	40
03:00	04:00			47	59	106
04:00	05:00			57	123	180
05:00	06:00			114	203	317
06:00	07:00			183	345	528
07:00	08:00			668	414	1082
08:00	09:00			569	499	1068
09:00	10:00			278	281	559
10:00	11:00			278	276	554
11:00	12:00			338	339	677
12:00	13:00			369	388	757
13:00	14:00			369	375	744
14:00	15:00			543	471	1014
15:00	16:00			650	594	1244
16:00	17:00			658	525	1183
17:00	18:00			711	492	1203
18:00	19:00			351	460	811
19:00	20:00			232	317	549
20:00	21:00			173	226	399
21:00	22:00			140	172	312
22:00	23:00			90	125	215
23:00	00:00			59	62	121

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			2592	2636	5228
Peak Hour			7:30	7:45	7:30
Peak Volume			797	500	1261
Peak Hour Factor			0.914	0.806	0.950
Peak Period	12:00	to	00:00		
Volume			4345	4207	8552
Peak Hour			16:30	15:30	15:15
Peak Volume			728	623	1281
Peak Hour Factor			0.897	0.698	0.811
Peak Period	07:00	to	09:00		
Volume			1237	913	2150
Peak Hour			7:30	7:45	7:30
Peak Volume			797	500	1261
Peak Hour Factor			0.914	0.806	0.950
Peak Period	16:00	to	18:00		
Volume			1369	1017	2386
Peak Hour			16:30	16:00	16:30
Peak Volume			728	525	1232
Peak Hour Factor			0.897	0.938	0.966



Prepared by National Data & Surveying Services

VOLUME

Service Rd Bet. Central Ave & Moffett Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_016

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	8,195	7,894	16,089

15-Minutes Interval

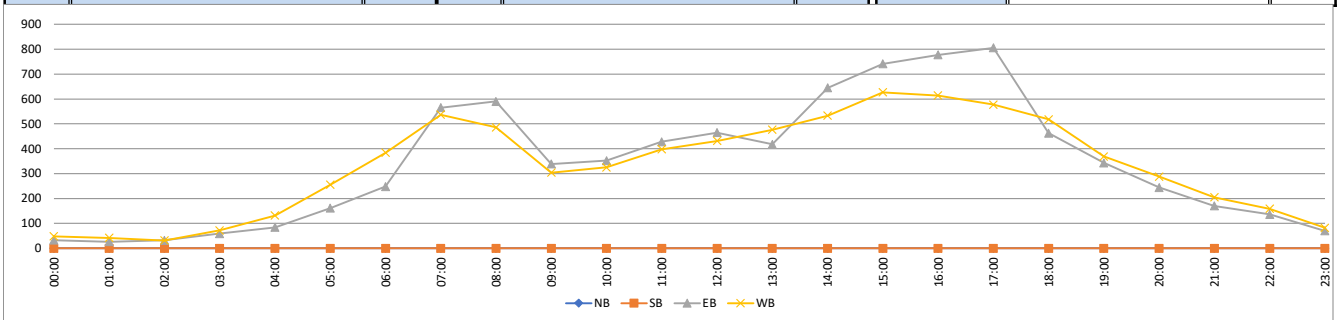
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00			6	12	18	12:00			131	99	230
00:15			9	9	18	12:15			108	102	210
00:30			9	13	22	12:30			107	128	235
00:45			9	14	23	12:45			119	102	221
01:00			6	7	13	13:00			106	120	226
01:15			9	18	27	13:15			97	117	214
01:30			5	10	15	13:30			119	114	233
01:45			6	7	13	13:45			96	125	221
02:00			9	10	19	14:00			128	127	255
02:15			5	6	11	14:15			135	154	289
02:30			6	5	11	14:30			249	123	372
02:45			12	11	23	14:45			133	129	262
03:00			9	12	21	15:00			128	165	293
03:15			13	15	28	15:15			137	168	305
03:30			16	22	38	15:30			268	151	419
03:45			21	23	44	15:45			208	143	351
04:00			14	26	40	16:00			202	139	341
04:15			25	28	53	16:15			163	145	308
04:30			24	35	59	16:30			212	166	378
04:45			21	43	64	16:45			200	164	364
05:00			51	41	92	17:00			213	139	352
05:15			36	51	87	17:15			190	150	340
05:30			40	79	119	17:30			200	131	331
05:45			34	84	118	17:45			203	157	360
06:00			73	78	151	18:00			147	149	296
06:15			45	100	145	18:15			107	140	247
06:30			64	85	149	18:30			100	113	213
06:45			66	121	187	18:45			109	116	225
07:00			100	100	200	19:00			85	94	179
07:15			140	146	286	19:15			108	94	202
07:30			162	134	296	19:30			74	95	169
07:45			163	157	320	19:45			76	86	162
08:00			167	131	298	20:00			50	69	119
08:15			193	117	310	20:15			62	84	146
08:30			133	131	264	20:30			69	81	150
08:45			97	107	204	20:45			63	54	117
09:00			87	75	162	21:00			50	58	108
09:15			75	67	142	21:15			51	67	118
09:30			87	78	165	21:30			39	44	83
09:45			90	84	174	21:45			30	36	66
10:00			88	90	178	22:00			39	48	87
10:15			81	78	159	22:15			35	40	75
10:30			97	94	191	22:30			39	37	76
10:45			86	63	149	22:45			23	34	57
11:00			98	90	188	23:00			13	32	45
11:15			109	84	193	23:15			19	17	36
11:30			119	102	221	23:30			19	12	31
11:45			102	122	224	23:45			19	21	40
TOTALS	0	0	2917	3015	5932	TOTALS	0	0	5278	4879	10157
SPLIT %	0%	0%	49%	51%	37%	SPLIT %	0%	0%	52%	48%	63%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			33	48	81
01:00	02:00			26	42	68
02:00	03:00			32	32	64
03:00	04:00			59	72	131
04:00	05:00			84	132	216
05:00	06:00			161	255	416
06:00	07:00			248	384	632
07:00	08:00			565	537	1102
08:00	09:00			590	486	1076
09:00	10:00			339	304	643
10:00	11:00			352	325	677
11:00	12:00			428	398	826
12:00	13:00			465	431	896
13:00	14:00			418	476	894
14:00	15:00			645	533	1178
15:00	16:00			741	627	1368
16:00	17:00			777	614	1391
17:00	18:00			806	577	1383
18:00	19:00			463	518	981
19:00	20:00			343	369	712
20:00	21:00			244	288	532
21:00	22:00			170	205	375
22:00	23:00			136	159	295
23:00	00:00			70	82	152

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			2917	3015	5932
Peak Hour			7:30	7:15	7:30
Peak Volume			685	568	1224
Peak Hour Factor			0.887	0.904	0.956
Peak Period	12:00	to	00:00		
Volume			5278	4879	10157
Peak Hour			15:30	15:00	16:30
Peak Volume			841	627	1434
Peak Hour Factor			0.785	0.933	0.948
Peak Period	07:00	to	09:00		
Volume			1155	1023	2178
Peak Hour			7:30	7:15	7:30
Peak Volume			685	568	1224
Peak Hour Factor			0.887	0.904	0.956
Peak Period	16:00	to	18:00		
Volume			1583	1191	2774
Peak Hour			16:30	16:30	16:30
Peak Volume			815	619	1434
Peak Hour Factor			0.957	0.932	0.948



Prepared by National Data & Surveying Services

VOLUME

Service Rd Bet. El Camino Ave & Mitchell Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_017

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	9,065	9,811	18,876

DAILY TOTALS

15-Minutes Interval

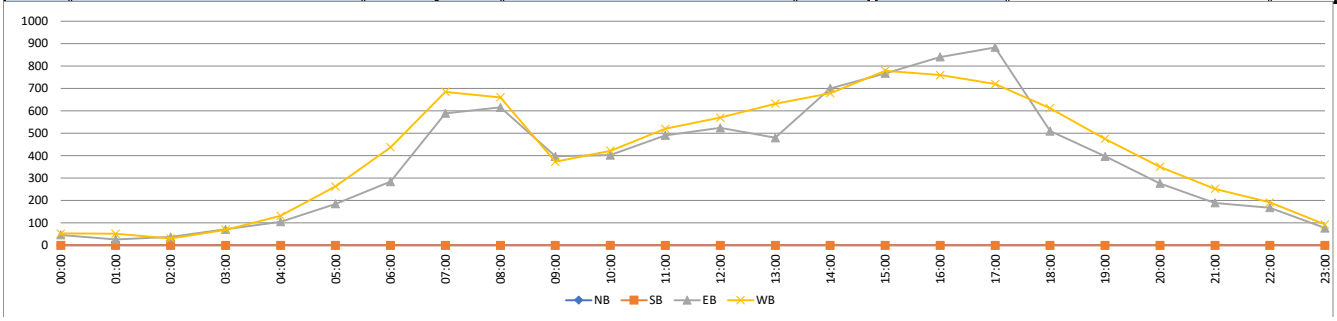
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00			11	14	25	12:00			141	129	270
00:15			11	11	22	12:15			122	128	250
00:30			12	17	29	12:30			121	170	291
00:45			12	11	23	12:45			140	143	283
01:00			6	12	18	13:00			117	161	278
01:15			11	21	32	13:15			113	153	266
01:30			4	11	15	13:30			136	148	284
01:45			5	7	12	13:45			114	170	284
02:00			12	8	20	14:00			144	154	298
02:15			6	7	13	14:15			143	183	326
02:30			7	6	13	14:30			241	149	390
02:45			12	10	22	14:45			173	193	366
03:00			14	12	26	15:00			155	212	367
03:15			15	18	33	15:15			142	198	340
03:30			16	20	36	15:30			238	191	429
03:45			26	19	45	15:45			233	178	411
04:00			17	23	40	16:00			200	185	385
04:15			31	28	59	16:15			216	193	409
04:30			27	35	62	16:30			209	185	394
04:45			30	45	75	16:45			216	197	413
05:00			57	41	98	17:00			244	189	433
05:15			38	60	98	17:15			207	179	386
05:30			47	84	131	17:30			216	170	386
05:45			43	78	121	17:45			217	182	399
06:00			87	99	186	18:00			170	168	338
06:15			48	104	152	18:15			113	162	275
06:30			73	101	174	18:30			106	147	253
06:45			76	134	210	18:45			121	135	256
07:00			97	126	223	19:00			97	116	213
07:15			149	175	324	19:15			129	121	250
07:30			165	177	342	19:30			88	137	225
07:45			178	207	385	19:45			83	101	184
08:00			176	213	389	20:00			59	101	160
08:15			180	169	349	20:15			75	92	167
08:30			151	160	311	20:30			72	96	168
08:45			109	119	228	20:45			70	62	132
09:00			112	95	207	21:00			59	69	128
09:15			86	85	171	21:15			50	83	133
09:30			98	96	194	21:30			42	55	97
09:45			101	97	198	21:45			38	45	83
10:00			96	108	204	22:00			50	56	106
10:15			102	99	201	22:15			42	49	91
10:30			102	111	213	22:30			48	47	95
10:45			103	104	207	22:45			28	39	67
11:00			107	97	204	23:00			15	38	53
11:15			131	124	255	23:15			20	18	38
11:30			124	144	268	23:30			21	16	37
11:45			129	155	284	23:45			21	21	42
TOTALS	0	0	3250	3697	6947	TOTALS	0	0	5815	6114	11929
SPLIT %	0%	0%	47%	53%	37%	SPLIT %	0%	0%	49%	51%	63%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			46	53	99
01:00	02:00			26	51	77
02:00	03:00			37	31	68
03:00	04:00			71	69	140
04:00	05:00			105	131	236
05:00	06:00			185	263	448
06:00	07:00			284	438	722
07:00	08:00			589	685	1274
08:00	09:00			616	661	1277
09:00	10:00			397	373	770
10:00	11:00			403	422	825
11:00	12:00			491	520	1011
12:00	13:00			524	570	1094
13:00	14:00			480	632	1112
14:00	15:00			701	679	1380
15:00	16:00			768	779	1547
16:00	17:00			841	760	1601
17:00	18:00			884	720	1604
18:00	19:00			510	612	1122
19:00	20:00			397	475	872
20:00	21:00			276	351	627
21:00	22:00			189	252	441
22:00	23:00			168	191	359
23:00	00:00			77	93	170

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			3250	3697	6947
Peak Hour			7:30	7:15	7:30
Peak Volume			699	772	1465
Peak Hour Factor			0.971	0.906	0.942
Peak Period	12:00	to	00:00		
Volume			5815	6114	11929
Peak Hour			15:30	14:45	16:15
Peak Volume			887	794	1649
Peak Hour Factor			0.932	0.936	0.952
Peak Period	07:00	to	09:00		
Volume			1205	1346	2551
Peak Hour			7:30	7:15	7:30
Peak Volume			699	772	1465
Peak Hour Factor			0.971	0.906	0.942
Peak Period	16:00	to	18:00		
Volume			1725	1480	3205
Peak Hour			16:15	16:15	16:15
Peak Volume			885	764	1649
Peak Hour Factor			0.907	0.970	0.952



Prepared by National Data & Surveying Services

VOLUME

Lucas Rd S/O Service Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_018

DAILY TOTALS	NB	SB	EB	WB	Total
	325	371	0	0	696

DAILY TOTALS

15-Minutes Interval

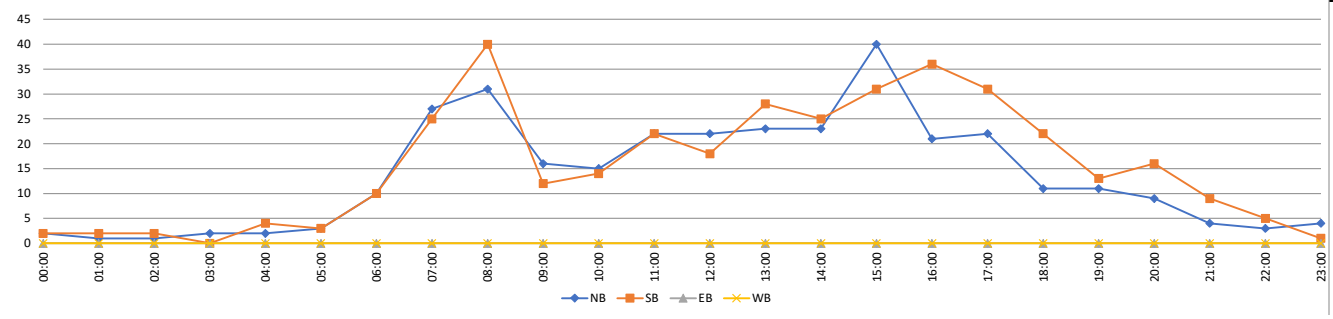
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00	1	0			1	12:00	9	4			13
00:15	0	1			1	12:15	6	4			10
00:30	0	0			0	12:30	3	3			6
00:45	1	1			2	12:45	4	7			11
01:00	1	0			1	13:00	7	8			15
01:15	0	1			1	13:15	5	7			12
01:30	0	1			1	13:30	9	6			15
01:45	0	0			0	13:45	2	7			9
02:00	1	1			2	14:00	7	5			12
02:15	0	0			0	14:15	5	4			9
02:30	0	0			0	14:30	7	7			14
02:45	0	1			1	14:45	4	9			13
03:00	1	0			1	15:00	9	7			16
03:15	0	0			0	15:15	6	5			11
03:30	0	0			0	15:30	11	12			23
03:45	1	0			1	15:45	14	7			21
04:00	0	0			0	16:00	5	17			22
04:15	1	2			3	16:15	2	4			6
04:30	0	2			2	16:30	7	9			16
04:45	1	0			1	16:45	7	6			13
05:00	1	0			1	17:00	6	12			18
05:15	0	0			0	17:15	7	7			14
05:30	1	0			1	17:30	5	8			13
05:45	1	3			4	17:45	4	4			8
06:00	2	1			3	18:00	2	5			7
06:15	3	3			6	18:15	4	10			14
06:30	1	1			2	18:30	4	2			6
06:45	4	5			9	18:45	1	5			6
07:00	1	9			10	19:00	1	3			4
07:15	6	3			9	19:15	4	2			6
07:30	8	5			13	19:30	2	4			6
07:45	12	8			20	19:45	4	4			8
08:00	12	13			25	20:00	3	6			9
08:15	5	16			21	20:15	1	4			5
08:30	6	6			12	20:30	2	4			6
08:45	8	5			13	20:45	3	2			5
09:00	5	3			8	21:00	0	1			1
09:15	3	3			6	21:15	2	1			3
09:30	4	4			8	21:30	1	4			5
09:45	4	2			6	21:45	1	3			4
10:00	3	5			8	22:00	0	1			1
10:15	6	3			9	22:15	2	2			4
10:30	3	3			6	22:30	1	2			3
10:45	3	3			6	22:45	0	0			0
11:00	2	2			4	23:00	1	0			1
11:15	7	7			14	23:15	0	0			0
11:30	2	8			10	23:30	1	0			1
11:45	11	5			16	23:45	2	1			3
TOTALS	132	136	0	0	268	TOTALS	193	235	0	0	428
SPLIT %	49%	51%	0%	0%	39%	SPLIT %	45%	55%	0%	0%	61%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00	2	2			4
01:00	02:00	1	2			3
02:00	03:00	1	2			3
03:00	04:00	2	0			2
04:00	05:00	2	4			6
05:00	06:00	3	3			6
06:00	07:00	10	10			20
07:00	08:00	27	25			52
08:00	09:00	31	40			71
09:00	10:00	16	12			28
10:00	11:00	15	14			29
11:00	12:00	22	22			44
12:00	13:00	22	18			40
13:00	14:00	23	28			51
14:00	15:00	23	25			48
15:00	16:00	40	31			71
16:00	17:00	21	36			57
17:00	18:00	22	31			53
18:00	19:00	11	22			33
19:00	20:00	11	13			24
20:00	21:00	9	16			25
21:00	22:00	4	9			13
22:00	23:00	3	5			8
23:00	00:00	4	1			5

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume	132	136			268
Peak Hour	7:15	7:45			7:30
Peak Volume	38	43			79
Peak Hour Factor	0.792	0.672			0.790
Peak Period	12:00	to	00:00		
Volume	193	235			428
Peak Hour	15:00	15:15			15:15
Peak Volume	40	41			77
Peak Hour Factor	0.714	0.603			0.837
Peak Period	07:00	to	09:00		
Volume	58	65			123
Peak Hour	7:15	7:45			7:30
Peak Volume	38	43			79
Peak Hour Factor	0.792	0.672			0.790
Peak Period	16:00	to	18:00		
Volume	43	67			110
Peak Hour	16:30	16:00			16:30
Peak Volume	27	36			61
Peak Hour Factor	0.964	0.529			0.847



Prepared by National Data & Surveying Services

VOLUME

E Redwood Rd Bet. Central Ave & Moffett Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_019

DAILY TOTALS	NB	SB	EB	WB	Total	DAILY TOTALS
	0	0	410	441	851	

15-Minutes Interval

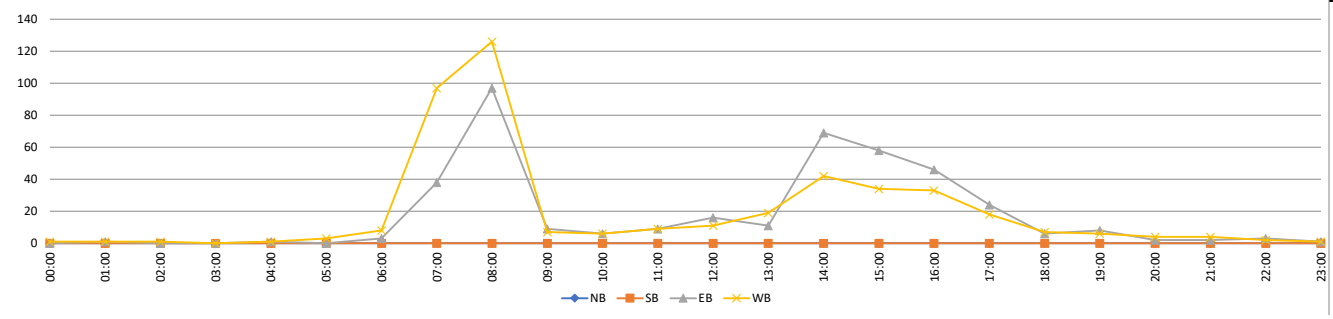
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00			0	1	1	12:00			5	2	7
00:15			0	0	0	12:15			2	3	5
00:30			0	0	0	12:30			2	2	4
00:45			0	0	0	12:45			7	4	11
01:00			0	1	1	13:00			3	2	5
01:15			0	0	0	13:15			2	3	5
01:30			0	0	0	13:30			2	3	5
01:45			1	0	1	13:45			4	11	15
02:00			0	1	1	14:00			5	7	12
02:15			0	0	0	14:15			4	15	19
02:30			0	0	0	14:30			43	15	58
02:45			0	0	0	14:45			17	5	22
03:00			0	0	0	15:00			8	11	19
03:15			0	0	0	15:15			9	12	21
03:30			0	0	0	15:30			25	5	30
03:45			0	0	0	15:45			16	6	22
04:00			0	0	0	16:00			8	13	21
04:15			0	1	1	16:15			10	7	17
04:30			0	0	0	16:30			14	6	20
04:45			1	0	1	16:45			14	7	21
05:00			0	0	0	17:00			5	3	8
05:15			0	0	0	17:15			6	7	13
05:30			0	2	2	17:30			6	6	12
05:45			0	1	1	17:45			7	2	9
06:00			0	3	3	18:00			5	4	9
06:15			1	2	3	18:15			1	2	3
06:30			2	0	2	18:30			0	0	0
06:45			0	3	3	18:45			0	1	1
07:00			2	3	5	19:00			2	2	4
07:15			10	24	34	19:15			2	0	2
07:30			5	24	29	19:30			2	3	5
07:45			21	46	67	19:45			2	1	3
08:00			39	70	109	20:00			0	3	3
08:15			40	43	83	20:15			1	0	1
08:30			14	8	22	20:30			1	1	2
08:45			4	5	9	20:45			0	0	0
09:00			4	1	5	21:00			0	2	2
09:15			2	2	4	21:15			0	0	0
09:30			1	2	3	21:30			0	1	1
09:45			2	2	4	21:45			2	1	3
10:00			1	0	1	22:00			1	2	3
10:15			1	0	1	22:15			2	0	2
10:30			1	1	2	22:30			0	0	0
10:45			3	5	8	22:45			0	0	0
11:00			1	1	2	23:00			1	0	1
11:15			2	2	4	23:15			0	0	0
11:30			4	1	5	23:30			0	1	1
11:45			2	5	7	23:45			0	0	0
TOTALS	0	0	164	260	424	TOTALS	0	0	246	181	427
SPLIT %	0%	0%	39%	61%	50%	SPLIT %	0%	0%	58%	42%	50%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			0	1	1
01:00	02:00			1	1	2
02:00	03:00			0	1	1
03:00	04:00			0	0	0
04:00	05:00			1	1	2
05:00	06:00			0	3	3
06:00	07:00			3	8	11
07:00	08:00			38	97	135
08:00	09:00			97	126	223
09:00	10:00			9	7	16
10:00	11:00			6	6	12
11:00	12:00			9	9	18
12:00	13:00			16	11	27
13:00	14:00			11	19	30
14:00	15:00			69	42	111
15:00	16:00			58	34	92
16:00	17:00			46	33	79
17:00	18:00			24	18	42
18:00	19:00			6	7	13
19:00	20:00			8	6	14
20:00	21:00			2	4	6
21:00	22:00			2	4	6
22:00	23:00			3	2	5
23:00	00:00			1	1	2

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			164	260	424
Peak Hour			7:45	7:30	7:30
Peak Volume			114	183	288
Peak Hour Factor			0.713	0.654	0.661
Peak Period	12:00	to	00:00		
Volume			246	181	427
Peak Hour			14:30	13:45	14:30
Peak Volume			77	48	120
Peak Hour Factor			0.448	0.800	0.517
Peak Period	07:00	to	09:00		
Volume			135	223	358
Peak Hour			7:45	7:30	7:30
Peak Volume			114	183	288
Peak Hour Factor			0.713	0.654	0.661
Peak Period	16:00	to	18:00		
Volume			70	51	121
Peak Hour			16:00	16:00	16:00
Peak Volume			46	33	79
Peak Hour Factor			0.821	0.635	0.940



Prepared by National Data & Surveying Services

VOLUME

E Redwood Rd Bet. Moffett Rd & Lucas Rd

Day: Thursday
Date: 11/30/2023

City: Ceres
Project #: CA23_090146_020

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	154	124	278

15-Minutes Interval

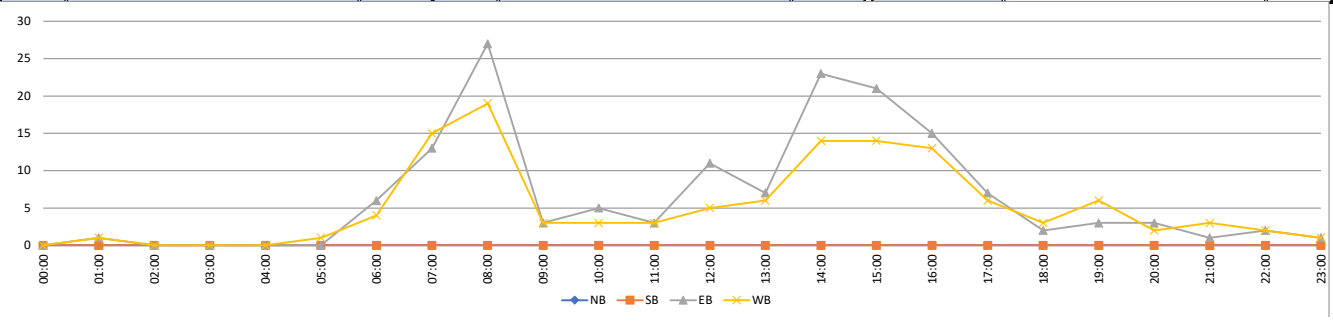
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			3	2	5
00:15			0	0	0	12:15			2	0	2
00:30			0	0	0	12:30			3	2	5
00:45			0	0	0	12:45			3	1	4
01:00			0	1	1	13:00			2	1	3
01:15			0	0	0	13:15			3	2	5
01:30			0	0	0	13:30			2	0	2
01:45			1	0	1	13:45			0	3	3
02:00			0	0	0	14:00			5	7	12
02:15			0	0	0	14:15			2	3	5
02:30			0	0	0	14:30			12	1	13
02:45			0	0	0	14:45			4	3	7
03:00			0	0	0	15:00			2	4	6
03:15			0	0	0	15:15			5	2	7
03:30			0	0	0	15:30			9	4	13
03:45			0	0	0	15:45			5	4	9
04:00			0	0	0	16:00			4	9	13
04:15			0	0	0	16:15			2	0	2
04:30			0	0	0	16:30			3	2	5
04:45			0	0	0	16:45			6	2	8
05:00			0	0	0	17:00			2	1	3
05:15			0	0	0	17:15			2	1	3
05:30			0	1	1	17:30			0	4	4
05:45			0	0	0	17:45			3	0	3
06:00			2	1	3	18:00			0	2	2
06:15			2	2	4	18:15			1	0	1
06:30			1	0	1	18:30			1	1	2
06:45			1	1	2	18:45			0	0	0
07:00			1	0	1	19:00			1	2	3
07:15			2	3	5	19:15			0	1	1
07:30			5	4	9	19:30			1	1	2
07:45			5	8	13	19:45			1	2	3
08:00			8	6	14	20:00			1	1	2
08:15			9	4	13	20:15			0	0	0
08:30			7	4	11	20:30			1	1	2
08:45			3	5	8	20:45			1	0	1
09:00			2	0	2	21:00			1	1	2
09:15			0	2	2	21:15			0	0	0
09:30			1	0	1	21:30			0	1	1
09:45			0	1	1	21:45			0	1	1
10:00			1	0	1	22:00			1	1	2
10:15			1	1	2	22:15			1	0	1
10:30			2	0	2	22:30			0	1	1
10:45			1	2	3	22:45			0	0	0
11:00			1	0	1	23:00			1	0	1
11:15			0	1	1	23:15			0	1	1
11:30			0	1	1	23:30			0	0	0
11:45			2	1	3	23:45			0	0	0
TOTALS	0	0	58	49	107	TOTALS	0	0	96	75	171
SPLIT %	0%	0%	54%	46%	38%	SPLIT %	0%	0%	56%	44%	62%

Hourly Intervals

TIME		NB	SB	EB	WB	TOTAL
00:00	01:00			0	0	0
01:00	02:00			1	1	2
02:00	03:00			0	0	0
03:00	04:00			0	0	0
04:00	05:00			0	0	0
05:00	06:00			0	1	1
06:00	07:00			6	4	10
07:00	08:00			13	15	28
08:00	09:00			27	19	46
09:00	10:00			3	3	6
10:00	11:00			5	3	8
11:00	12:00			3	3	6
12:00	13:00			11	5	16
13:00	14:00			7	6	13
14:00	15:00			23	14	37
15:00	16:00			21	14	35
16:00	17:00			15	13	28
17:00	18:00			7	6	13
18:00	19:00			2	3	5
19:00	20:00			3	6	9
20:00	21:00			3	2	5
21:00	22:00			1	3	4
22:00	23:00			2	2	4
23:00	00:00			1	1	2

STATISTICS

	NB	SB	EB	WB	TOTAL
Peak Period	00:00	to	12:00		
Volume			58	49	107
Peak Hour			7:45	7:30	7:45
Peak Volume			29	22	51
Peak Hour Factor			0.806	0.688	0.911
Peak Period	12:00	to	00:00		
Volume			96	75	171
Peak Hour			14:00	15:15	15:15
Peak Volume			23	19	42
Peak Hour Factor			0.479	0.528	0.808
Peak Period	07:00	to	09:00		
Volume			40	34	74
Peak Hour			7:45	7:30	7:45
Peak Volume			29	22	51
Peak Hour Factor			0.806	0.688	0.911
Peak Period	16:00	to	18:00		
Volume			22	19	41
Peak Hour			16:00	16:00	16:00
Peak Volume			15	13	28
Peak Hour Factor			0.625	0.361	0.538



APPENDIX F

SimTraffic Queueing Reports

Intersection: 1: SB Off-Ramp Right_turn

Movement	WB	WB	WB	SB	NE	NE	NE	NE
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	101	94	85	94	84	73	97	125
Average Queue (ft)	46	44	27	24	28	24	36	27
95th Queue (ft)	92	86	67	66	70	59	81	86
Link Distance (ft)	33	33	33	31	765	765	765	765
Upstream Blk Time (%)	18	21	12	6				
Queuing Penalty (veh)	29	33	18	6				
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 2: SB Off-Ramp Right_turn/SB Off-Ramp Left-Turn & NB SR 99 Off-Ramp

Movement	SB
Directions Served	R
Maximum Queue (ft)	3
Average Queue (ft)	0
95th Queue (ft)	3
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	875
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: SB Off-Ramp Left-Turn

Movement	EB	SB	SB
Directions Served	T	L	L
Maximum Queue (ft)	2	179	179
Average Queue (ft)	0	89	93
95th Queue (ft)	2	152	152
Link Distance (ft)	26	132	132
Upstream Blk Time (%)	0	2	2
Queuing Penalty (veh)	0	3	4
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4:

Movement	WB	NB	NB
Directions Served	T	L	L
Maximum Queue (ft)	5	119	92
Average Queue (ft)	0	52	23
95th Queue (ft)	6	99	69
Link Distance (ft)	46	121	121
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: NB SR 99 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: DDI NB SR 99 Signal

Movement	EB	EB	EB	NB	SW	SW	SW	SW
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	87	107	117	36	114	125	150	201
Average Queue (ft)	25	42	76	5	47	46	61	21
95th Queue (ft)	66	88	118	21	93	98	113	103
Link Distance (ft)	51	51	51	56	325	325	325	325
Upstream Blk Time (%)	1	3	10	0			0	0
Queuing Penalty (veh)	2	6	21	0			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	T	TR	L	L
Maximum Queue (ft)	168	107	155	82	222	122	173	188	147	154	128	173
Average Queue (ft)	67	20	61	16	102	53	93	98	66	63	45	75
95th Queue (ft)	133	65	118	60	177	97	149	157	127	118	96	131
Link Distance (ft)		510		2192			469	469				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		150		200	225			350	350	145	145
Storage Blk Time (%)	0		0	0	1		0				0	0
Queuing Penalty (veh)	0		2	0	1		0				0	1

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	233	285	264	103
Average Queue (ft)	111	131	130	38
95th Queue (ft)	225	254	239	80
Link Distance (ft)	442	442	442	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				319
Storage Blk Time (%)	4			
Queuing Penalty (veh)	6			

Intersection: 8: Mitchell Road & NB SR 99 Off-Ramp

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	6	21
Average Queue (ft)	0	1
95th Queue (ft)	5	15
Link Distance (ft)	469	469
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: El Camino Ave & SR 99 SB Off Ramp

Movement	EB	SB
Directions Served	L	T
Maximum Queue (ft)	87	100
Average Queue (ft)	40	14
95th Queue (ft)	70	62
Link Distance (ft)	90	628
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: El Camino Ave & SR 99 SB Off Ramp/North St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	R	L	R	TR	LT
Maximum Queue (ft)	138	142	18	25	89	85
Average Queue (ft)	68	67	3	1	44	57
95th Queue (ft)	112	115	14	10	74	86
Link Distance (ft)	95	95	444		411	70
Upstream Blk Time (%)	2	2				3
Queuing Penalty (veh)	5	7				9
Storage Bay Dist (ft)				25		
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			0	0		

Intersection: 11: SR 99 SB Off Ramp

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	4	8
Average Queue (ft)	0	0
95th Queue (ft)	6	6
Link Distance (ft)	549	549
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: El Camino Ave & SR 99 NB Ramps/4th St

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	99	42	89	242	187
Average Queue (ft)	45	3	36	101	79
95th Queue (ft)	77	24	69	187	137
Link Distance (ft)	654		419	848	539
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50			
Storage Blk Time (%)	3	0			
Queuing Penalty (veh)	2	0			

Zone Summary

Zone wide Queuing Penalty: 156

Intersection: 1: SB Off-Ramp Right_turn

Movement	WB	WB	WB	SB	NE	NE	NE	NE
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	120	118	115	102	152	112	164	73
Average Queue (ft)	77	79	76	29	53	38	72	5
95th Queue (ft)	117	120	118	75	115	88	140	34
Link Distance (ft)	33	33	33	31	765	765	765	765
Upstream Blk Time (%)	32	38	36	8				
Queuing Penalty (veh)	82	98	93	8				
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 2: SB Off-Ramp Right_turn/SB Off-Ramp Left-Turn & NB SR 99 Off-Ramp

Movement	SB	SB
Directions Served	L	R
Maximum Queue (ft)	14	5
Average Queue (ft)	0	0
95th Queue (ft)	7	4
Link Distance (ft)	1576	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		875
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: SB Off-Ramp Left-Turn

Movement	EB	SB	SB
Directions Served	T	L	L
Maximum Queue (ft)	2	162	220
Average Queue (ft)	0	86	112
95th Queue (ft)	2	145	181
Link Distance (ft)	26	132	132
Upstream Blk Time (%)	0	1	4
Queuing Penalty (veh)	0	3	9
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4:

Movement	WB	NB	NB
Directions Served	T	L	L
Maximum Queue (ft)	10	124	110
Average Queue (ft)	0	59	38
95th Queue (ft)	8	107	92
Link Distance (ft)	46	121	121
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: NB SR 99 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: DDI NB SR 99 Signal

Movement	EB	EB	EB	NB	SW	SW	SW
Directions Served	L	L	L	R	T	T	T
Maximum Queue (ft)	100	108	139	52	130	146	176
Average Queue (ft)	34	42	95	9	60	66	86
95th Queue (ft)	83	89	128	31	109	121	141
Link Distance (ft)	51	51	51	56	325	325	325
Upstream Blk Time (%)	3	4	24	1			
Queuing Penalty (veh)	9	11	68	0			
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	T	TR	L	L
Maximum Queue (ft)	196	189	131	160	112	119	174	176	158	207	117	152
Average Queue (ft)	93	74	68	68	50	52	97	101	67	87	44	67
95th Queue (ft)	166	150	119	130	89	101	153	157	134	159	92	117
Link Distance (ft)		510		2192			437	437				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		150		200	225			350	350	145	145
Storage Blk Time (%)	0	0	0	0	0		0				0	0
Queuing Penalty (veh)	1	0	1	1	0		0				0	0

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	224	249	247	97
Average Queue (ft)	106	123	125	40
95th Queue (ft)	206	220	222	78
Link Distance (ft)	442	442	442	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				319
Storage Blk Time (%)	3			
Queuing Penalty (veh)	5			

Intersection: 8: Mitchell Road & NB SR 99 Off-Ramp

Movement	WB	SB	SB	SB
Directions Served	R	T	T	T
Maximum Queue (ft)	3	44	24	11
Average Queue (ft)	0	2	1	0
95th Queue (ft)	3	46	12	7
Link Distance (ft)	2849	437	437	437
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: El Camino Ave & SR 99 SB Off Ramp

Movement	EB	SB
Directions Served	L	T
Maximum Queue (ft)	100	408
Average Queue (ft)	42	146
95th Queue (ft)	78	365
Link Distance (ft)	72	607
Upstream Blk Time (%)	1	0
Queuing Penalty (veh)	1	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: El Camino Ave & SR 99 SB Off Ramp/North St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	R	L	R	TR	LT
Maximum Queue (ft)	172	154	36	31	80	89
Average Queue (ft)	125	92	7	3	38	79
95th Queue (ft)	177	147	23	17	70	95
Link Distance (ft)	68	68	406		400	71
Upstream Blk Time (%)	63	26				27
Queuing Penalty (veh)	238	99				106
Storage Bay Dist (ft)				25		
Storage Blk Time (%)			1	0		
Queuing Penalty (veh)			0	0		

Intersection: 11: SR 99 SB Off Ramp

Movement	EB	EB	B12
Directions Served	LT	T	T
Maximum Queue (ft)	467	300	159
Average Queue (ft)	153	61	38
95th Queue (ft)	472	326	335
Link Distance (ft)	586	586	1306
Upstream Blk Time (%)	4	1	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: El Camino Ave & SR 99 Ramp/4th St

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	110	99	81	247	264
Average Queue (ft)	42	17	41	104	107
95th Queue (ft)	81	67	69	184	198
Link Distance (ft)	812		829	879	609
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50			
Storage Blk Time (%)	2	1			
Queuing Penalty (veh)	2	0			

Zone Summary

Zone wide Queuing Penalty: 835

Intersection: 1: SB Off-Ramp Right_turn

Movement	WB	WB	WB	SB	NE	NE	NE	NE
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	123	123	109	191	167	92	109	86
Average Queue (ft)	63	67	52	139	71	34	45	21
95th Queue (ft)	115	115	105	198	138	76	97	63
Link Distance (ft)	37	37	37	45	765	765	765	
Upstream Blk Time (%)	21	27	25	30				
Queuing Penalty (veh)	52	68	64	150				
Storage Bay Dist (ft)								800
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 2: SB Off-Ramp Right_turn/SB Off-Ramp Left-Turn & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	3	3	260
Average Queue (ft)	0	0	66
95th Queue (ft)	3	0	193
Link Distance (ft)	1576	1576	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			875
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SB Off-Ramp Left-Turn

Movement	EB	SB	SB
Directions Served	T	L	L
Maximum Queue (ft)	2	181	171
Average Queue (ft)	0	82	82
95th Queue (ft)	2	151	141
Link Distance (ft)	42	130	130
Upstream Blk Time (%)		2	1
Queuing Penalty (veh)		3	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4:

Movement	WB	WB	WB	NB	NB
Directions Served	T	T	T	L	L
Maximum Queue (ft)	10	6	6	132	110
Average Queue (ft)	0	0	0	54	35
95th Queue (ft)	8	4	4	105	87
Link Distance (ft)	46	46	46	121	121
Upstream Blk Time (%)	0	0		0	0
Queuing Penalty (veh)	0	0		0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: NB SR 99 Off-Ramp

Movement	NB
Directions Served	T
Maximum Queue (ft)	4
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	1349
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: DDI NB SR 99 Signal

Movement	EB	EB	EB	NB	SW	SW	SW	SW
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	131	107	133	43	164	158	168	39
Average Queue (ft)	60	44	87	9	71	84	84	2
95th Queue (ft)	121	91	130	31	133	143	142	18
Link Distance (ft)	51	51	51	56	325	325	325	325
Upstream Blk Time (%)	11	5	22	0				
Queuing Penalty (veh)	29	13	55	0				
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	T	TR	L	L
Maximum Queue (ft)	148	62	130	50	200	113	169	174	148	147	119	204
Average Queue (ft)	60	15	56	13	90	49	91	95	64	59	45	76
95th Queue (ft)	113	39	103	41	155	95	148	151	123	114	96	143
Link Distance (ft)		510		2192			437	437				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		150		200	225			350	350	145	145
Storage Blk Time (%)			0		0		0				0	0
Queuing Penalty (veh)			0		1		0				0	1

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	288	286	284	93
Average Queue (ft)	121	138	140	40
95th Queue (ft)	235	248	247	79
Link Distance (ft)	442	442	442	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				319
Storage Blk Time (%)	5		0	
Queuing Penalty (veh)	7		0	

Intersection: 8: Mitchell Road & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	40	62	7
Average Queue (ft)	2	2	0
95th Queue (ft)	33	39	6
Link Distance (ft)	437	437	437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: El Camino Ave & SR 99 SB Off Ramp

Movement	EB	SB
Directions Served	L	T
Maximum Queue (ft)	99	118
Average Queue (ft)	44	27
95th Queue (ft)	79	87
Link Distance (ft)	72	607
Upstream Blk Time (%)	2	
Queuing Penalty (veh)	2	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: El Camino Ave & SR 99 SB Off Ramp/North St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	R	L	R	TR	LT
Maximum Queue (ft)	100	121	24	20	103	86
Average Queue (ft)	53	55	4	1	52	61
95th Queue (ft)	85	94	15	10	88	90
Link Distance (ft)	68	68	406		400	71
Upstream Blk Time (%)	2	3				4
Queuing Penalty (veh)	5	6				13
Storage Bay Dist (ft)				25		
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			0	0		

Intersection: 11: SR 99 SB Off Ramp

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	19	8
Average Queue (ft)	1	0
95th Queue (ft)	14	5
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: El Camino Ave & SR 99 Ramp/4th St

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	107	43	80	173	151
Average Queue (ft)	52	2	42	79	65
95th Queue (ft)	89	21	69	133	113
Link Distance (ft)	812		829	879	609
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50			
Storage Blk Time (%)	5	0			
Queuing Penalty (veh)	2	0			

Zone Summary

Zone wide Queuing Penalty: 473

Intersection: 1: SB Off-Ramp Right_turn

Movement	WB	WB	WB	SB	NE	NE	NE	NE
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	134	132	134	192	790	781	574	132
Average Queue (ft)	100	100	98	165	582	442	209	9
95th Queue (ft)	124	120	125	187	877	815	445	118
Link Distance (ft)	37	37	37	45	765	765	765	
Upstream Blk Time (%)	46	54	55	50	3	1	0	0
Queuing Penalty (veh)	196	229	235	332	19	6	0	0
Storage Bay Dist (ft)								800
Storage Blk Time (%)							0	0
Queuing Penalty (veh)							0	0

Intersection: 2: SB Off-Ramp Right_turn/SB Off-Ramp Left-Turn & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	968	1074	913
Average Queue (ft)	120	337	572
95th Queue (ft)	740	1339	1123
Link Distance (ft)	1576	1576	
Upstream Blk Time (%)		4	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			875
Storage Blk Time (%)			21
Queuing Penalty (veh)			31

Intersection: 3: SB Off-Ramp Left-Turn

Movement	EB	EB	SB	SB
Directions Served	T	T	L	L
Maximum Queue (ft)	57	6	205	156
Average Queue (ft)	6	0	96	70
95th Queue (ft)	33	4	174	134
Link Distance (ft)	42	42	130	130
Upstream Blk Time (%)	0	0	3	1
Queuing Penalty (veh)	2	0	5	2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4:

Movement	WB	WB	WB	NB	NB
Directions Served	T	T	T	L	L
Maximum Queue (ft)	43	15	3	198	150
Average Queue (ft)	2	1	0	101	80
95th Queue (ft)	21	8	3	174	142
Link Distance (ft)	46	46	46	121	121
Upstream Blk Time (%)	0	0	0	5	1
Queuing Penalty (veh)	0	0	0	10	3
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: NB SR 99 Off-Ramp

Movement	NB	NB
Directions Served	T	TR
Maximum Queue (ft)	76	29
Average Queue (ft)	5	1
95th Queue (ft)	38	21
Link Distance (ft)	1349	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		775
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: DDI NB SR 99 Signal

Movement	EB	EB	EB	NB	SW	SW	SW	SW
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	125	123	128	52	215	244	242	20
Average Queue (ft)	70	63	85	7	113	141	145	0
95th Queue (ft)	122	118	126	29	197	224	224	0
Link Distance (ft)	51	51	51	56	325	325	325	325
Upstream Blk Time (%)	18	13	27	1				
Queuing Penalty (veh)	70	50	107	0				
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	T	TR	L	L
Maximum Queue (ft)	208	162	151	162	88	115	172	166	152	174	134	145
Average Queue (ft)	89	77	72	64	42	47	86	93	61	84	54	72
95th Queue (ft)	169	138	128	121	75	94	139	147	125	147	109	121
Link Distance (ft)		510		2192			437	437				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		150		200	225			350	350	145	145
Storage Blk Time (%)	0		0	0							0	1
Queuing Penalty (veh)	0		1	1							1	1

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	200	219	225	93
Average Queue (ft)	87	112	116	39
95th Queue (ft)	171	200	197	77
Link Distance (ft)	442	442	442	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				319
Storage Blk Time (%)	2			
Queuing Penalty (veh)	3			

Intersection: 8: Mitchell Road & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	33	36	7
Average Queue (ft)	1	1	0
95th Queue (ft)	29	28	5
Link Distance (ft)	437	437	437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: El Camino Ave & SR 99 SB Off Ramp

Movement	EB	NB	SB
Directions Served	L	T	T
Maximum Queue (ft)	90	9	303
Average Queue (ft)	40	0	93
95th Queue (ft)	73	7	267
Link Distance (ft)	72	71	607
Upstream Blk Time (%)	1		0
Queuing Penalty (veh)	1		0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: El Camino Ave & SR 99 SB Off Ramp/North St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	R	L	R	TR	LT
Maximum Queue (ft)	133	121	40	32	152	91
Average Queue (ft)	79	55	7	2	71	76
95th Queue (ft)	124	97	24	16	117	96
Link Distance (ft)	68	68	406		400	71
Upstream Blk Time (%)	13	4				17
Queuing Penalty (veh)	31	10				70
Storage Bay Dist (ft)				25		
Storage Blk Time (%)			1	0		
Queuing Penalty (veh)			0	0		

Intersection: 11: SR 99 SB Off Ramp

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	62	22
Average Queue (ft)	4	1
95th Queue (ft)	28	12
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: El Camino Ave & SR 99 Ramp/4th St

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	120	43	104	222	165
Average Queue (ft)	65	2	48	94	73
95th Queue (ft)	105	24	87	167	126
Link Distance (ft)	812		829	879	609
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50			
Storage Blk Time (%)	11	0			
Queuing Penalty (veh)	5	0			

Zone Summary

Zone wide Queuing Penalty: 1420

Intersection: 1: SB Off-Ramp Right_turn

Movement	WB	WB	WB	SB	SB	NE	NE	NE	NE
Directions Served	L	L	L	R	R	T	T	T	>
Maximum Queue (ft)	113	113	117	177	147	59	139	142	76
Average Queue (ft)	63	62	50	83	76	12	60	56	14
95th Queue (ft)	114	105	103	154	132	41	112	115	50
Link Distance (ft)	37	37	37	92	92	754	754	754	
Upstream Blk Time (%)	20	25	25	5	5				
Queuing Penalty (veh)	49	62	62	11	11				
Storage Bay Dist (ft)									800
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: SB Off-Ramp Right_turn/SB Off-Ramp Left-Turn & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	L	R	R
Maximum Queue (ft)	73	46	34
Average Queue (ft)	4	4	2
95th Queue (ft)	33	23	15
Link Distance (ft)	1576		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		875	875
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SB Off-Ramp Left-Turn

Movement	EB	SB
Directions Served	T	L
Maximum Queue (ft)	2	260
Average Queue (ft)	0	154
95th Queue (ft)	2	249
Link Distance (ft)	53	162
Upstream Blk Time (%)		8
Queuing Penalty (veh)		25
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4:

Movement	NB	NB
Directions Served	L	L
Maximum Queue (ft)	132	117
Average Queue (ft)	54	34
95th Queue (ft)	103	86
Link Distance (ft)	121	121
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: NB SR 99 Off-Ramp

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: DDI NB SR 99 Signal

Movement	EB	EB	EB	NB	SW	SW	SW	SW
Directions Served	L	L	L	R	T	T	T	>
Maximum Queue (ft)	113	98	118	51	147	168	164	25
Average Queue (ft)	59	39	72	8	76	86	86	1
95th Queue (ft)	114	87	119	32	133	144	142	14
Link Distance (ft)	31	31	31	56	325	325	325	325
Upstream Blk Time (%)	16	10	26	1				
Queuing Penalty (veh)	40	26	67	0				
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	T	TR	L	L
Maximum Queue (ft)	151	61	133	53	179	124	159	182	127	149	140	197
Average Queue (ft)	60	17	56	13	86	55	93	99	63	62	46	74
95th Queue (ft)	114	45	106	41	146	102	144	156	119	120	101	145
Link Distance (ft)		510		2192			437	437				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		150		200	225			350	350	145	145
Storage Blk Time (%)			0		0						0	1
Queuing Penalty (veh)			0		0						0	2

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	268	294	287	109
Average Queue (ft)	117	139	142	42
95th Queue (ft)	225	245	247	88
Link Distance (ft)	442	442	442	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				319
Storage Blk Time (%)	4		0	
Queuing Penalty (veh)	6		0	

Intersection: 8: Mitchell Road & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	10	33	2
Average Queue (ft)	0	2	0
95th Queue (ft)	7	18	2
Link Distance (ft)	437	437	437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: El Camino Ave & SR 99 SB Off Ramp

Movement	EB	SB
Directions Served	L	T
Maximum Queue (ft)	100	132
Average Queue (ft)	43	28
95th Queue (ft)	78	93
Link Distance (ft)	72	607
Upstream Blk Time (%)	2	
Queuing Penalty (veh)	2	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: El Camino Ave & SR 99 SB Off Ramp/North St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	R	L	R	TR	LT
Maximum Queue (ft)	102	109	25	15	109	85
Average Queue (ft)	52	53	4	1	50	62
95th Queue (ft)	86	92	16	8	86	89
Link Distance (ft)	68	68	406		400	71
Upstream Blk Time (%)	2	3				5
Queuing Penalty (veh)	4	5				14
Storage Bay Dist (ft)				25		
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			0	0		

Intersection: 11: SR 99 SB Off Ramp

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	18	2
Average Queue (ft)	1	0
95th Queue (ft)	11	2
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: El Camino Ave & SR 99 Ramp/4th St

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	99	39	90	201	142
Average Queue (ft)	52	2	42	80	64
95th Queue (ft)	85	18	73	141	111
Link Distance (ft)	812		829	879	609
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50			
Storage Blk Time (%)	5	0			
Queuing Penalty (veh)	3	0			

Zone Summary

Zone wide Queuing Penalty: 391

Intersection: 1: SB Off-Ramp Right_turn

Movement	WB	WB	WB	SB	SB	NE	NE	NE	NE
Directions Served	L	L	L	R	R	T	T	T	>
Maximum Queue (ft)	132	137	132	207	181	206	295	318	55
Average Queue (ft)	101	101	99	140	117	107	188	191	4
95th Queue (ft)	122	124	125	212	179	188	273	296	27
Link Distance (ft)	37	37	37	92	92	754	754	754	
Upstream Blk Time (%)	46	53	56	16	15				
Queuing Penalty (veh)	197	228	240	55	52				
Storage Bay Dist (ft)									800
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: SB Off-Ramp Right_turn/SB Off-Ramp Left-Turn & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	L	R	R
Maximum Queue (ft)	47	146	114
Average Queue (ft)	3	28	11
95th Queue (ft)	26	96	60
Link Distance (ft)	1576		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		875	875
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SB Off-Ramp Left-Turn

Movement	EB	EB	EB	SB
Directions Served	T	T	T	L
Maximum Queue (ft)	16	31	42	249
Average Queue (ft)	1	2	2	140
95th Queue (ft)	10	19	24	236
Link Distance (ft)	53	53	53	162
Upstream Blk Time (%)	0	0	0	7
Queuing Penalty (veh)	0	1	1	21
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4:

Movement	WB	WB	WB	NB	NB
Directions Served	T	T	T	L	L
Maximum Queue (ft)	39	17	8	189	168
Average Queue (ft)	2	1	0	107	87
95th Queue (ft)	21	10	7	180	152
Link Distance (ft)	39	39	39	121	121
Upstream Blk Time (%)	0	0	0	6	3
Queuing Penalty (veh)	0	0	1	13	5
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: NB SR 99 Off-Ramp

Movement	NB	NB
Directions Served	T	TR
Maximum Queue (ft)	69	33
Average Queue (ft)	6	1
95th Queue (ft)	42	22
Link Distance (ft)	1349	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		775
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: DDI NB SR 99 Signal

Movement	EB	EB	EB	NB	SW	SW	SW
Directions Served	L	L	L	R	T	T	T
Maximum Queue (ft)	119	111	113	49	212	246	236
Average Queue (ft)	70	61	65	7	109	138	142
95th Queue (ft)	118	108	111	28	190	219	219
Link Distance (ft)	31	31	31	56	325	325	325
Upstream Blk Time (%)	27	24	29	1			
Queuing Penalty (veh)	106	94	115	0			
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	T	T	TR	L	L
Maximum Queue (ft)	198	162	153	158	88	116	163	164	145	191	150	169
Average Queue (ft)	85	75	73	63	41	48	88	89	60	89	55	74
95th Queue (ft)	157	138	132	125	74	93	143	143	121	157	112	130
Link Distance (ft)		510		2192			437	437				
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250		150		200	225			350	350	145	145
Storage Blk Time (%)	0		1	0			0				0	1
Queuing Penalty (veh)	0		1	1			0				0	1

Intersection: 7: Mitchell Road & Ceres Gateway Access/Rhode Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	206	231	245	111
Average Queue (ft)	97	120	125	39
95th Queue (ft)	183	211	221	81
Link Distance (ft)	442	442	442	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				319
Storage Blk Time (%)	2			
Queuing Penalty (veh)	4			

Intersection: 8: Mitchell Road & NB SR 99 Off-Ramp

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	2	14	8
Average Queue (ft)	0	0	0
95th Queue (ft)	2	10	5
Link Distance (ft)	437	437	437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: El Camino Ave & SR 99 SB Off Ramp

Movement	EB	NB	SB
Directions Served	L	T	T
Maximum Queue (ft)	98	6	297
Average Queue (ft)	42	0	100
95th Queue (ft)	79	6	290
Link Distance (ft)	72	71	607
Upstream Blk Time (%)	2	0	0
Queuing Penalty (veh)	2	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: El Camino Ave & SR 99 SB Off Ramp/North St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	R	L	R	TR	LT
Maximum Queue (ft)	148	113	33	20	138	90
Average Queue (ft)	81	55	6	2	70	75
95th Queue (ft)	132	94	20	10	117	97
Link Distance (ft)	68	68	406		400	71
Upstream Blk Time (%)	14	4				16
Queuing Penalty (veh)	35	9				68
Storage Bay Dist (ft)				25		
Storage Blk Time (%)			1	0		
Queuing Penalty (veh)			0	0		

Intersection: 11: SR 99 SB Off Ramp

Movement	EB	EB
Directions Served	LT	T
Maximum Queue (ft)	106	11
Average Queue (ft)	10	0
95th Queue (ft)	64	7
Link Distance (ft)	586	586
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: El Camino Ave & SR 99 Ramp/4th St

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	125	37	98	201	147
Average Queue (ft)	60	2	46	91	73
95th Queue (ft)	101	20	76	159	124
Link Distance (ft)	812		829	879	609
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50			
Storage Blk Time (%)	9	0			
Queuing Penalty (veh)	4	0			

Zone Summary

Zone wide Queuing Penalty: 1254